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Meaning in Language

An Introduction to
Semantics and Pragmatics

THIRD
EDITION

Alan Cruse

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Meaning in Language

An Introduction to
Semantics and
Pragmatics

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Typographic conventions

Small capitals

For concepts; occasionally for lexical roots

Small capitals in square brackets

For semantic features

Angled brackets

For selectional restrictions

Bold type

For technical terms when first introduced

Italics

For citation forms when not set as displayed examples

Bold italics

For emphasis and stress placement

Single quotation marks

For quotations from other authors; 'scare quotes'

Double quotation marks

For meanings

Question marks

For semantic abnormality

Asterisks

For ungrammaticality or extreme semantic abnormality

CHAPTER 2

Logic and meaning

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Logic and meaning

2.1 Introduction

This chapter introduces a set of fundamental conceptual tools, mostly drawn from the field of logic, which, because of their wide currency in discussions of semantic matters, constitute indispensable background knowledge for a study of meaning in language. The level of treatment here is fairly elementary, but hopefully will be sufficient to encourage clarity of thought.

2.2 Propositions

Propositions were briefly introduced in the previous chapter. It is now time to examine them in a little more detail. Some people find the notion of a proposition hard to grasp, and indeed, there is a great deal of controversy in philosophy as to their true nature. For our purposes, however, we can sidestep most of the subtleties. A simple proposition attributes some property to an entity, or a relation between two or more entities. It is either true or false (even if it is not practically or even physically possible to ascertain which); truth and falsehood are essentially properties of propositions. The truth or falsehood of an utterance is a sign that at least one proposition has been expressed. A proposition is not a specifically linguistic entity (although we shall not dwell too long on the problem of what sort of entity it is, and in what Platonic or other realm it subsists). The same proposition may be expressed by an indefinitely large number of sentences:

John saw Mary.
John saw his sister.
Mary was seen by Peter's uncle.
John saw Jane's best friend.
etc.

These can all express the same proposition, provided, of course, that Mary is John's sister, and that John is Peter's uncle, and so on. So, for our purposes, we can

regard a proposition as a unit of meaning. But it is not merely a unit of meaning, it is a (potential) unit of knowledge (it is only a unit of knowledge if it is true). The item *cat* in *The cat sat on the mat* is the carrier of a unit of meaning, but it is not an item of knowledge.

2.2.1 Propositional logic: propositions as unanalysed units

We shall first of all consider propositions as elementary units, without enquiring into their internal structure. This perspective is known as 'first-order logic', and the system of expressing the relations between propositions in terms of formulae and theorems is known as the propositional calculus.

Before we go any further, it will be useful to consider how propositions are related to sentences, statements, and utterances.

Sentences. Let's start with sentences (confining ourselves to declarative sentences). Obviously we use sentences to express propositions. But sentences are not propositions. A sentence is basically a string of words constructed in accordance with the grammatical rules of some language and does not have a truth value. Take the sentence *The cat sat on the mat*. As it stands, it is neither true nor false. It becomes true or false when it is asserted of some specific cat and some specific mat on a specific occasion. Until definite referring expressions in a sentence have been assigned referents, it does not express a specific proposition. A sentence like *The cat sat on the mat* can be used to express an indefinitely large number of different propositions (i.e. with reference to different cats and different mats) on different occasions of use. Although the sentence *The cat sat on the mat*, as a linguistic structure abstracted from particular uses, does not have a truth value, it does nonetheless have a meaning that is different from that of, say, *The rat sat on the mat*. That is because although it does not express a proposition, it places limits on the range of propositions it can be used to express. Obviously, *The cat sat on the mat* can express propositions that *The rat sat on the mat* cannot, and vice versa. The range of propositions a sentence can be used to express is called its **propositional content**, and this is an important component of the semantic potential of the sentence.

Statements. Let us now consider what a statement is. First of all, we shall take it that a statement is a sentence that is used to express a proposition. But a proposition may be 'entertained', without any stance being adopted towards its truth or falsehood, as, for instance, in a logic class, where propositions are entertained, and their interrelationships studied, for example:

(1) All writers on semantics are clairvoyant.

Alan Cruse is a writer on semantics.

Hence, Alan Cruse is clairvoyant.

These are not statements, although they express propositions. A proposition on its own cannot actually communicate anything: it is not an item of knowledge. To communicate, it must be energized with some kind of illocutionary force. For

instance, the proposition expressed by *The earth is a polyhedron* is of no interest until someone claims it is true: a true proposition is an item of knowledge. The illocutionary force in such a case would be that of assertion. We may define a (minimum) statement, therefore, as a sentence expressing a proposition, uttered, as Lyons puts it, "with epistemic commitment", that is, the proposition is presented as being true. A statement therefore has a truth value: the proposition being asserted may in fact be true or false. (There are other possibilities for illocutionary force, to be studied in due course.)

We have so far assumed that a statement must be a full grammatical sentence. But this is not necessary. Consider the following exchange:

- (2) A: What's the time?
B: Half past four.

Is B expressing a proposition with epistemic commitment? Obviously, yes. Then what proposition is expressed? Again the answer is obvious: "The time is 4.30". But this is not what is actually *said*. In such cases, it is up to the hearer to reconstruct the full form of the proposition on the basis of contextual clues, but there is no doubt that it is the full form of the proposition that the speaker intends to convey, and they are therefore making a statement.

Utterances. We shall take an utterance to be a piece of language produced on a particular occasion with a particular intent. It may or may not express a proposition, it may or may not carry any illocutionary force, it may or may not be a full sentence. An utterance is a token-level entity; a sentence is a type-level entity. If John says *The cat sat on the mat* and Mary says *The cat sat on the mat*, two utterances have been produced, but only one sentence. If John's utterance and Mary's utterance refer to different cats, then two different propositions have been expressed: the proposition, like the utterance, is a token-level entity.

The meaning carried by a statement *qua* statement (i.e. a proposition + illocutionary force) may not adequately represent everything the speaker intended to convey by uttering the sentence to which it applies. As an example, consider the following, mentioned in the previous chapter:

- (3) A: Have you cleared the table and washed the dishes?
B: I've cleared the table.

In normal circumstances, it would clearly be part of B's intended message that she had not washed the dishes. Yet this cannot be obtained by elaborating or completing the proposition expressed. This is even clearer in the following case where it is obviously the speaker's intention to convey the proposition that A is too late for supper:

- (4) A: Am I in time for supper?
B: I've cleared the table.

These extra (i.e. covert) propositions are expected to be inferred by the hearer on the basis of contextual information, but they go well beyond the mere filling out of

missing bits in what is actually said. We shall give the name **utterance meaning** to the totality of what the speaker intends to convey by making an utterance, within certain necessary limits.

Two people might, for instance, have an arrangement such that *How was your day?* means "How was your day?", but *How was the day today?* means "Mum and Dad will be out late this evening—we'll be on our own". We would wish to exclude this sort of meaning from utterance meaning. I think the key point is that such a use requires a special ad hoc stipulation on the part of speaker and hearer: the hearer's understanding of the clue does not arise entirely from his general knowledge of the rules and conventions governing the use of the forms in question.

2.2.1.1 Logical operators

First-order logic is concerned with relations between propositions and how these relations affect the truth values of compound propositions. Logical operators are elements of logical formulae which allow the expression of these relations. This will become clearer when we look at some examples.

The negative operator. The application of the negative operator, symbolized by ' \sim ', to a proposition has the effect of switching its truth value. So, if some proposition P is true, then \sim P is false, and if P is false, then \sim P is true. Let P = "Cats are mammals". We can take it that this is true. Therefore \sim P ("It is not the case that cats are mammals") is false. If Q is the clearly false "All bachelors are married", then \sim Q ("It is not the case that all bachelors are married") is true.

Logical connectives are operators that serve to combine elementary propositions together to form compound propositions. The different connectives are defined by truth tables which show how the truth value of a compound proposition relates to the truth values of the component propositions. The principal logical connectives are implication, conjunction, disjunction, and equivalence.

Implication. Implication is signalled by the symbol ' \rightarrow '. The truth-table definition is as follows:

P	Q	$P \rightarrow Q$
T	T	T
T	F	F
F	T	T
F	F	T

This can be translated as "It is never the case that P is true and Q is false". It is sometimes translated as "If P then Q", but this is misleading, because, as the table shows, if P is false, then $P \rightarrow Q$ is true whatever the truth value of Q. (See the comments below on entailment.) Notice that the order of the propositions is significant for this relation.

Conjunction. Conjunction is signalled by the symbol '&'. Its truth-table definition is as follows:

P	Q	P&Q
T	T	T
T	F	F
F	T	F
F	F	F

This needs no comment: P&Q is true only if both P and Q are true. In this case the order of the propositions is irrelevant.

Disjunction. Disjunction is signalled by the symbol 'v', and is defined as follows:

P	Q	PvQ
T	T	T
T	F	T
F	T	T
F	F	F

This is often translated as "P and/or Q": PvQ is true as long as at least one of the two propositions P and Q is true. The order of the propositions is irrelevant.

Equivalence. Equivalence can be regarded as bi-directional implication, and is signalled by the symbol ' \leftrightarrow '. It is defined as follows:

P	Q	P \leftrightarrow Q
T	T	T
T	F	F
F	T	F
F	F	T

P \leftrightarrow Q is true only if both P and Q have the same truth value. The order of the propositions is irrelevant.

2.2.1.2 Application to natural language

In their strict logical versions, the above connectives are not very useful for the semantics of natural language. But in a modified form they are very useful. The problem with them as they stand is that they do not depend in any way on the meanings of the conjoined propositions, but only on relations between their truth values. This gives rise to counter-intuitive results when applied to ordinary language. For instance, P implies Q provided that it is never the case that P is true and Q is false. This means that a necessarily false proposition implies any other proposition whatsoever, hence "All bachelors are married" implies "John is an

orthodontist". Intuitively, this is not what we mean by "If P then Q". It is sometimes said that a natural language equivalent of implication can be found in sentences of the form: *If John can speak Cree, then I'm a Dutchman* (meaning that since it is manifestly false that John can speak Cree, according to the speaker, then all propositions whatsoever are implied). What we need is a relation that holds between, say, "Fido is a dog" and "Fido is an animal", but not between "All bachelors are married" and "John is an orthodontist". We shall therefore replace implication with a stricter relation, entailment.

Entailment. Entailment is the relation which holds between the propositions listed under P and the corresponding propositions under Q in the following:

P	Q
Fido is a dog	Fido is an animal
John killed the wasp	The wasp died
All dogs are purple	My dog is purple

To say that proposition P **entails** proposition Q means that the truth of Q follows logically and inescapably from the truth of P, and the falsity of P follows likewise from the falsity of Q. So, in the first pair of propositions above, if it is true that Fido is a dog, then it follows ineluctably that Fido is an animal, and if Fido is not an animal, then there is no way Fido can be a dog. Similarly, in the second pair, if John killed some wasp, then we cannot avoid the conclusion that the wasp died, and if the wasp did not die, then it cannot be the case that John killed it. Unlike implication, entailment is a relation between meanings. Notice that if P entails Q, then it necessarily follows that P implies Q, but if P implies Q, then it does not necessarily follow that P entails Q.

Two other properties of entailment must be emphasized. The first is that the relation is not determined by context: it is context-independent, since it depends entirely on the meanings of the constituents of the sentences. Consider a case where John has in front of him a box of coloured disks, in which all the red disks are round in shape, and all the green disks are square. In such circumstances, the truth of "John picked a square disk from the box" follows inescapably from the truth of "John picked a green disk from the box". But clearly this relation of truth values does not arise from relations between *green* and *square*, but from the context: it would in principle have been just as easy to have all the red disks square, and the green disks round. On the other hand, the relation between "It's a dog" and "It's an animal" is independent of any particular contexts.

The second property is that the truth of the entailed proposition must follow inescapably from the truth of the entailing proposition. It is not enough for it to be usually true, or even almost always true; it has to be unthinkable that it might be false. Consider the relation between "It's a dog" and (i) "It's a pet" and (ii) "It can bark". Most dogs that most people encounter are pets, but there are such things as wild dogs, so the relationship is merely one of expectation. This is not entailment.

Likewise in the case of (ii), most dogs can bark, but a dog with a defective larynx does not thereby cease to be a dog, so the relationship is not logically necessary. Only logically necessary, context-independent relationships count as entailment.

The notion of entailment can be used to define a useful set of propositional relations. Where necessary, we shall use ' \Rightarrow ' to indicate entailment.

Equivalence. Semantic equivalence can be straightforwardly defined as mutual entailment, which we can represent, following the pattern used for logical equivalence, as ' $P \Leftrightarrow Q$ '. The following are examples of equivalence:

John killed the wasp	The wasp was killed by John
The wasp is dead	The wasp is not alive
It began at 10 o'clock	It commenced at 10 o'clock

If it is true that John killed the wasp, then it is also true that the wasp was killed by John and if it is true that the wasp was killed by John, then it is also necessarily true that John killed the wasp; a parallel two-way entailment holds between the members of the other two pairs.

Contrariety. Contrary propositions may not be simultaneously true, although they may be simultaneously false. We can represent contrariety as ' $P \Rightarrow \sim Q$ '. The following are examples:

John killed the wasp	The wasp is alive
John killed the wasp	Mary killed the wasp
This paint is red	This paint is green

It cannot be simultaneously true of some wasp both that John killed it and that it is still alive; on the other hand, if the wasp is actually dead, but it was Bill who killed it, then both "John killed the wasp" and "The wasp is alive" are false. Notice that the entailment relation only goes from P to Q, not from Q to P. Thus, "This paint is red" entails "This paint is not green", but "This paint is not green" does not entail "This paint is red", since it might well be, for instance, yellow. Notice that this is not identical to the logical relation of disjunction $P \vee Q$, since this allows both P and Q to be true.

Contradiction. Contradictory propositions must have opposite truth values in every circumstance: that is, they cannot be either both true or both false. In any particular circumstance, one member of a contradictory pair must be true and the other false. Contradiction is bi-directional, and can be represented as ' $P \Leftrightarrow \sim Q$ '. The following sentences exemplify contradictory pairs:

The wasp is dead	The wasp is alive
John is still singing	John is no longer singing
No dogs are brown	At least some dogs are brown

If John is still singing, then it is false that he is no longer singing; to this extent, this is like contrariety. However, there is a crucial difference: if it is false that John is still singing, then it must be the case that he is no longer singing, and if it is false that he is no longer singing, then he must be still singing.

Compatibility. For some pairs of propositions, the truth values vary independently of one another: they may be both true, both false, or one true and the other false:

John is retired	John is married
It is Tuesday today	Christmas day falls on a Wednesday this year

This is equivalent to saying that there is no logical relation between the propositions. However, this is not without significance as a semantic relation.

The relations described in this section have an important role in the analysis of meaning relations between words (see Chapters 6–9).

Strictly speaking, the relations described above hold between propositions, not between sentences, because sentences do not have truth values. However, one frequently encounters in semantic texts statements to the effect that such-and-such a sentence entails (for example) some other sentence. This can be taken as a kind of shorthand for something slightly more complex. Saying that sentence S^1 entails sentence S^2 means that in any context where S^1 expresses a true proposition, S^2 also necessarily expresses a true proposition, provided that corresponding definite referring expressions in the two sentences are co-referential. Obviously, in the case of *It's a dog* and *It's an animal*, the two occurrences of *it* must refer to the same entity for the logical relation to hold, and in the case of *John killed the wasp* and *The wasp died*, we must be talking about the same wasp, and the time references must be the same. The use of the shorthand version is harmless as long as the distinction between propositions and sentences is kept in mind, and as long as it is obvious which is intended on any particular occasion. In what follows and in the rest of the book, propositions and sentences will generally not be typographically or otherwise distinguished, except where there is a danger of confusion.

2.2.2 Predicate logic: the inner structure of propositions

In this section, propositions are, as it were, opened up to reveal something of their inner structure. This perspective is known as **second-order logic**, and the system of representing the structure of propositions is known as the **predicate calculus**.

2.2.2.1 Arguments and predicates

A closely linked pair of concepts which are absolutely fundamental to both logic and semantics are argument and predicate. No attempt will be made here to explore the philosophical background and underpinning of these notions: the basic notions are fairly accessible and they will be treated in an elementary fashion. Put simply, an argument designates some entity or group of entities, while

a predicate attributes some property to the entity denoted by the argument, if there is only one, or a relation between the entities denoted by the arguments, if there is more than one. The following are some examples:

- Proposition: John is tall
 Argument: John
 Predicate: is tall
- Proposition: John likes Mary
 Arguments: John, Mary
 Predicate: likes
- Proposition: John gave Mary a rose
 Arguments: John, a rose, Mary
 Predicate: gave

An argument may have a more or less complex internal structure. For instance, a whole proposition, itself possessing argument(s) and predicate, may constitute an argument, as in the following example:

- Proposition: John was surprised that the man was tall
 Arguments: John, that P
 Predicate: was surprised
- Proposition P: the man was tall
 Argument: the man
 Predicate: was tall

There are various ways of incorporating propositions as constituents of complex arguments, and there is no limit to the resulting degree of complexity. An account of this is beyond the scope of this book.

An atomic proposition therefore consists of a predicate with one or more arguments. One conventional way of representing a proposition is as follows:

- TALL(John) (= "John is tall")
 POLICEMAN(John) (= "John is a policeman")
 LIKE(John, Mary) (= "John likes Mary")
 AFRAID(John, Mary) (= "John is afraid of Mary")
 GIVE(John, rose, Mary) (= "John gave Mary a rose")

Notice that *John gave Mary a rose* and *John gave a rose to Mary* express the same proposition. For the logical representation, the order in *John gave a rose to Mary* is preferred because it is more general: not all three-argument verbs allow the ditransitive construction (*John donated his library to the school*, **John donated the school his library*).

2.2.2.2 Valency/adicity

The number of arguments a predicate takes is known as its **valency** (sometimes **adicity**). In this book a distinction will be made between the logical valency of a predicate and the syntactic valency of a verb or adjective. The logical valency of a predicate is determined by the number of arguments for it to be logically complete, irrespective of the number of complements the verb or whatever takes in natural language. This is a difficult notion to define, but it is intuitively fairly easy to grasp. Take the case of *John bought a car*. Syntactically, there are only two participants, *John* and *a car*. But logically, an act of buying involves a buyer, a seller, the thing bought, and a price. If any of these is absent, then whatever happened was not a case of buying. In some cases, the language does not allow the specification of all the arguments. For instance, *The ring fetched £2,000* describes a situation which necessarily included a seller and a buyer, but there is no way to include these in the sentence, at least not in the sentence nucleus. Some cases are more tricky. Consider *Mary ate the spaghetti* and *Mary has eaten*. If it is true that Mary has eaten, then it follows that she ate something, and one might be tempted to say that the logical structure of *Mary has eaten* is EAT(Mary, something). However, it can plausibly be argued that the *eat* in *Mary ate the spaghetti* and the *eat* in *Mary has eaten*, although they are obviously related in meaning, are nonetheless different verbs. If Mary ate a cherry, we would not say that she had eaten *tout court*: the monovalent *eat* may be glossed "have a meal".

2.2.2.3 Analytic, paradoxical, and synthetic propositions

Analytic propositions. These are propositions that are necessarily true by virtue of their internal make-up:

John's uncle is a man.

The proposition "John is tall" is either true or false.

Paradoxical propositions. These are propositions that are necessarily false by virtue of their internal make-up:

All bachelors are married.

John's sister is a man.

Synthetic propositions. These are propositions whose truth values are a matter not of their internal make-up, but of their correspondence or otherwise with the facts:

John's sister is married.

This paint is green.

All dogs are brown.

(Notice that the last example is factually false, but it is not logically false—the world could have been different.)

The terms analytic, paradoxical, and synthetic can be adapted to apply to sentences:

Analytic. Analytic sentences are sentences which automatically express true propositions in any context by virtue of the meanings of their constituent words and their arrangement.

Paradoxical. Paradoxical sentences automatically express false propositions.

Synthetic. Synthetic sentences are those which express true propositions in some (conceivable) contexts (although they may be false of the world as we know it) and false ones in others (this is the normal kind of sentence used in communication).

2.3 Quantifiers and quantification

Quantification is concerned with expressions like:

No Albanians came to the party.
Some of my best friends are troglodytes.
All aardvarks can sing the Marseillaise.

The subject NPs in the above are **quantified NPs**; the sentences express a quantification.

2.3.1 Quantifiers in classical predicate logic

A quantification requires a **quantifier**, (e.g. *no, some, many, all*, etc.), a **restriction** (which indicates the sort of things being quantified, e.g. *Albanians*), and a **scope**, which expresses what is true of the items designated by the quantified NP.

Classical predicate logic recognizes just two quantifiers, (i) the **existential quantifier** (usually symbolized as \exists), which in its quantificational properties corresponds to such English expressions as *somebody, a cat, some book*, etc. and (ii) the **universal quantifier** (symbolised as \forall), which corresponds to expressions like *all men, every aardvark, everybody*, and so on. Some idea of the nature of quantifiers can be gained by a closer examination of these.

Consider the English sentences below:

- (5) Everybody saw Mary.
- (6) Somebody saw Mary.
- (7) Mary saw somebody.
- (8) Mary saw everybody.

These would be translated into predicate calculus by means of formulae with roughly the structure of the following:

- i. For all (x), (x) saw Mary.
- ii. For some (x), (x) saw Mary.
- iii. For some (x), Mary saw (x).
- iv. For all (x), Mary saw (x).

does not really constitute an explanation, and there are other unexplained properties of negpols, such as the fact that some occur happily with questions and conditionals, while others do not :

- (38) I didn't say anything.
 Did you say anything?
 If you say anything, you're finished.
 I didn't say a word.
 If you say a word, you're finished.
 *Did you say a word?
 I couldn't care less.
 *Could you care less?
 *If I could care less, I would do something about it.

2.4 The logic of relations

Another useful set of concepts borrowed from logic are to do with relations between individual entities. The entities may be anything at all: objects, people, places, ideas, propositions. So can the relations be anything: "brother of", "smaller than", "has played string quartets with", "entails". The logical properties of such relations can be grouped under four headings: transitivity, symmetry, reflexivity, and converseness.

2.4.1 Transitivity

A relation that is **transitive** is one such that if A is related in this specific way to B and B to C, then it follows inescapably that A stands in the relation to C. Suppose A, B, and C are people, and the relation is "is taller than". Then if A is taller than B and B is taller than C, then A is necessarily taller than C. If a relation is **intransitive**, then if A stands in the relation to B and B to C, then it is logically impossible for A to stand in the relation to C. This is the case with "is the mother of": if A is the mother of B and B the mother of C, then A cannot be the mother of C. A relation may be neither transitive nor intransitive; we shall call such a relation **non-transitive**. If John has played duets with Bill, and Bill has played duets with Tom, then we are not in a position to conclude anything regarding John's musical relations with Tom.

2.4.2 Symmetry

A **symmetric** relation is one such that if A stands in a particular relation to B, then B necessarily stands in that same relation to A. For instance, if A is near to B, then B is near to A. If a relation is **asymmetric**, then if A stands in the relation to B, B cannot stand in the same relation to A. An example of an asymmetric relation is "is taller than". Once again, it is useful to have a designation for relations that are

neither symmetric nor asymmetric, such as "is sexually attracted by"; we shall label these **non-symmetric**.

2.4.3 Reflexivity

This property is not of great usefulness in semantic analysis: it is included for the sake of completeness. A relation is **reflexive** if something necessarily stands in that relation to itself. This includes most types of identity relation such as "has the same name as", "is the same age as", etc. Again, we can recognize **irreflexive** relations like "is taller than", and **non-reflexive** relations such as "knows the weight of".

2.4.4 Converseness

Converseness is a relation between relations. Two relations are **converses** if one yields the same proposition as the other when the arguments are reversed. By this criterion, "above" and "below" are converses (perhaps more strictly "is above" and "is below"), because *A is below B*, assuming constancy of A and B, expresses the same proposition as *B is above A*. Other examples of (sentences expressing) converse relations are: *A is B's offspring/B is A's parent*, *A saw B/B was seen by A*, *A sold B to C/C bought B from A* (it is usual to disregard 'automatic' adjustments in grammatical realization, such as the change from *to* to *from* in the case of *buy* and *sell*). We have defined converseness in terms of two-way entailment between two sentences (e.g. *A is taller than B* and *B is shorter than A*). It is useful to have a relation defined on a one-way entailment. For instance, *A is B's doctor* entails *B is A's patient*, but the reverse entailment does not hold because other practitioners in the medical and paramedical field, such as dentists and speech therapists, also have patients. We shall say that *doctor* is a **semi-converse** of *patient*.

2.5 The logic of classes

Another useful set of concepts is drawn from the logic of classes.

2.5.1 Identity

Two classes C^1 and C^2 are said to be **identical** if everything that belongs to C^1 also belongs to C^2 , and vice versa. Thus, the class of fathers and the class of male parents are identical, as are the class of pairs of spectacles and the class of pairs of glasses (on the relevant interpretation of *glasses*)

2.5.2 Inclusion

Class C^1 is said to include class C^2 if everything that is a member of C^2 is also a member of C^1 , but not vice versa. Thus, for instance, the class of animals includes the class of dogs, the class of aardvarks, etc. The set of dogs is described as a

subclass of the set of animals, and the set of animals as a superclass of the set of dogs. (Inclusion is defined here so as to exclude identity; it can be defined so as to include identity.)

2.5.3 Disjunction

Classes C^1 and C^2 are said to be disjunct if no member of C^1 is also a member of C^2 . The class of cats and the class of aardvarks are disjunct in this sense, as are the class of red things and the class of green things.

2.5.4 Intersection

Classes C^1 and C^2 are said to intersect if they have some members in common, but each has members which do not belong to the other (i.e. complete intersection, or identity, is excluded here). The class of red things and the class of round things intersect in this fashion, as do the class of architects and the class of amateur musicians. The set of common members to two (or more) overlapping classes is often referred to as the intersection of the two (or more) classes.

2.5.5 Union

The combined set of members belonging to either of two (or more) classes (including overlapping classes) is called the union of the two (or more) classes. Thus the union of the class of dogs and the class of cats is constituted by the class of all entities which are either cats or dogs.

2.5.6 Class relations and propositional relations

There are obvious connections between the class relations described above and the propositional relations described earlier. For instance, the fact that *It's a dog* entails *It's an animal* is not unconnected to the fact that the class of dogs is a subclass of the class of animals, and scarlet things being a subclass of red things relates to the entailment from *It's scarlet* to *It's red*. Some relations emerge more naturally within one approach than another. For instance, we gave no propositional parallel for class overlap. This could be called propositional independence, since the truth of either proposition in such a pair imposes no logical restraint on the truth value of the other, as in the case of *John is an architect* and *John is an amateur musician*. The relation of contradiction, on the other hand, emerges more naturally within the propositional approach. To find an equivalent of the relation between, say, *dead* and *alive* within the class approach, we would have to say that the class of dead things and the class of alive things were (i) disjunct and (ii) exhaustive of a superclass of animate things.

2.5.7 Mapping

It sometimes happens that the members of one class have a relation of correspondence of some kind with one or more members of a parallel class. This type of correspondence is known as **mapping**. An example will make this clear. It is a well-known fact that a person's fingerprints are uniquely distinctive. If, therefore, we think of the class of persons and the class of fingerprints, there is a straightforward mapping relation between the two classes, in that each member of one class corresponds to a specific member of the other set. This is known as **one-to-one mapping**. Contrast this situation with the two classes FATHERS and CHILDREN. Every member of the FATHER class corresponds to one or more members of the CHILDREN class, but every member of the CHILDREN class corresponds to a single specific member of the FATHER class. Here we have **one-to-many** mapping between fathers and children, but **many-to-one** mapping between children and fathers. Yet another elementary mapping relation holds between the class of word forms and the class of meanings. If we allow the possibility of synonymy, then some word forms (e.g. perhaps *begin* and *commence*) will map onto the same meaning, whereas other word forms (e.g. *bank*) will map onto more than one meaning. This is known as **many-to-many** mapping (see Chapter 5 for a more detailed consideration of mapping between words and meanings).

2.6 Presuppositions

If John says to Mary *I'm glad you got the job*, he is not normally telling her that she got the job. It is likely that Mary would already be in possession of that information. The function of the clause *you got the job* is to specify what it is that the speaker is glad about. The truth of the expressed proposition is assumed to be common knowledge shared by speaker and addressee. This is a typical example of presupposition: the speaker presupposes that the hearer got the job and expresses their pleasure at the fact.

It might seem at first sight that we have here a case of entailment: if it is true that X is glad that Y got the job, then it is true that Y got the job. However, there are crucial differences between presupposition and entailment. Consider the example immortalized by Bertrand Russell:

(39) The present king of France is bald.

This presupposes (40):

(40) There is a king of France.

There are two things to note about (39). First, intuitively, it in some way implies (40). But so does (41):

(41) The present king of France is not bald.

Notice that it follows from this that if Q is false, then P can be neither true nor false, that is to say, the truth of Q is a precondition for P having a truth value. This succeeds in capturing the constancy of presupposition under negation and the absence of a truth value when the presupposition is false. However, unlike Russell's formulation, it does not account for the interpretation of sentences like (41) when the presupposition is cancelled. It also fails to account for the intuition that sentences like (55) are false, rather than lacking truth value:

(55) The king of France visited me yesterday.

There is an extensive literature on presupposition and the various approaches to it, which it is not possible to go into here. For more details, see the sources recommended in the suggestions for further reading at the end of this chapter.

2.7 Possible world semantics

This is an approach to the semantic interpretation of logical formulae in certain systems of formal semantics, in particular, those like the so-called **Montague semantics**, that are based on **intensional logic**.

The basic idea is that the actual world (in the broadest sense of everything existing) is only one of an infinite number of conceivable alternative worlds which differ in at least one respect from the actual world. Some possible worlds are very close to the actual world. For instance, there is a possible world identical to the actual world except that I did not mistype the currant sentence. Others differ in major respects: for instance, there is one in which Napoleon was victorious at Waterloo. Others are hugely different, where, for instance, our galaxy does not exist. The following examples give a very brief idea of the sort of uses made of the concept of possible worlds (for a fuller understanding, more advanced works need to be consulted).

Extension:

The extension of a noun like *dog* is the set of all dogs in the actual world.

The extension of a sentence like *Dogs are animals* is its truth value in the actual world.

Intension:

The intension of *dog* is the set of all dogs in all possible worlds.

The intension of a sentence is its truth condition(s), interpreted as the set of all possible worlds in which it is true.

Analytic, paradoxical, and synthetic propositions:

An analytic proposition is one which is true in all possible worlds.

A paradoxical proposition is one which is false in all possible worlds.

A synthetic proposition is one which is true in at least one possible world.

Entailment:

P entails *Q* is true if in all worlds in which *P* is true, *Q* is also true.

Rigid designator:

A rigid designator is a term which refers to the same individual in all worlds in which that individual occurs. For instance, the term *eleven* designates the same number in all worlds where it has the same meaning as in the actual world. This may seem a tautology, but contrast *eleven* with *the number of gold medals won by Britain at the 2004 Olympics*, which also designates a number, but clearly not the same number in all possible worlds. Proper names in general are held to be rigid designators, but **definite descriptions** are in principle capable of designating different individuals in different worlds, without change of meaning.

2.8 Some useful distinctions

2.8.1 Reference, denotation, and sense

Language is used to communicate about things, happenings, and states of affairs in the world, and one way of approaching the study of meaning is to attempt to correlate expressions in language with aspects of the world. This is known as the **extensional** approach to meaning.

The thing or things in the world referred to by a particular expression is its **referent(s)**: in saying *The cat's hungry*, I am (normally) referring to a particular cat, and that cat is the referent of the expression *the cat*. The whole utterance attributes a particular state to the cat in question. We can also consider the whole class of potential referents of the word *cat*, namely, the class of cats. This, too, is sometimes called the **reference** of the word *cat*. But this is clearly different from the designation of particular individuals as in the case of *The cat's hungry*, so, to avoid confusion, we shall follow Lyons and say that the class of cats constitutes the **denotation** of the word *cat*. So, in the case of *The cat's hungry*, the word *cat* **denotes** the class of cats, but *the cat* **refers** to a particular cat.

The alternative to an extensional approach to meaning is an **intensional** approach. Take the word *cat*. Why do we use it to refer to cats, rather than, say, to platypuses or aardvarks or spiny anteaters? One answer is that the word is associated with some kind of mental representation of the type of thing that it can be used to refer to, and aardvarks do not fit the description associated with the word *cat*. This representation constitutes what is called the **sense** of the word (or at least part of it). We shall assume in this book that the main function of linguistic expressions is to mobilize concepts, that concepts are the main constituents of sense, and that sense (and hence concepts) constrains (even if it does not completely determine) reference. (It should be noted that some authors, for instance Lyons, understand *sense* in a different way. For them, sense is a matter of the relations between a word and other words in a language. So, for instance, the sense of *cat*

would be constituted by its relations with other words such as *dog* (a cat is necessarily not a dog), *animal* (a cat is an animal), *miaow* (*The cat miaowed* is normal but *?The dog miaowed* is not.)

2.8.2 Use and mention

Consider the difference between (56):

- (56) Snow has four letters
 Snow is a noun
 Snow is a natural kind term
 Snow is an English word
 Snow is easy to pronounce

and (57):

- (57) Snow is white
 Snow damages crops
 Snow is frozen water

The difference between these two sets is usually designated as a difference between **use** (here, of the word *snow*), as in (57), and **mention** (of the word *snow*), as in (56). In the sentences in (56) we are using the word form *snow* to identify a word of the language, and we then proceed to say something about that word; in the sentences in (57) we are using the word form to identify a substance in the world, prior to predicating something of it. A simple way of distinguishing the two is to apostrophize (or italicize) the language unit in question. If this makes a negligible effect on the meaning, then it is a case of mention:

- 'Snow' has four letters
 'Snow' is an English word
 *'Snow' is white
 *'Snow' damages crops

Mention may involve any stretch of language:

- 'Go to home' is ungrammatical
 *Go to home is ungrammatical

Discussion questions and exercises

1. Arguments and predicates

Considering the following as logical predicates, mark them as one-, two-, three-, or four-place (1, 2, 3, 4) (think in terms of the intuitive maximum number of arguments):

yawn, steal, thank, pay, be tall, be taller than, meet, put, imagine, daydream, cost, understand, explain.

2. Sentence, statement, utterance, and proposition

In the light of the definitions given in this chapter, of which of the above can the following be said? Assume we are talking about declaratives, and that statements and utterances inherit the properties of entities they embody (for instance, a statement will be in the form of a sentence and will inherit its properties):

- X was inaudible.
- X was uninformative.
- X was false.
- X was in a foreign accent.
- X was ungrammatical.
- X was insincere.

3. Propositional and non-propositional meaning

In which of the following pairs of sentences do the members, on their most likely construal, have the same propositional content? Look for situations in which they would make different statements, ask different questions, or issue different commands:

- (a) (i) Take your hands off me (said by a woman to a man)!
- (ii) Take your filthy paws off me (ditto)!
- (b) (i) I always get my bread from Gregg's, because it's cheaper.
- (ii) I always buy my bread from Gregg's, because it's cheaper.
- (c) (i) Don't you find him rather skinny?
- (ii) Don't you find him rather thin?
- (d) (i) Have you read the stuff he wrote about telepathy?
- (ii) Have you read the garbage he wrote about telepathy?
- (e) (i) She was there at the start of the race.
- (ii) She was there at the beginning of the race.
- (f) (i) John hasn't turned up.
- (ii) John hasn't turned up yet.
- (g) (i) Old Joshua Hobblethwaite died last week.
- (ii) Old Joshua Hobblethwaite passed away last week.

4. Entailments

In which of the following does the (a) sentence entail the (b) sentence? Are there any problems?

- | | |
|---------------------------|--------------------------------|
| (a) (i) X is a cat. | (g) (i) X is a pet. |
| (ii) X has four legs. | (ii) X is alive. |
| (b) (i) X is a cat. | (h) (i) X is not dead. |
| (ii) X is an animal. | (ii) X is alive. |
| (c) (i) X is a cat. | (i) (i) X has stopped smoking. |
| (ii) X is a quadruped. | (ii) X doesn't smoke any more. |
| (d) (i) X is a quadruped. | (j) (i) X taught Y Z. |
| (ii) X has four legs. | (ii) Y learnt Z. |
| (e) (i) X is a quadruped. | (k) (i) X killed Y. |
| (ii) X is an animal. | (ii) Y is not alive. |
| (f) (i) X is a pet. | (l) (i) X watched Y. |
| (ii) X is an animal. | (ii) Y was doing something. |

5. Relations between propositions

Mark the propositional relationship between the members of the following pairs of sentences as either EQUIVALENCE, CONTRARIETY, CONTRADICTION, or CONVERSENESS:

- (a) (i) Proposition P is true.
(ii) Proposition P is false.
- (b) (i) John likes Mary.
(ii) John dislikes Mary.
- (c) (i) Mary agrees with the statement.
(ii) Mary disagrees with the statement.
- (d) (i) Mary borrowed the book from John.
(ii) John lent the book to Mary.
- (e) (i) John killed the wasp.
(ii) The wasp is still alive.
- (f) (i) John is not married.
(ii) John is a bachelor.

6. Logic of relations

Classify the following relations with regard to their TRANSITIVITY (i.e. either TRANSITIVE, INTRANSITIVE, or NON-TRANSITIVE) and their SYMMETRY (i.e. as SYMMETRIC, ASYMMETRIC, or NON-SYMMETRIC):

parent of; ancestor of; brother of; related to; sibling of; friend of; near to; to the right of; far from; resembles.

7. What are the presuppositions of the following?

- (a) Lesley is a lesbian.
(b) Lesley plays the clarinet brilliantly.
(c) Lesley will graduate next year.
(d) Lesley is sorry for all the trouble she has caused.

- (e) It was Lesley who wrote the letter.
- (f) When Lesley was ill, Jane deputized for her on the committee.

8. Which of the following are implicitly negative? Examine their collocability with negpols.

hardly	often	seldom	occasionally
mostly	a few	far (from)	near
free (from)	beware of	take care to	avoid

Suggestions for further reading

The treatment here has been very informal. A similar elementary treatment, but with more practical exercises will be found in Hurford and Heasley (1983). Lyons (1995) develops the philosophical background more fully, but still at an elementary level. Those requiring initiation into logical formalization will find an accessible introduction in Allwood, Anderson, and Dahl (1977). Lyons (1977) gives a more detailed treatment of many of the topics touched on here. Cann (1993), McCawley (1981), and Larson and Segal (1995) are only for those who are really serious about the application of logic to language. Presupposition is dealt with briefly in this chapter; Cruse (1992d) gives a fuller, but still introductory survey of different theoretical approaches; a much more detailed account can be found in Levinson (1983).

CHAPTER 3

Concepts and meaning

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Concepts and meaning

3.1 The importance of concepts

A concept is a mental construct that stands in a relation of correspondence to a coherent category of things in some world, prototypically the real world, but potentially also imaginary, fictional, or virtual worlds. The notion 'conceptual category' encompasses these two aspects, the mental construct and the category of entities. The view taken in this book is that all meaning, whether conventionally associated with a linguistic expression or expressions, or whether it arises by pragmatic construal, is conceptual in nature.

Concepts are absolutely vital to the efficient functioning of human activities and human society.

Codification of experience. The essence of a concept is that it enables to treat a range of objectively different experiences as being instances (or 'tokens') of one and the same type of experience. Most of us have a wide range of experiences with a number of different cats, with different colours and markings, different sizes, different characteristic behaviours in different circumstances, and so on. But we also have a concept CAT, which enables us to see these as all belonging to a single type. This is extremely important for intellectual and social activity.

Learning. Without conceptual categories, learning would be piecemeal, chaotic, confined to acquiring bodies of knowledge about vast numbers of individual entities. Concepts provide a locus for accumulating information relevant for a class of individuals or events. This gives an efficient way of learning from past experience, since, as is well known, history never repeats itself exactly. Also, new knowledge gained on the basis of interaction with one or more individuals can be easily generalized to other members of a category. Conversely, recognizing that an individual belongs to a particular category, perhaps on the basis of just a few criteria, can make available a much wider range of information about that individual.

Communication. Conceptual categories are essential for linguistic communication. As we saw in the opening chapter, language does not operate in terms of

particularities, that is, of individual people, things, events, and so on. A linguistic message is coded in terms of conceptual categories, and individual referents intended by a speaker must be inferred from these.

3.2 Theoretical approaches to concepts

3.2.1 The classical approach

The classical approach to categorization, which goes back at least to Aristotle, but is still often taken for granted, defines a category in terms of a set of **necessary and sufficient criteria** (or conditions, or features) for membership. So, for instance, the criteria for some X to qualify for inclusion in the category GIRL are:

X is human
X is female
X is young

If any of these criteria are not satisfied, then X is not a girl (i.e. the criteria are **individually necessary**); if all the criteria are satisfied, then X is a girl (i.e. the criteria are **jointly sufficient**). (The above set of criteria can be taken as a definition of the meaning of *girl*.)

3.2.1.1 Some problems of the classical approach

There is a certain undeniable obviousness about this way of defining categories. However, it has a number of shortcomings.

Lack of plausible analyses. The superficial plausibility of the Aristotelian analysis of *girl* (and similar words) is misleading. The words like *girl*, which apparently can be satisfactorily defined by means of a set of necessary and sufficient features constitute a relatively small proportion of the vocabulary at large, and are confined to certain semantic areas, such as kinship, and specialized terms for animals specifying age and sex, and so on. There are many everyday words whose meanings cannot be captured by means of a set of necessary and sufficient features. Wittgenstein's famous example is *game*. He argued that it was impossible to draw up a list of features possessed by all games which jointly distinguish games from non-games. One might suggest the following as possible criteria:

- (i) involves winning and losing
- (ii) involves more than one person
- (iii) has arbitrary rules
- (iv) done purely for enjoyment

However, none of these is necessary:

- (i) There are many games which do not involve winning and losing: party games, such as charades, Matthew, Mark, Luke, and John, kissing games; children's games such as leapfrog, hallalevo, and hopscotch, etc.
- (ii) Solitaire is a game for one person.
- (iii) Many children's games, such as dressing-up games, and cowboys and Indians, have no storable rules.
- (iv) Many games are played professionally.

In spite of this lack of necessary and sufficient criteria, we communicate using the word *game* perfectly successfully, and without any sense of linguistic imperfection. Such examples can be multiplied almost indefinitely: *apple, dog, table, water, house, flower, dance, violin*, etc.

Fuzzy boundaries. An Aristotelian definition of a category implies a sharp, fixed boundary. However, much empirical research on category structure has been interpreted as showing that the boundaries of natural categories are fuzzy and contextually flexible. For instance, the American scholars Brent Berlin and Paul Kay (1969), who studied colour categories from a psycholinguistic and anthropological linguistic perspective, found that while judgements of certain examples of colours were relatively constant across subjects and reliable within subjects on different occasions, judgements of borderline instances, for instance between red and orange, or between blue and purple, showed neither agreement amongst subjects nor reliability with a single subject on different occasions. William Labov, an American sociolinguist, (1973) studied subjects' naming of line drawings illustrating cups, mugs, vases, bowls, and the like which systematically varied parameters such as ratio of height to width, curved or straight sides, presence or absence of a handle. Again, the finding was that certain items received reliable assignation to a particular category, while others were uncertain. He also found that contextual conditions could alter subjects' responses, so that, for instance, an instruction to imagine all the items as containing rice extended the boundaries of the BOWL category, while a similar instruction to imagine coffee as contents extended the CUP category. Such results receive no natural explanation within the classical (Aristotelian) picture. It is possible that the fuzziness of natural categories has been overstated—see the section below on the dynamic construal approach to categories.

Internal structure of categories. As far as the classical conception of categories goes, everything that satisfies the criteria has the same status, that is to say, something is either in the category, or not in it, and that is all there is to say about the matter. However, language users have clear intuitions about differences of status of items within a category: some members are felt to be 'better' examples of the category than others. For instance, an apple is a better example of a fruit than is a date, or an olive. In other words, categories have internal structure: there are central members, less central members, and borderline cases. No account of these facts can be given using the classical approach.

3.2.2 Concepts and kinds

Aristotle distinguished two kinds of substance: primary substances, that is to say, individual entities, like Madonna and Barack Obama's favourite tie, and secondary substances, like butter, human beings, computers, and aardvarks. The focus of interest in what follows will be on secondary substances, because these have the most direct relevance to language, especially words. I shall follow the philosopher Ruth Millikan and characterize substances (of both sorts) as entities in the world about which a coherent body of knowledge can be assembled as a result of repeated acquaintance. Secondary substances, which I shall henceforward refer to as 'kinds', are not identical to categories. Take the category of persons whose surname begins with the letter Y. This does not constitute a kind, because the definition exhausts what is to be known about the category—there is no relevant body of knowledge to be assembled. Compare this with, for instance, DOG, POLITICIAN, ELECTRON, which are true kinds in the relevant sense.

It is hardly necessary to point out the advantages of acquiring a store of knowledge about a range of substances, but in order to do this we have to have at least two things, (i) some sort of mental location for each substance, and a way of linking new knowledge to it and (b) a way of identifying recurrences of substances. Millikan identifies one fundamental function of a concept as that of identifying recurrences of a kind. I shall call this aspect of the function of a concept as a 'kind-detector'. An important feature of a kind-detector is that it has to carry out its identifying function in a wide range of contextual conditions, and will typically have to rely on a variety of interacting perceptual and other clues. It follows from this that a kind-detector will not in general be characterizable in terms of a set of necessary and sufficient features, or even a prototype representation. Notice that although words are in a sense public property, kind-detectors are personal property: there is no logical requirement for my kind-detector DOG to be the same as anyone else's. What is necessary for successful communication is that it identifies the same kind in the world on a sufficient number of occasions.

The kind-detector has logical properties. It is not error-free—it may identify correctly or incorrectly on any particular occasion. It is responsible for the truth values of utterances in which it is involved. Although a kind-detector is relatively stable, it is not unchangeable, and is designed to improve with experience. Besides being responsible for truth values, a kind-detector governs important logical relations between a concept and other concepts, the most important being inclusion and exclusion, which underlie sense relations such as hyponymy and incompatibility (see Chapters 6 and 7).

The purpose of identifying a kind is twofold: to give access to a stored body of knowledge, and to modify that body of knowledge by addition of new material, or by strengthening, weakening, or deleting existing material. This body of knowledge is called by Millikan the 'conception', and I shall retain her term. (What is

here called a concept is a combination of a kind-detector and a conception.) It is of course vitally important for reasoning, planning of action, and so on. Identifying a kind gives immediate access to this body of knowledge; conversely, features of the identified kind may be added to the general store, and thus be made available to new identifications.

Like kind-detectors, people's conceptions are not public, but are private property. But while different persons' kind-detectors of, for example, DOG are constrained by the need to correctly identify the 'public' substance DOG, conceptions are under no such constraints, or at least the constraints are somewhat weaker. Although no two persons' conceptions of a particular substance will be identical, a smooth flow of communication does of course depend on a significant degree of overlap.

It is doubtful whether conceptions as such, as opposed to kind-detectors, have logical properties; they are nonetheless deeply implicated in language processing, reasoning, and so on. Many non-logical effects, such as prototype effects, basic-level status, kind-of relations, and the emergent meaning arising in a conceptual blend, are all conception-driven, rather than kind-detector-driven.

3.2.3 Prototype theory

We shall first of all describe what might be called the 'standard' approach to prototype theory, deriving from the work of Eleanor Rosch and her co-workers. The main thrust of Rosch's work has been to argue that natural conceptual categories are structured around the 'best' examples, or **prototypes** of the categories, and that other items are assimilated to a category according to whether they sufficiently resemble the prototype or not.

3.2.3.1 Degrees of centrality

Rosch's most basic experimental technique is the elicitation of subjects' **Goodness-of-Exemplar ratings** (henceforward GOE ratings). Subjects are asked to give a numerical value to their estimate of how good an example something is of a given category. The rating scale typically goes something like this:

- 1 very good example
- 2 good example
- 3 fairly good example
- 4 moderately good example
- 5 fairly poor example
- 6 bad example
- 7 very bad example/not an example at all

So, for instance, if the category was VEGETABLE, the ratings of various items might be as follows:

POTATO, CARROT	1
TURNIP, CABBAGE	2
CELERY, BEETROOT	3
AUBERGINE, COURGETTE	4
PARSLEY, BASIL	5
RHUBARB	6
LEMON	7

Significantly, subjects do not find this to be a totally meaningless task. While there is of course a great deal of variation between subjects, statistically, the results within a culturally and linguistically homogeneous population cluster strongly round particular values. The prototypes of categories are determined by selecting the item with the lowest average numerical score.

GOE ratings may be strongly culture-dependent. (Familiarity is undoubtedly a factor influencing GOE scores, but the scores cannot be reduced to familiarity.) For instance, in a British context (say, a typical class of undergraduates), DATE typically receives a GOE score of 3-5 relative to the category of FRUIT, but an audience of Jordanians accorded it an almost unanimous 1.

Wittgenstein described the instances of the category GAME as manifesting a relationship of **family resemblance**: the members of a human family typically resemble one another, but there may well not be any set of features that they all possess, and it may be possible to find two members who have no features in common. However, they will be linked by a chain of intermediate members with whom they do share features. So, for example, A may have no features in common with C, but has the same nose as B, who in turn has the same eyes as C. Prototype theory embraces Wittgenstein's notion that family resemblance unites the members of a category, but adds to it the vital idea of central and peripheral members.

3.2.3.2 Prototype effects

Taken in isolation, the existence of stable GOE scores might be thought to be of minor cognitive significance. However, there is abundant evidence that prototypicality, as measured by GOE scores, correlates strongly with important aspects of cognitive behaviour. Such correlations are usually referred to as **prototype effects**. The principal prototype effects are as follows:

Order of mention. When subjects are asked to list the members of a category, and especially if they are put under time pressure, the order of listing correlates with GOE ratings, with the prototypical member showing a strong tendency to appear early in the list.

Overall frequency. The overall frequency of mention in such lists also correlates with GOE score.

Order of acquisition. Prototypical members of categories tend to be acquired first, and order of acquisition correlates with GOE rating.

Vocabulary learning. Children at later stages of language acquisition, when vocabulary enlargement can be greatly influenced by explicit teaching, learn new words more readily if they are provided with definitions that focus on prototypical instantiations than if they are given an abstract definition that more accurately reflects the total range of the word's meaning.

Speed of verification. In psycholinguistic experiments, subjects who are required to respond as quickly as they can to a categorization task produce faster responses if the tasks involve a prototypical member. In a typical set-up, subjects see a pair of words, say FRUIT: BANANA, flashed up on a screen, and they are to respond as quickly as possible by pressing one of two buttons, the one labelled *Yes* if the second named item belongs to the category indicated by the first item and *No* otherwise. Results show that responses to, for instance, FRUIT: APPLE, where the second item is a prototypical member of the class denoted by the first, are faster than, say, FRUIT: DATE (for average British subjects).

Priming. Another psycholinguistic technique involves the phenomenon of priming. In a typical set-up, subjects see strings of letters flashed onto a screen and their task is to respond *Yes* (by pressing the appropriate button) if the string of letters makes a word of (say) English, and *No* if it does not. Responses are timed electronically. It is a well-established experimental fact that if a word is preceded by a semantically related word, response to it will be speeded up. So, for instance, a *Yes* response to DOCTOR will be faster if NURSE has been just previously presented. It is found that the presentation of a category name has the greatest speeding-up effect on the prototype of a category, and the effect is proportionately less as we move away from the centre of the category to the periphery (as measured by GOE scores).

3.2.3.3 Intuitive unity, definitional polyvalence

Most of the work on prototypes has been carried out by psychologists, and the nature of the experiments reflects this. A purely linguistic characterization of categories with a prototypic organization (it is not necessary to assume that all categories have this sort of structure) is that they show intuitive unity, but are definitionally polyvalent. That is to say, they cannot be captured by means of a single definition, but require a set of definitions. For instance, the semantic field covered by the term *game* can be quite well described by means of a restricted set of definitions, but no satisfactory unitary definition exists.

3.2.3.4 Fuzzy boundaries

A common position is to maintain that only the prototype has 100 per cent membership of a category, the degree of membership of other items being dependent on their degree of resemblance to the prototype, this, in turn, being reflected by their GOE score (it has sometimes been claimed—wrongly, in my opinion—that when subjects give GOE ratings, they are actually judging degree of membership). From this one would have to conclude that a natural category has

no real boundaries, and indeed this has been explicitly claimed by, for instance, Langacker, a leading figure in the field of cognitive linguistics (1991b: 266):

There is no fixed limit on how far something can depart from the prototype and still be assimilated to the class, if the categorizer is perceptive or clever enough to find some point of resemblance to typical instances.

Not all scholars belonging to the cognitive linguistics fraternity agree that GOE and DOM (degree of membership) should be equated. However, there is general agreement that category boundaries are typically fuzzy. (Arguments against equating GOE and DOM will be detailed below.)

3.2.3.5 The mental representation of conceptual categories

The earliest hypotheses regarding the mental representation of categories suggested that there was some sort of portrait of the prototypical member, against which the similarity of other items could be computed and their status in the category determined. This idea fell out of favour when it was realized that many 'portraits' would have to be three-dimensional and would have to incorporate characteristic behaviour (although Jackendoff still envisages all these possibilities for his 3-D representation of conceptual categories). Many prototype theorists (following the American cognitive linguist George Lakoff) speak only of 'prototype effects', and remain uncommitted on the subject of the form of mental representations.

More recently, feature-based treatments of prototype structure have appeared. With these, categories with a prototype structure are represented by a set of features. However, unlike the classical features, these do not constitute a set of necessary and sufficient criteria, except perhaps for the prototype itself. Rather, the features are such that the more of them that are manifested in some particular instantiation, the higher the GOE score the item in question will obtain (note that in GOE terms, a score of 1 is high and 7 low). In such systems, features may be differentially weighted, that is to say, some features will have a greater effect on determining centrality in the category than others (there is nothing in principle to prevent some features being necessary). It is possible that no actual member of a category has all the features in the prototype specification. In that case, the core of the category may be represented by a group of the highest scoring members.

The general idea can be illustrated using the category *VEHICLE*. The features listed in (1) would seem to be plausible (note that these have not been subjected to empirical testing, they are based on my intuitions: the list is illustrative, not necessarily exhaustive):

- (1) a. Designed to go on roads
- b. Has own propulsive power
- c. Can go faster than unaided human
- d. Can carry persons/goods in addition to driver
- e. Has 4 wheels
- f. Metallic construction
- g. Persons/goods enclosed
- h. Manoeuvrable

Clearly a central example of the category of vehicle, such as CAR, will have all these features. If they are correct, it ought to be possible, for items judged not to be central, to pinpoint features they do not possess. For instance, a typical class of students will mark the following items as non-prototypical in the class of VEHICLE. For each of them, there are features from the above list which are missing:

TRAIN	not designed to go on roads not manoeuvrable
TRACTOR	not designed to go on roads driver not always covered
BICYCLE	doesn't have own propulsive power does not carry persons/goods in addition to driver

(The category VEHICLE, like GAME, is one for which it is not possible to draw up an adequate set of necessary and sufficient features; notice, however, that there may be features—[CONCRETE] is a possible example—which are necessary.)

3.2.3.6 Levels of categorization

Categories occur at different levels of inclusiveness, with more specific ones nested within more inclusive ones:

- (2) a. vehicle—*car*—hatchback
 b. fruit—*apple*—Granny Smith
 c. living thing—creature—animal—*cat*—Manx cat
 d. object—implement—cutlery—*spoon*—teaspoon

Normally, one level of specificity in each set, called the **basic** (Rosch et al. 1976) or **generic** (Berlin et al. 1973) level of specificity, has a special status, and importance. (The basic level items in (2) are printed in bold italic.) In addition to the basic level, two further levels of specificity are commonly identified: **superordinate level** and **subordinate level**. These are not defined merely by their position in the chain—there are other characteristics which distinguish one level from another.

Basic-level categories. The main characteristics of basic-level items are as follows:

- (i) It is the most inclusive level at which there are characteristic patterns of behavioural interaction. Imagine being asked to mime how one would behave with an animal. This is rather difficult without knowing whether the animal in question is a crocodile or a hamster. Likewise with, say, an item of furniture. However, the assignment is relatively easy if it involves a cat, horse, mouse, or chair.
- (ii) It is the most inclusive level for which a clear visual image can be formed. This is similar in principle to the previous characteristic: try to visualize an item of cutlery or a vehicle, without it being any specific type. A fork or a lorry, however, are easy to visualize.

- (iii) It is the most inclusive level at which part-whole information, including relations between parts, is relevant. This is particularly marked in the case of categories of artefacts above the basic level, such as CROCKERY, FURNITURE, and TOOL. But many biological categories such as ANIMAL, INSECT, and FLOWER also encompass a variety of forms.
- (iv) It is the level of most rapid categorization. Individual items can be assessed for their membership of basic-level categories more rapidly than their membership of categories which depart from basic level. Thus, confronted by, say, an Alsatian, we can decide more quickly that it belongs to the category DOG than that it belongs to either ALSATIAN or ANIMAL.
- (v) It is the level used for neutral, everyday reference. They are often felt by speakers to be the 'real' name of the referent. Suppose A and B are sitting at home; A hears a noise outside and says *What's that?* B looks out of the window and sees an Alsatian in the garden. How does B reply? Out of the following choices, normally (b) will be chosen:
 - (a) It's an animal.
 - (b) It's a dog.
 - (c) It's an Alsatian.

The other two responses would require special contextual conditions.

- (vi) The names of basic-level categories tend to be morphologically simple, and 'original', in the sense of not being metaphorical extensions from other categories. Take the case of *spoon*, which is a basic-level term; all the more specific categories have more complex names: *teaspoon*, *tablespoon*, *soup spoon*, *coffee spoon*, etc.
- (vii) The basic level is the level at which the best categories are created. Good categories are those which maximize the following characteristics:
 - a. distinctness from neighbouring categories
 - b. internal homogeneity
 - c. informativeness.

Generally speaking, categories which are more inclusive than the basic level (e.g. ANIMAL) have less internal homogeneity, while narrower categories (e.g. ALSATIAN) show less distinctness from neighbouring categories. Consider a division of animals into male and female: this would yield two clear categories which might have utility in certain circumstances. But they would not be good categories by the above criteria because (i) distinctness from neighbouring categories is restricted to one feature, (ii) internal homogeneity is likewise restricted: as a result, a female mouse resembles a male mouse far more than it resembles a female elephant (and the same is true for all animals), even though it falls into a different category. The third characteristic involves the amount of information made available by the fact that one knows what category something belongs to.

Superordinate-level categories. The superordinate level comprises categories that are more inclusive than basic-level categories. Each superordinate category typically covers a number of basic-level categories. The main characteristics of the superordinate level are as follows:

- (i) In terms of the 'good category principle', superordinate categories such as ANIMAL, BIRD, FISH, and INSECT score highly on distinctness from sister categories, but have relatively low internal homogeneity compared with basic-level categories.
- (ii) Superordinate-level categories have fewer defining attributes than do basic-level categories, and as a result, family resemblance relations are less marked.
- (iii) Names for superordinate categories, especially for categories of artefacts, often differ from basic-level names in respect of the count noun/mass noun distinction (see Chapter 13 for a more detailed account of this distinction). For instance, in the case of *cup*, *plate*, *bowl* (all count nouns), the superordinate is *crochery*, a mass noun. Other examples are: *cutlery* (mass noun), *knife*, *fork*, *spoon* (count nouns); *furniture* (mass noun), *table*, *chair*, *cupboard* (count nouns); *footwear* (mass noun), *boot*, *shoe*, *sandal* (count nouns). The reverse situation is illustrated by, for instance, *iron* and *copper* (mass nouns), which are both *metals* (count noun); similarly *beer*, *wine*, *lemonade* (mass nouns), which are *beverages* (count noun), and *pepper*, *pimento*, *coriander* (mass nouns) which are all *spices* (count noun).

Subordinate-level categories. Subordinate level categories differ from basic-level categories in the following main ways:

- (i) By the good category principle, they are less good than basic-level categories, because although members under the same superordinate resemble one another to a high degree, they have low distinctiveness from members of sister categories.
- (ii) They do not add a great deal of information to what is provided by the basic-level category which includes them. When subjects are asked to list distinctive attributes for a subordinate category, their lists differ very little from the lists they give for the corresponding basic-level item.
- (iii) Names for subordinate-level categories are frequently morphologically complex, the most common pattern being a modifier-head structure (for instance, *teaspoon*, *bread knife*, *coffee cup*, *blue tit*, *herring gull*). This is sometimes taken as an indication that they are distinguished from their corresponding basic-level category by a single property or feature. However, this is misleading. The 'single property' is a feature of the name, but one cannot automatically assume that the conceptual content is also distinguished by a single feature. Usually the property signalled by the name has an identifying role, but the item typically differs from the including basic-level category (and from its sisters) in respect of a range of properties.

3.2.3.7 Problematic aspects of the prototype model

While the standard prototype-theoretical approach undoubtedly sheds light on the nature of natural conceptual categories, it is not without its problematic aspects.

The 'guppy effect'. The categories which result from the combination basic categories have often been claimed to be problematical for prototype theory. The most famous example is the category PET FISH. It appears that what emerges as the best example in experimental studies of this category (at least in an American setting) is GUPPY. The problem is that a guppy is judged to be neither a prototypical pet (CAT and DOG, for instance, are given higher GOE ratings) nor a prototypical fish (TROUT gets a higher rating). It is not entirely clear why one should expect the prototype of a compound category XY to have prototype status in X and Y separately. But one might expect the prototype approach to provide a way of predicting the prototype of a compound category from the representations of the constituent categories. Attempts to do this have been inconclusive (for an example, see Hampton (1991)).

The basis of GOE ratings and their interpretation. The first point to make is that although subjects readily enough make GOE judgements on the basis of two words (category name and item name), this is surely rather unnatural: it would presumably be more revealing to produce GOE ratings for actual objects or events, etc. Furthermore, this would be likely to highlight the fact that the GOE scale is a conflation of several more basic scales. One of these is undoubtedly familiarity, although it can be shown that GOE ratings cannot be reduced to familiarity ratings. Another is well-formedness: APPLE may well receive a high rating in the category FRUIT if only the words are presented, but what if an actual apple were presented, and it happened to be rotten? Well-formedness does not necessarily correlate with familiarity. Most mushrooms are at least slightly deformed in one way or another. Yet there seems little doubt that a perfectly formed specimen would receive the highest GOE rating (other things being equal). Another factor is important, which in Cruse (1990) is called 'quality'. Think of an emerald. Most emeralds are pale in colour and have faults in the form of tiny cracks, etc. The best emeralds are deep in colour, but these are rare, and are even more susceptible to faults. An emerald with a deep glowing green colour would be voted the prototype on the basis of its 'quality', which is distinct from frequency and well-formedness. Here, then, we have at least three independent strands potentially making up a GOE score, and there may be more.

Interaction among features. A major criticism of the prototype model of category structure is that a simple feature list is far too simplistic. It is true that the move from the classical 'necessary and sufficient features' model to a 'more features = more central' model represents an improvement. And further refinements are possible, for instance, assigning different 'weights' to different features, so that some have a greater effect on GOE rating than others. But an important aspect of category structure remains unaccounted for, and that is the

interaction between features. This has several aspects. One concerns GOE ratings. There is not a straightforward relationship between number of features and GOE rating, even if weighted features are used. The reason is that the effect on GOE rating of a single feature can depend on the presence or absence of other features. To take a simple example, informants asked to rate spoons for GOE will judge a wooden spoon to be less good than an otherwise similar metal one if it is small, but equally good if it is large.

A perhaps more important aspect of the interrelatedness of features is functional relatedness. It is obvious that central examples of the category BIRD will possess the features [FLIES] and [HAS WINGS]. What is missing from a list of features is that wings are necessary for flight.

Finally, consider the relation between the features [HAS WINGS] and [HAS A BEAK] in connection with the category BIRD. We will probably want to say that aeroplanes and butterflies also have wings, but they are very different from the wings of birds. All these interactions detract from the adequacy of a feature list as a characterization of a natural category.

Context sensitivity. Another shortcoming of the prototype model is that it is not able to account for context sensitivity. Many experimental studies have demonstrated that judgements as to which are the best members of a category can be influenced by providing a context for the judgement. But it is intuitively obvious that judgements of the 'best' examples of, say, the category CAR are going to depend on whether one has in mind a racing context, a context of town use, or long-distance travel. It seems likely that if none of these are made explicit, then the word *car* evokes some sort of 'default' context; it is unlikely that we make our judgements in a genuine zero context.

Category boundaries. One of the most serious shortcomings of the standard prototype view is that no category boundary is recognized. The few scholars who do admit that a boundary exists, evince little interest in it (e.g. Lakoff). Yet a category without a boundary is virtually useless: a primary function of a category is to discriminate between things which are in it and things which are not in it. The classical view of categories, with necessary and sufficient features, set a boundary (albeit an unnaturally sharp one) but allowed for no internal structure. In getting rid of necessary and sufficient features, prototype theory has thrown the baby out with the proverbial bath water: by providing an account of gradable centrality, it has lost the ability to set a boundary. The view taken here is that a fully satisfactory description of a category must specify both the internal structure and the location of a boundary or boundary area.

Category boundaries are important for a number of reasons. They crop up in everyday language use. If someone declares of some entity *A* *A is an X* and someone else disagrees and says *No, it isn't*, then either they disagree as to the nature of *A*, or they disagree as to the location of the boundary of the category *X*. Certain adjectives, such as *imitation* as in *imitation leather*, or *fake* as in *a fake*

Picasso, have an implicit negating effect—imitation leather does not fall into the category LEATHER, and a fake Picasso falls outside the category WORK BY PICASSO.

Prototype theory focuses on category inclusion and neglects category exclusion. Hence there is no explanation for the mutual exclusion relation between, for instance, the categories CAT and DOG, or TULIP and DAFFODIL. This is easy to account for in terms of the location of category boundaries. But the only way to build exclusion into a prototype representation would be to have features with negative weighting. For instance, [BARKS], [WAGS TAIL WHEN PLEASED], [HAS FEATHERS], [LAYS EGGS] would all have negative weighting for the category CAT.

The position of a category boundary has psycholinguistic consequences. In an experimental task in which subjects have to say as quickly as possible whether or not an item belongs to a given category, it is found that the speed of response is slowest for items close to the category boundary. Hence, in (3), the **bold** items will be responded to slowest:

- (3) FRUIT *apple*.....**tomato**..... *potato*
 VEHICLE *car*.....**bicycle**..... *chair*
 WORD *hand*.....**malk**..... *pkhq*

The location of the boundary of a category is not determined by the location of its prototype core. Two categories may have more or less identical prototypes but their boundaries may be different; equally, two categories may have the same boundaries but differ in their prototypes. The first case can be illustrated by the French word *corde* and its English equivalent *rope*. Native informants suggest the same sort of examples as the best in the respective categories, from which we infer that the respective prototypes are at least very similar. However, there is evidence that the boundaries of CORDE and ROPE are not the same. The French dictionary *Le Petit Larousse* defines *ficelle* ("string") as "une corde mince" (= "a thin rope"); it would never occur to an English lexicographer to define *string* as "thin rope". It seems, therefore, that although FICELLE falls within the boundary of the category CORDE, STRING falls outside the boundary of the category ROPE, in other words, CORDE is the broader category. The converse case, of two categories with the same boundary but differing in the location of their cores, is harder to find, but perhaps COURAGE and BRAVERY are examples. There is something contradictory about *?The men showed great bravery, but no courage*. But there is evidence that their core regions are not the same. Student informants in an informal test rated (4) as a better example of a brave act, and (5) as a better example of a courageous act:

- (4) A person jumps into a fast-flowing river in an attempt to save someone who has fallen in.
 (5) A person risks his/her career and livelihood by exposing malpractice and injustice at the heart of government.

Degrees of membership and fuzzy boundaries. There has been some dispute among prototype theorists concerning the relationship between the GOE of an item with respect to a category and its **degree of membership** (henceforward DOM). Some say that in giving GOE scores, subjects are in fact giving DOM scores. The claim is that only the prototype of a category has 100 per cent membership. However, one must bear in mind that subjects in the standard experiments were not actually asked to rate degree of membership. What they were asked to do was to rate items as to how good they were as members of particular categories. Saying that they were giving DOM ratings is a subsequent interpretation, requiring a construal of membership as a gradable property. While this is possible, it renders one of the measures, GOE and DOM, redundant. This would be a pity, firstly because there is intuitive resistance to the proposition that an ostrich, say, is only 30 per cent a bird. Secondly, it is possible to define DOM in such a way that it designates a different property from GOE. There are two ways of doing this.

The first way requires us to think of a category boundary as relatively sharp, and to construe the category as a container. Everything wholly on one side of the boundary will have 100 per cent membership, whatever its location relative to the prototype; anything that is wholly on the other side of the boundary will have zero membership. However, thinking of an ordinary container, it is possible for something to be partly in it and partly outside it, i.e. to be fractionally contained. This gives us a way of interpreting the notion of partial membership of a category. When we say, for instance, that a priest is *to some extent a social worker*, we are effectively placing him partly in the category and partly not in the category. That is to say, we are construing the categories PRIEST and SOCIAL WORKER as partially overlapping.

An alternative way of looking at partial membership of a category is to think of a category as having a borderline area, rather than a sharp boundary; that is to say, the boundary has a definite location, but is to a greater or lesser degree fuzzy. On this view, any particular item will be a full member of a particular category, or not a member at all, or it will be a borderline example. It is amongst borderline examples that the notion of partial membership applies. For instance, most people would probably judge BICYCLE and SKATEBOARD to be borderline instances of the category VEHICLE. Here, the notion of degree of membership becomes operational, and I myself, for instance, would judge BICYCLE to have a higher degree of membership than SKATEBOARD.

In Croft and Cruse (2004: 95) it is argued that there is no need for the notion of 'fuzzy boundary', and that the experimental results usually taken to point to the fuzziness of category boundaries can be explained by different construals of (sharp) boundaries on different occasions and in different contexts. On this view, only the first interpretation of partial membership would be valid. The situation with regard to BICYCLE and SKATEBOARD would be that on some occasions the boundary of VEHICLE would be construed to include BICYCLE, but exclude SKATEBOARD, but on other occasions would be construed to include (or exclude) both.

3.2.4 Dynamic construal

Underlying most work on conceptual categories there has been an implicit assumption that mature, normal human beings possess an inventory of discrete and more or less stable categories with permanent mental representations, which are activated in appropriate circumstances. (Of course, new concepts can be learned, but these will have the same stable character as those already in the inventory.) The goal of conceptual studies, it is assumed, is to elucidate the nature of these mental entities. Conceptually oriented studies of word meaning typically assume that a word is associated with a specific concept (or, in the case of ambiguity, with a specific set of such concepts). However, the notion of fixed categories has not gone unchallenged. For instance, experiments by Barsalou, a cognitive psychologist, have shown that people are capable of forming ad hoc categories with no conventional names, such as THINGS TO TAKE ON A PICNIC, THINGS ON A DESK THAT COULD BE USED TO POUND IN A NAIL, SUITABLE BIRTHDAY PRESENTS FOR A TEN-YEAR-OLD, and so on. These categories showed the same characteristics as established categories, with graded centrality and characteristic features. These and similar results suggest that categories are generated online as and when required. However, all is not flux and chaos—that would be fatal for communication. The suggestion is that previous experience has a permanent effect on our tendency to construe concepts in particular ways. The psychologists Smith and Samuelson have this to say:

Critically, the accrual of these long-term changes provides a source of stability in a continually changing system. If there are statistical regularities, patterns, in our experiences that recur over and over again, then as each moment of knowing is laid on the preceding moments, weak tendencies to behave and to think in certain ways will become strong tendencies—sometimes so strong that they will not be easily perturbed and thus might seem fixed. (Smith and Samuelson 1997: 175–6)

In other words, concepts may have any degree of fixedness/fluidity. The consequences of this view for word meaning will be taken up in Chapter 5.

Discussion questions and exercises

1. Prototype features

Suggest a set of prototype features for one or more of the following conceptual categories (or select your own example(s)):

CLOTHES FRUIT MUSICAL INSTRUMENT HOBBY BUILDING HOUSEHOLD APPLIANCE

For each category, draw up a list of possible members, including some marginal cases, and ask another person to assign GOE ratings. Consider to what extent the ratings can be accounted for in terms of your suggested features.

2. Category levels

Assign the following categories to superordinate, basic, or subordinate level:

BIRO TEASPOON SANDAL UNDERWEAR SEAGULL DAISY GRASS BULLDOZER BUS
 MOUNTAIN BIKE SELF-RAISING FLOUR WALNUT SUGAR ARMCHAIR DELICATESSEN SUPERMARKET
 PETROL STATION TOWN HALL PARK MOTORWAY ROAD CANAL POLICE STATION BUILDING
 GROCERIES WINE CHAMPAGNE BEVERAGE MILK

Suggestions for further reading

That meaning is essentially conceptual in nature is one of the central tenets of **cognitive linguistics**. For elementary introductions to cognitive linguistics see Ungerer and Schmid (1996). Ultimately, a reader interested in this approach will eventually want to tackle the foundational texts. The 'bible' of the cognitive approach is Langacker's two-volume *Foundations of Cognitive Grammar* (1987 and 1991a). However, this is not an easy read; fortunately, many of the basic topics are expounded in a much more accessible form in Langacker (1991b). The interested reader will also find articles on a wide range of cognitive linguistic topics in the journal *Cognitive Linguistics*. See Millikan (2000) for a thorough discussion of the notion of 'kinds'.

An alternative 'conceptual' approach to meaning can be found in the works of Jackendoff; Jackendoff (1983) provides a good introduction. An interesting comparison between Jackendoff's approach and the cognitive linguistic approach (including a contribution from Jackendoff himself) can be found in Volume 7.1 of *Cognitive Linguistics*, which also gives a fairly full bibliography of Jackendoff's later work.

Cruse (1990) provides an introduction to prototype theory as applied to lexical semantics. (The volume which includes this article also contains many other articles on the topic.) A fuller account is to be found in Taylor (1989); Cruse (1992c) is a critical review of this. Ungerer and Schmid (1996) has an interesting chapter on categorization. For a more psychological view of the prototype approach to meaning, see the articles in Schwanenflugel (1994), especially those by Hampton and Murphy. Cruse (1995) attempts to apply prototype theory to lexical relations.

Part 2

Words and Meanings

To the layman, words are the bearers of meaning par excellence in language. While it is in danger of understating the importance of other linguistic structures and phenomena in the elaboration of meaning, this view is not entirely unjustified: words do have a central role to play in the coding of meaning, and are responsible for much of the richness and subtlety of messages conveyed linguistically. Hence it is no accident that this section of the book is the most substantial. Here, after the introductory Chapter 4, we discuss how word meanings vary with context (Chapter 5), paradigmatic sense relations (Chapters 6 and 7), the nature of lexical hierarchies (Chapter 8), how the meanings of words in the same grammatical sequence interact (Chapter 9), the problems of describing word senses (Chapters 10 and 11), and finally, how new meanings grow out of old ones (Chapter 12).

CHAPTER 4

Lexical units

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Lexical units

4.1 What is a word?

In a descriptive introduction to meaning such as this, it is inevitable that the meanings of words should loom large, even though in more formally oriented accounts, word meanings are left largely unanalysed, or are reduced to mere skeletons of their true selves. There are, of course, more or less reputable justifications for such neglect. However, most (linguistically innocent) people have an intuition that meaning is intimately bound up with individual words; indeed, this, *par excellence*, is what words are for. While such an intuition seriously underestimates other aspects of meaning, it is not, in itself, wrong, and an adequate introduction to meaning should not shrink from the slipperiness and complexity of word meaning simply because it cannot be neatly corralled into a favoured formalization. Hence, the present and the following eight chapters will be devoted to various aspects of lexical semantics. We begin by looking at what sort of thing a word is.

There has been a great deal of discussion of the nature of the word as a grammatical unit, too much even to summarize here. Most of it, anyway, is not relevant to our concerns. But it is as well to have some idea of what we are dealing with. The notion has notoriously resisted precise definition. Probably the best approach is a prototypic one: what is a prototypical word like? Well, for our purposes, the classical characterization as 'a minimal permutable element' will serve. This attributes two features to a prototypical word:

- (i) It can be moved about in the sentence, or at least its position relative to other constituents can be altered by inserting new material.
- (ii) It cannot be interrupted or its parts reordered.

In other words, in modifying a particular sentence, we are by and large obliged to treat words as structurally inviolable wholes. Let's see briefly how this works. Take a sentence like (1):

(1) The government is strongly opposed to denationalization.

Reordering appears in such examples as (2)–(4):

(2) The government is opposed to denationalization—strongly.

(3) What the government is strongly opposed to is denationalization.

(4) It is denationalization that the government is strongly opposed to.

And the possibilities for the insertion of new material are as follows:

(5) The (present) government, (apparently), is (very) strongly (and implacably) opposed (not only) to (creeping) denationalization, butetc.

Notice that the only possible insertion points are between words. Words, of course, are separated by spaces in writing, although not usually by silences in speech. They also have a characteristic internal structure, in that they prototypically have no more than one **lexical root**. This notion will become clearer below, but, for instance, the lexical roots of the following words are shown in capitals:

GOVERNment	reORDERing	STRONGLy	deNATIONalization
OPPOSEd	TYPically	CLEARer	LEXical

Some words, such as HEDGE-HOG, BUTTER-FLY, and BLACK-BOARD seem to have more than one lexical root. These, however, are atypical, and for many of them it is possible to argue that the apparent roots are not fully autonomous, semantically, but form a fused root. Other words have no lexical roots at all: these are the so-called **grammatical words** like *the*, *and*, and *of*.

At this point it is necessary to be somewhat more precise about what we mean by a word. In one sense, *obey*, *obeys*, *obeying*, and *obeyed* are different words (e.g. for crossword purposes), in another sense, they are merely different forms of the same word (and one would not, generally speaking, expect them to have separate entries in a dictionary); on the other hand, *obey* and *disobey* are different words in both senses, but *bank* (river) and *bank* (money) are the same word for crossword purposes, but we would expect them to have separate dictionary entries and they are therefore different words in the second sense. Finer distinctions are possible, but for our purposes it will be sufficient to distinguish **word forms** and **lexemes**. Word forms, as the name suggests, are individuated by their form, whether phonological or graphic (most of our examples will be both); lexemes can be regarded as groupings of one or more word forms which are individuated by their roots and/or derivational affixes. So, *run*, *runs*, *running*, and *ran* are word forms belonging to the same lexeme *run*, while *walk*, *walks*, *walking*, *walked* belong to a different lexeme, *walk*, distinguished from the former by its root; likewise, *obey*, *obeys*, *obeying*, and *obeyed* belong to a single lexeme and *disobey*, *disobeys*, *disobeying*, and *disobeyed* despite having the same root as the first set, belong to a different lexeme, distinguished this time by the possession of the derivational affix *dis-*. A simple test for derivational affixes (the matter is in reality, however, not quite as clear-cut as this) is that they are never grammatically

obligatory. For instance, in *John is disobeying me*, *disobey* can be substituted by *watch*, without giving an ungrammatical sentence, which shows that *dis-* is not essential to the grammatical structure of the sentence. This is true of all occurrences of *dis-*. On the other hand, any verb which will fit grammatically into the frame *John is — me* must bear the affix *-ing*, showing that it is not a **derivational**, but an **inflectional** affix: word forms that differ only in respect of inflectional affixes belong to the same lexeme. It is the word-as-lexeme which is the significant unit for lexical semantics.

4.2 The notion “possible word meaning”

It is worthwhile to pose the question of whether there are any restrictions on possible meanings for words. We may approach this in two stages. We can first of all ask whether there are any universal restrictions; and then we can inquire as to the existence of language-specific restrictions.

Let us take the first question first. Is there anything conceivable that could never be the meaning of a word? It will be as well to restrict ourselves to notions that can be expressed by a combination of words, otherwise we shall be in really deep water. One line of thinking can, I think, be disposed of relatively quickly. It may be thought that no language could possibly have a word meaning, for instance, “to face west on a sunny morning while doing something quickly”. I confess that I would be astonished to find such a word. But the reason is not that it is theoretically impossible, but that it would be of such limited utility. Languages have words, at least partly, because in the cultures they serve, the meanings such words carry need to be communicated. (Of course, cultural evolution can leave words stranded, as it were, but this does not invalidate the basic point that words at some stage must be motivated in terms of possible use.) This means that if some culture had a use for the notion expressed, then it would not be surprising if there were a word for it. In the case in question, for instance, maybe the word could designate a specific sort of act of disrespect towards the Sun God, which carried specific penalties. If we take into account the possibility of outlandish (to us) religious beliefs, it is clear that the scope for improbable word meanings of this sort is (almost) unlimited.

Now let us look at a different sort of case. Take the sentence (6):

(6) The woman drank the wine slowly.

The notion “drank slowly” could easily be lexicalized (i.e. expressed by a single word): we have in English, after all, verbs such as *quaff* and *sip*, which combine the meaning of “drink” with some adverbial manner component. Similarly, a verb meaning “drink wine” is not at all implausible, as one of the senses of *drink* in English is specifically “drink alcoholic beverage” (as in *Mary doesn't drink, she'll just have an orange juice*). In contrast to these more-or-less plausible

word meanings, consider next the possibility of having a word meaning "The woman drank" (*blisk*), or "the wine slowly" (*blenk*). On this system, *Blisk wine* would mean "The woman drank wine", and *The woman drank blenk* would mean "The woman drank the wine slowly". It seems clear that here we are in the realms not of implausibility, but of impossibility. As a further example, consider the phrase *very sweet coffee*. It is perfectly within the bounds of possibility that there should be a single word meaning "sweet coffee", or "very sweet", even "very sweet coffee", but it is not conceivable that there should be a word meaning "very — coffee" (i.e. any adjective applied to *coffee* would be automatically intensified). What is the difference between the possible and the impossible cases? There seem to be two parts to the answer. First, a word meaning is not allowed to straddle the vital subject-predicate divide. Second, possible word meanings are constrained in a strange way by semantic dependencies. It is first necessary to distinguish **dependent** and **independent** components of a semantic combination. The independent component is the one which determines the semantic relations of the combination as a whole with external items. So, for instance, in *very large*, it is *large* which governs the combinability of the phrase *very large* with other items. Thus the oddness of, say, *?a very large wind* is attributable to a semantic incompatibility between *large* and *wind*—there is no inherent clash between *very* and *wind*, as the normality of *a very hot wind* demonstrates. By similar reasoning, the independent item in *warm milk* is *milk*, and in *drink warm milk* is *drink*. By following this line of reasoning, we can establish chains of semantic dependencies. For instance, the chain for *very young boy* is:

"very" → "young" → "boy"

and that for *drink warm milk* is:

"warm" → "milk" → "drink"

The constraint that we are looking at says that the elements that constitute the meaning of a word must form a continuous dependency chain. This means, first, that there must be a relation of dependency between elements. This rules out "wine slowly" as a possible word meaning, because there is no dependency between "wine" and "slowly" in "Drink wine slowly". Second, there must be no gaps in the chain which need to be filled by semantic elements from outside the word. This rules out cases like "very — milk", where the dependency chain would have to be completed by an external item such as "hot".

Two further suggestions regarding possible word meanings are worth examining. The first is from the famous American linguist Noam Chomsky (1965: 201):

... there are no logical grounds for the apparent non-existence of words such as *LIMB*, similar to *limb* except that it designates the single object consisting of a dog's four legs so that *its LIMB is brown*... would mean that the object consisting of its four legs is brown. Similarly, there is no a priori reason why a natural language could not contain a word *HERD*, like the collective *herd* except that it denotes a single scattered object with cows as parts, so that *a cow lost a leg* implies *the HERD lost a leg*, etc.

Chomsky's points were taken up by the British linguist Steven Pulman in his book *Word Meaning and Belief* (1983). First, he pointed out that some 'scattered objects are nameable, such as fences, constellations, villages, forests, and so on'. To adapt Pulman slightly, we can say that nameable collections of otherwise independently nameable entities generally show one (or more) of the following features:

- (i) The collection is relatively spatiotemporally contiguous (fence, forest, village).
- (ii) It is the product of human agency (fence, village, artistic installation).
- (iii) The members of the collection jointly fulfil a function not fulfilled by any of them separately (fence, bikini).

Notice that both Chomsky and Pulman insist on a distinction between singular scattered objects and collectives. But the criteria are not clear. Pulman refers to 'things which are designated by singular count nouns or proper names but nevertheless regarded as plural: collective words like *herd*, *pile* and *flock*, and proper names like *the United States* or *the Commonwealth*'. (Notice that the possession of one of the features mentioned above seems to be necessary for these collective words.) But what is meant by "are regarded as plural"? A word like *committee* can take plural concord with a verb: *The committee have decided*, but this is not the case with, for instance, *pile*: **The pile of stones are black*.

Chomsky is not much more explicit for *LIMB*, although he is for *HERD*. In the case of *LIMB*, he gives as the sort of sentence which would prove that there was a genuine word *LIMB*, the existence of a sentence like *The LIMB of the dog is brown*. Actually, such cases are not rare: *The foliage of this tree is light green*, means simply that the leaves of the tree are light green. Chomsky's requirements for *HERD* are perhaps more strict. It seems that for *HERD* to be a bona fide example, a part of a cow must count as a part of a *HERD* (which it clearly does not for *herd*). Notice that this criterion would rule out *foliage*: one would not say *The foliage of this tree has prominent veins*, but *The leaves of this tree have prominent veins*. (Similarly: **John's priceless library of first editions has lost several pages*.) But it is not clear that it holds for *fence* either (and others discussed by Pulman as bona fide singular non-collectives). If the separate (and separated) posts which constituted a fence each had a hole in it, would one say *The fence has holes in it* or *The fence poles have holes in them*? I would be happier with the latter. On the other hand, I would be happy with *You can't wear this bikini because it has holes in it*. (Cf. also *This bikini has a reinforced gusset*.)

I suspect that there is, in fact, no sharp distinction between the *HERD* type of example and the *herd* type. I am inclined to agree with Chomsky, however, to the extent that the *HERD* type are somewhat rare.

The second suggestion concerns the putative 'impossible' words *benter* and *succeive* suggested by the American linguist Ray Jackendoff (1990: 261), a follower of Chomsky with a strong interest in semantics. Let us consider *benter* first. This is proposed as a logically coherent converse of *enter* which cannot be lexically realized. Sentences such as (7) are fully normal:

(7) Mary entered the room.

The proposed converse of this would be (8):

(8) The room bentered Mary.

(On the pattern of: *Mary followed John* and its converse *John preceded Mary*.)

The other example sometimes cited is *succeive*, which is intended to denote the true converse of *receive*:

(9) John received the parcel.

(10) The parcel succeived John.

Intuitively, there seems to be some resistance to words having such meanings, which goes beyond the mere fact that they do not exist in English. However, the prohibition is perhaps not absolute, as the following observations suggest. First, the meaning of *benter* is not all that far removed from one reading of *receive*. We also have words such as *envelop*, *incorporate*, which seem to have the right sort of meaning. In the case of *succeive*, the word *reach* appears to encode approximately the right sort of meaning:

(11) I sent John a parcel; he received it yesterday.

(12) I sent John a parcel; it reached him yesterday.

The constraints on word meaning discussed above would seem to be universal in nature. However, there also exist constraints of a more language-specific type. Some languages seem to proscribe the packaging together of certain sorts of meaning in a single word. A single example will suffice. Consider sentence (13):

(13) John ran up the stairs.

Here, the word *ran* encapsulates two notions, that of movement, and that of manner. This is a common pattern in English:

(14) John crawled across the road
 staggered into the room
 waltzed through the office
 etc.

However, this pattern is not possible in many languages, including French. In French, such sentences must be rendered as in (15):

(15) Jean monta l'escalier en courant.

Here, the notions of motion and direction are jointly packaged into *monta*, but manner has to be expressed separately. (Notice that the French pattern is not prohibited in English: *John mounted the stairs running*, but is markedly less natural.)

4.3 Words vs lexical units

The focus of lexical semantics has typically been on words, with a nod towards the unit status of idioms. But this bias has been severely criticised by John Sinclair (2004: ch. 2). Sinclair proposes that there are two basic ways of constructing utterances in natural language use. One way, governed by what Sinclair calls the 'Open-choice Principle' builds up or analyses an utterance word by word. Each word is freely chosen and displays the same semantic properties as it does in isolation. This, according to Sinclair, is how utterance construction is viewed in 'standard' lexical semantics.

The other way, governed by the 'Idiom Principle', uses as basic building blocks ready-made sequences of words which are chosen en bloc. The choice of individual words in these sequences is severely constrained and their semantic properties are suppressed, being subservient to the properties of the sequence. According to Sinclair, utterance building in the first way is relatively infrequent, and is in any case mainly confined to particular language genres, especially technical language and literature. In ordinary, everyday language, especially the spoken variety, the Idiom Principle holds sway.

Sinclair proposed that the basic units of meaning, the units out of which utterances were constructed by the Open-choice Principle, were not words, but what he called 'lexical items'. Some words, mainly technical terms, were lexical items in their own right, but most consisted of more than one word. Lexical items, as envisaged by Sinclair, have the following characteristics:

- (i) Their limits are governed by freedom of choice, that is to say, they are the smallest units whose occurrence is not constrained by co-text. According to the principle 'meaning entails choice', they represent fully functioning semantic units. (This may be compared with the definition of 'minimal semantic constituent' given below.)
- (ii) They have holistic meanings, that is, their meanings are not fully predictable as a compositional function of the meanings of their constituent parts. (This is implicit in what Sinclair says, although he pours scorn on the 'standard' definition of idioms. More will be said about this below.)

Because the occurrence possibilities of words within lexical items are typically severely constrained, the 'meaning entails choice' principle indicates that their meanings are similarly constrained. In other words, they are not fully functional semantic elements. Sinclair calls this restriction of meaning possibility 'delexification'.

Many words are associated with 'semantic prosodies'. These are modelled on Firthian phonological prosodies, where a phonological feature of a phoneme is projected onto neighbouring phonemes, like the lip-rounding of [w] which spreads backwards and forwards in the pronunciation of [sweet]. Words with semantic

prosodies project semantic features onto fellow-constituents of multi-word lexical items. An example is the claimed "negative" feature projected by words such as *cause* and *happen*. The notion of semantic prosody will be critically examined below.

We shall discuss Sinclair's views under two main headings. First, lexification: the right of a sequence of words to be included in the lexicon. We can probably think of this as an ideal dictionary, i.e. one not constrained by limitations of space, etc. The second heading is delexification: the loss of semantic significance of constituents of a lexified sequence. If Sinclair is correct about delexification, then traditional lexical semantics is indeed barking up the wrong tree. The relation of words to lexical items becomes similar to the relation between the meanings of morphemes and the meanings of words.

4.4 Lexification

The claim that a particular word sequence should be considered a single lexical item usually hinges on its manifesting holistic properties of some sort. However, it is necessary to be clear about what we mean by holistic properties in this connection. We shall begin by examining properties which in some sense may be justifiably called holistic, but which do not qualify a sequence for lexical status.

4.4.1 Non-lexical holistic properties

4.4.1.1 Selectional preferences

One way in which words may be said to go naturally together is attributable to a need for semantic coherence: the meaning of virtually any word limits the range of its possible non-anomalous syntagmatic partners. It is sometimes said that meaning entails choice; it is equally true that meaning entails a limitation in the choice of accompanying items. This selective pressure exercised by a word on its partners is variously referred to as **selectional restrictions** or **selectional preferences** (the latter formulation allows for the 'rubbery' nature of the restrictions. Thus, while *fried* and *eggs* are mutually selecting, *fried phonemes* and *exponential eggs* are mutually repelling, if the words retain their default senses. This does not mean that they would be uninterpretable in any conceivable context; however, even if interpretable, they would remain irredeemably odd. (See Chapter 9.2 for more detailed discussion of selectional preferences.)

This type of mutual affinity certainly confers a type of unity on a phrase such as *fried eggs*, but it is not an irreducible unity—the holistic meaning of the phrase is predictable on the basis of the semantic properties of the constituent words. Perhaps more importantly for present purposes, this type of holistic unity is possessed by units of every size right up to the sentence and perhaps even beyond.

If it is to be taken as defining for a Sinclair-type lexical item, then lexical items will, implausibly, have to be at least sentences.

4.4.1.2 Collocations

A certain degree of phrasal unity may be claimed for cases where one (or more) words select non-default senses of their partners. For instance, in the case of *high speed*, while *speed* has its default sense, *high* has a special, non-default sense. This qualifies *high speed* as a **collocation** in the sense of Cruse (1986). The non-default sense of *high* observed here recurs in a number of phrases, such as *high cost*, *high wind*, *high temperature* and so on. In *high command*, neither word has its default sense, while in *foot the bill*, *foot* has a sense unique to a particular collocation (perhaps not quite unique—according to my intuitions, it is stretchable to *Are you prepared to foot the cost*). However, these cases, including *foot the bill*, are arguably fully compositional because each constituent of the phrase carries an identifiable constituent of the meaning of the whole (see the following section for a fuller discussion of compositionality). Such phrases are sometimes called **idioms of encoding**, because a speaker with full knowledge of the default meanings of the constituent words would not be able to predict the acceptability of the phrase, and they therefore have to be learned as a combination. But although they display some unity, the position taken here is that they do not on that account qualify as lexical items. This does not mean that they do not deserve recognition in a dictionary: they can be listed as non-default senses with indications of necessary contexts.

4.4.1.3 Emergent meaning

A semantic phenomenon which some might want to regard as holistic is what is sometimes called emergent meaning. This is more usually discussed in connection with metaphor, but it is much more widespread than that. Take the example of *John poured the butter*. A normal interpretation of this is that the butter was hot enough to be melted. But high temperature is neither a normal characteristic of butter, nor of things that are poured. Does this mean that *John poured the butter* is non-compositional? It certainly casts doubt on the validity of a simple additive version of compositionality using features like building blocks. But if the word *butter* is associated with a Millikan-type 'conception' (encyclopaedic knowledge base), then that knowledge base will contain the information that butter becomes liquid if sufficiently heated, hence combining *butter* with *pour* will cause the feature [HOT] to become salient in the course of a realistic process of composition. The emergence of the feature [HOT] is thus not a necessary sign of the non-compositionality of the phrase *pour the butter*, even though it only emerges within a phrase.

4.4.2 Lexical holism: unpredictable holistic properties of sequences

4.4.2.1 Semantic constituents and the principle of compositionality

The **principle of compositionality** can, for present purposes, be stated as follows:

(I) The meaning of a semantically complex expression is a compositional function of the meanings of its semantic constituents.

What is the rationale behind this principle? It derives mainly from two deeper presuppositions. The first is that a language has an infinite number of grammatical sentences; the second is that language has unlimited expressive power, that is, anything which can be conceived of can be expressed in language. There is no way that the meanings of an infinite number of sentences can be stored in a kind of sentence dictionary—there is not enough room in a finite brain for that. The infinite inventory of sentences arises from rule-governed combinations of elements from a finite list according to generative rules at least some of which are recursive; the only way such sentences could, in their entirety, be interpretable, is if their meanings are composed in rule-governed ways out of the meanings of parts belonging to the same finite set.

Semantic constituents can in general be recognized by the **recurrent contrast test**. Prototypically, semantic constituents have the following characteristics:

- (i) They can be substituted by something else (belonging to the same grammatical class), giving a different meaning.

This expresses the old principle "Meaning implies choice": i.e. an expression cannot have meaning unless it was chosen from a set of possible alternatives. The corollary of this is that if an element is obligatory, it cannot be said to have meaning. So, for instance, *cat* in *The cat sat on the mat* satisfies this criterion because it can be substituted by *dog* giving the semantically different *The dog sat on the mat*; conversely, *to* in *I want to eat* does not satisfy this criterion because it is both grammatically obligatory and unique. As we shall see, this criterion is too strict and is probably best regarded as prototypically valid.

- (ii) At least some of the contrasts of meaning produced by substitution in one context should be reproducible using the same items in a (formally) different context.

This sounds clumsy and obscure. It attempts to state precisely the simple idea that a meaningful linguistic item should be capable of carrying a constant meaning from context to context. Let us now look at some examples of this test in operation.

(16) (mat/box) The cat sat on a ——. = (mat/box) The —— is dirty.

Here we have two items, *mat* and *box*, which produce the same semantic contrast in two different contexts. These two items therefore pass the recurrent contrast test for semantic constituency, and can be considered to be semantic constituents of the sentences which result when they are placed in the appropriate slots. Although we have shown that e.g. *mat* is a semantic constituent of *The cat sat on the mat*, we have not shown that it is a **minimal semantic constituent**, i.e. one that cannot be divided into yet smaller semantic constituents. For that we must test the parts of *mat*. Let us now apply the recurrent contrast test to the *-at* of *mat*.

(17) (-at/-oss) The cat sat on the m—. =(?)(-at/-oss) He has a new b—.

Notice first of all that the first part of the test is satisfied: substituting *-at* by *-oss* gives us *The cat sat on the moss*, whose meaning is different from that of *The cat sat on the mat*. The second part of the test is not satisfied, however, because no context can be found where putting *-oss* in place of *-at* produces the same contrast of meaning that it does in *The cat sat on the mat* (only one of the contexts where the substitution of forms is possible is illustrated in (17)). What is being claimed is that the contrast between *The cat sat on the mat* and *The cat sat on the moss* is not the same as that between *He has a new bat* and *He has a new boss*, and that an equivalent contrast can *never* be produced by switching between *-at* and *-oss*. Some people are uncertain what is meant by 'the same contrast'. It may be helpful to think in terms of a semantic proportionality like *stallion:mare::ram:ewe* ("stallion is to mare as ram is to ewe"), which can be glossed as "the contrast between *mare* and *stallion* is the same as that between *ewe* and *ram*".

It is useful to run through a few of the results of this test. We find, for instance, that although the *dis-* of *disapprove* comes out as a semantic constituent (because the presence vs absence of *dis-* has the same semantic effect in the context of *approve* as it has in the context of *like*), the *dis-* of *disappoint* is not a semantic constituent because the semantic effect of removing it does not recur with any other stem (intuitively, adding *dis-* does not create an opposite, as it does with both *approve* and *mount*). On the same basis, the *re-* of *recount* ("count again") is a semantic constituent, but not the *re-* of *recount* ("narrate"), nor the *re-* of *report*, *receive*, *revolve*, etc. The reader should find that, on reflection, these results accord with intuition. Perhaps less in accord with intuition, at least initially, is the fact that neither the *straw-* nor the *-berry* of *strawberry*, and neither the *black-* nor the *-bird* of *blackbird* pass the test for semantic constituency. Let us take the *blackbird* example (the same arguments apply to lots of similar cases). Surely a blackbird is not only a bird, but is also black? Yes, of course. However the test says not only that the contrast between, *A blackbird was singing* and *A bird was singing* is not matched by that between, say, *John was wearing a black suit* and *John was wearing a suit*, but that it cannot be matched at all. Think of it this way: adding together the meaning of *black* and the meaning of *bird* does not give us the meaning of *blackbird*, it gives us the meaning of *black bird*. To understand what *blackbird* means, we have to have learned to attach a meaning to the whole complex *blackbird* which is not derivable from *black* and *bird*. Some might wish to argue that *black-* in *blackbird* carries whatever meaning differentiates blackbirds from other kinds of bird. However, this is not intuitively appealing: can one give even an approximate paraphrase of this meaning? Furthermore, there is no evidence that elements like *black-* behave in any way like semantic constituents (for more detailed arguments, see Cruse (1986: ch. 2.4)).

4.4.2.2 Idioms

With this notion of semantic constituent we can characterize a type of grammatically complex expression whose grammatical constituents are not semantic constituents. These we shall call **idioms**. By this definition, *blackbird* is an idiom, but the term is more usually applied to phrasal units, and we shall now consider some of these. Expressions whose meaning can be predicted from the meanings of its semantic constituents can be described as **compositional**. Idioms are therefore one type of **non-compositional** expression.

Expressions like the following are traditionally regarded as idioms:

to pull (someone)'s leg
 to paint the town red
 to kick the bucket
 to be round the twist
 to be up the creek
 to have a bee in (one)'s bonnet
 etc.

It is important to realize that when one of these expressions is used in a sentence, it is rare that the whole sentence is idiomatic in the sense defined above. Take the case of *Jane pulled Martha's leg about her boyfriend*. By the recurrent contrast test, the following items come out as (minimal) semantic constituents: *Jane*, *-ed*, *Martha*, *about*, *her*, *boyfriend* (possibly *boy* and *friend*), *pull* —'s leg. Strictly, it is only the last item which is an idiom; notice that it is semantically equivalent to a single lexical item, such as *tease* or *congratulate*. All the items except those which form part of the idiom can be changed without destroying the idiomatic meaning; however, changing *pull* or *leg*, causes the idiomatic meaning to be lost. Although it is not true of all idioms, it seems fruitless to ask what *pull* and *leg* mean in *to pull someone's leg*: they do not mean anything, just as the *m-* of *mat* does not mean anything—all the meaning of the phrasal unit attaches to the phrase, and none to its constituents.

Phrasal idioms have some peculiar grammatical properties, which can be attributed either to the fact that their constituents have no meaning, or that such meaning is not independently active. The following are the main points:

(i) Elements are not separately modifiable without loss of idiomatic meaning:

- (18) *She pulled her brother's legs.
- (19) *She pulled her brother's left leg.
- (20) *She pulled her brother's leg with a sharp tug.

Only the idiom as a whole is modifiable:

- (21) She pulled her brother's leg mercilessly.

(ii) Elements do not coordinate with genuine semantic constituents:

- (22) *She pulled and twisted her brother's leg.

(23) *She pulled her brother's leg and arm.

(Notice, however, the normality of *She pulled her brother's and her father's leg*, where only semantic constituents are coordinated.) The asterisks in (22) and (23) apply only to the idiomatic reading.

(iii) Elements cannot take contrastive stress, or be the focus of topicalizing transformations, and the like:

(24) *It was her brother's *leg* that she pulled.

(cf. *It was her brother's leg that she pulled*, which is normal.)

(25) *What she did to her brother's leg was pull it.

(iv) Elements cannot be referred back to anaphorically:

(26) *Mary pulled her brother's leg; John pulled it, too.

(cf. the normality of *Mary pulled her brother's leg; John did, too*, where the whole idiom is referred to anaphorically.)

(v) An idiom does not survive the substitution of any of its constituent elements by a synonym or near synonym:

(27) *The poor old chap kicked the pail.

(28) *She tugged his leg about it.

(29) *She pulled his lower limb about it.

In all these respects the superficially anomalous behaviour of idioms is in fact a natural consequence of the fact that their constituents are, in a real sense, meaningless. For instance, the typical function of an adjective is to restrict or modify in some way the meaning of the noun it modifies. But if the noun has no meaning, it is scarcely surprising that appending an adjective to it should be anomalous. The same applies to processes which normally function to highlight or focus on the meaning of a particular element, as in (iii) above. Finally, since *pull in to pull someone's leg* does not have any meaning, no sense can be attached to the notion of replacing it with a synonymous item (any more than there is sense in the idea of replacing the *m-* in *mat* with a synonymous item).

(vi) Some aspects of grammar (e.g. voice) may or may not be part of an idiom:

(30) His leg was being pulled continually by the other boys.

(The idiomatic meaning is not destroyed here, so 'active voice' is not part of the idiom proper.)

(31) *The bucket was kicked by him.

(Here the idiomatic meaning is destroyed when voice is changed, and therefore can be considered part of the idiom proper.)

The majority of phrasal idioms, if not all of them, begin their lives as interpretable extensions such as metaphor or metonymy (see Chapter 12). They become idioms when the knowledge necessary to interpret them is no longer current. For instance, one theory concerning the idiom *to pull someone's leg* is that it originated at the time of the Great Plague, and referred to a method of determining whether a body was truly dead. The subsequent path of semantic change was then something like:

“test for signs of life” → “provoke” → “tease”

Once the knowledge of the original meaning was lost, the expression became an idiom.

4.4.2.3 Semantic tags

A **semantic tag** functions together with an element which designates a kind (the base) to distinguish a sub-kind. For instance, if we accept that a blackbird is a type of bird, then *black-* is a tag which distinguishes one type of bird from other types. Some tags, such as *rasp-* in *raspberry*, or *logan-* in *loganberry* contribute no meaning as such, but only have a distinguishing function. These may be called **empty tags**. In contrast, tags such as *black-* in *blackbird* and *blackcurrant* cannot be said to be without semantic significance, since the colour black is characteristic of both of the kinds designated. However, the property of blackness is not sufficient to distinguish blackbirds from other birds or blackcurrants from other berries, (but the tag *black-* may help to make the names of the sub-kinds more natural and more memorable). We can say, therefore, that *black-* in *blackbird* has two functions: first, as a tag, and second to signal a salient but non-discriminatory property of a sub-kind. In certain cases, the meaning of a tag may seem to be sufficient to distinguish the relevant sub-kind. Take the case of the colour terms in *red squirrel* and *grey squirrel*. If we accept that the *squirrel* element in these designates a kind, then the colours are sufficient to distinguish the two types (in Britain we only have two types of squirrel). We might be tempted, therefore, to say that the colour terms here display full semantic functioning. This would, however, be incorrect, for the following reasons. First, they are part of joint names for a kind—this is not the canonical adjectival function. Sub-kinds are related to their superordinate kinds by the sense relation of taxonomy (see Chapter 6.2.1.4) and are in general not distinguishable by a single property. Second, their meaning is not essential to their functioning as tags, because some tags have no meaning. Third, a mutant red squirrel that happened to be grey would not thereby become a grey squirrel (it may qualify as a ‘grey + squirrel’ (free construction) but not as a ‘grey – squirrel’ (complex name). Because the tag + base combination displays unpredictable holistic properties, it will be considered here to be non-compositional and to constitute a unitary lexical item.

Perhaps Sinclair-type lexical units do not need to be word-like. However, the distinction between word-like idioms and non-word-like idioms seems worth making: for one thing, the latter do not have the same combinatory possibilities.

Novel metaphors and examples of metonymy do not qualify as lexical items because their interpretation depends on an understanding of the constituent words.

4.5 Delexification

Sinclair does not dispute the relevance of individual word meanings in sentences constructed according to the Open Choice Principle, only in sentences constructed according to the Idiom Principle. The question to be addressed in this section is to what extent the semantic properties of individual constituent words in formulaic sequences (roughly, sequences that are stored and retrieved as wholes, rather than built up from basic grammatical elements) can be ignored. Sinclair's term for the semantic downgrading of words is **delexification**. It will be argued that delexification is not an inevitable consequence of formulaic sequence status, and not even a necessary consequence of a sequence displaying holistic meaning.

4.5.1 Semanticity of idiom constituents

By definition, the constituent elements of idioms do not have the status of full semantic constituents as characterized above. But it does not follow from this that their meanings are necessarily irrelevant to the holistic idiomatic meaning. In fact, the degree of relevance (which we shall call **semanticity**, this being the inverse of delexification) can be shown to range from zero to 100 per cent. The following examples illustrate the range.

(i) Zero semanticity

Several of the most frequently quoted idioms have constituents which fall into this category (the relevant constituents are in bold):

kick the bucket, **pull** someone's leg, a **red herring**, **pull** a fast one, **beat about the bush**, **cook** someone's goose, **butterfly**, **paint** the town **red**

For none of these is a knowledge of the usual meanings of the words of any help in deciphering the meaning of the idiom. Many, probably most, idioms start their lives as metaphors. If the metaphor is rooted in universal human experience (like *to pass away*, meaning "to die"), it will in all likelihood remain intelligible for a long time. If the metaphor is grounded on some social custom or particular event, then with the passage of time, the knowledge required to interpret it may become inaccessible to the average speaker. Take the case of *to pull someone's leg*. There are various theories concerning the origin of this expression, but one story

locates it during the time of the Great Plague. At the height of the epidemic, so many people died that bodies were collected in carts on a daily basis. To be certain that someone was truly dead, it was apparently the custom to pull one of the legs of the body, the reaction being different for dead and living bodies. Hence, the original meaning of the expression was "test for signs of life". From this, there was a relatively easy transition to "provoke", and then to "tease". However, without this knowledge, the expression is completely opaque.

Several semantic tags also have zero semanticity:

bilberry, raspberry, gooseberry, loganberry, boysenberry, cranberry, strawberry

(ii) *Partial semanticity*

Partial semanticity is when the default meaning of a constituent can be intuited to have some relevance to the idiomatic meaning. Take the case of *ladybird*, a small, attractive, innocuous garden insect whose wing cases are bright red with black spots. It is not a bird, but it is capable of flight; nor is it a lady, but this may be taken to evoke notions of prettiness and delicacy.

The constituents of conventionalized metaphors can be considered to belong to this category, simply by virtue of being metaphorical—their default meanings need to be extended:

sweeten the pill, turn over a new leaf, take leave of one's senses, leave no stone unturned, give someone a piece of one's mind

(iii) *Full semanticity within idioms*

Some constituents of idiomatic expressions arguably have full semanticity. It does not follow from this, of course, that the expressions are therefore fully compositional: it is just that their meanings, although fully relevant, do not add up to the idiomatic meaning. Consider the case of the **irreversible binomial** *bread and butter* alongside its non-idiomatic counterpart *butter and bread* (an irreversible binomial is a coordinated expression whose meaning changes if the coordinated items are interchanged). In the expression *bread and butter*, *bread* simply means "bread" and *butter* simply means "butter". However, one can go into a shop and buy *butter and bread* (or even *bread and butter*, with appropriate intonation) without thereby purchasing *bread-and-butter* (using the hyphens to distinguish the idiomatic reading). To count as *bread-and-butter*, the bread has to be sliced and spread with butter; in addition to this extra meaning, *bread-and-butter* has a conceptual unity—at least for speakers of British English, it counts as a single constituent of a meal.

A similar, but slightly different, case is *fish and chips* in contrast to *chips and fish*, again, in British English (chips are fried chipped potatoes). As with *bread-and-butter*, there is conceptual unity, and the form is important—the fish must be deep-fried in batter. However, there is a difference, in that *fish* does not adequately specify the fish constituent of the dish. Classic *fish-and-chips* uses cod or hake (this may be changing), but, for example, salmon, herring, tuna, and sardines are definitely excluded. This extra specificity is a property of the idiom.

Some semantic tags have full semanticity. Although they do not count as full semantic constituents by our definition, the *grey* of *grey squirrel* and the *black* of *blackbird* carry, respectively, the meanings “grey” and “black”. In the case of idiom constituents with full semanticity, as we have characterized it, it is arguably inappropriate to speak of delexification, unless this is taken to be identical with idiomaticity, in which case more specific labels are required. We shall take the term delexification to refer to cases of partial or zero semanticity. However, a further distinction is required. In all the cases we have examined so far, the idiomatic meaning of an expression, that is, the non-predictable holistic meaning, has had referential consequences. In the next section we shall examine cases where the holistic meaning of an expression has no referential consequences.

4.5.2 Semantic overlay

The term **semantic overlay** will be used here to indicate aspects of the holistic meaning of a formulaic sequence that are non-propositional in nature and thus do not have referential consequences. Non-propositional meaning is discussed in greater detail in Chapter 10, but the sorts of meaning intended include expressive meaning of various kinds, evoked meaning, and default status, either in general or in relation to particular contexts or context types. Semantic layering can apply to expressions whose propositional meaning is also holistic. Take, for instance, the expression *to kick the bucket*. Propositionally, this means “to die, of humans”, to which it is probably necessary to add “suddenly”, because of the slight oddness of sentences like *The old chap kicked the bucket slowly and painfully*. But the expression is also disrespectful, as well as belonging to a colloquial register, and these are expressive features. However, of particular relevance to the discussion of semanticity and delexification are cases where the constituents of a sequence have full semanticity, and therefore, it will be maintained here, do not suffer delexification.

In his (2005) book *Semantic Priming*, Michael Hoey claims that the expression *young men and women* (at least in the corpus he is studying) is used almost exclusively in evaluatively positive contexts. Let us assume for the moment that this is the case and that the expressive meaning is non-propositional and is a holistic property of the phrase. What effect does this have on the meanings of *young*, *men*, *and*, and *women*? Arguably none at all—they have full semanticity and have their normal referential properties. The appropriate use of the phrase depends not on any modification of the meanings of the constituents, but only on an appropriate attitude, on the part of the speaker, to the persons referred to. (Evaluation can be propositionalized, but not in this case. Contrast (32) where evaluation is part of the propositional meaning and (33), where it is not:

- (32) A: Why are you reading that rag?
 B: It's not a rag, it's a serious newspaper.
- (33) A: Will you ask those young men and women to talk more quietly?
 B: ?They aren't young men and women, they are rowdy youths and girls.

The logic of Sinclair's approach is that *young men and women* should be considered a lexical unit. In the sense that competent users of English should be aware of the positive evaluation associated with the phrase, this has a certain justification. But the further claim that the phrase is thereby liberated from the semantics of its constituents, and that its meaning can be learned holistically, is surely a step too far, and would, furthermore, be extremely uneconomical in processing and storage terms, since there are a large number of similar sequences. (This is not to deny that speakers occasionally learn the meaning of a phrase holistically and realize its internal make-up only later. I remember clearly the shock of discovering, at the age of five, that what I took to be a unitary lexical item *icecream* was actually made up of *ice* and *cream*.)

In the above example, the holistic 'overlay' has an undeniable semantic content. But in many examples, the overlay merely consists in the fact that the sequence is the default way of saying something. Whether this should count as 'meaning' or not is a matter of opinion, but what cannot be denied is that it is a holistic property of certain phrases. Take the example of *high temperature*. Arguably both constituents have full semanticity. (It is true that *high* does not have its default meaning, but it occurs with the same sense in many expressions.) There are other ways of expressing the meaning of *high temperature*, for instance *relatively elevated temperature*, but in the majority of contexts, this would call attention to itself in a way that *high temperature* would not, and would raise queries in a hearer's mind as to why the standard form had not been used.

4.5.3 Non-semantic affinity sets

It is perfectly possible, as Alison Wray observes in her (2002) book *Formulaic Sequences*, that some sequences are stored and retrieved as wholes simply because they are frequently used, without there being any semantic consequences whatsoever. (A more detailed discussion of non-semantic reasons for the frequency of co-occurrence of lexical items will be found in Chapter 11.2.) This is likely to be particularly the case at the level of individual speakers, which would not necessarily show up in corpus studies, but presumably it applies more generally, too.

Discussion questions and exercises

1. Semantic constituents

Make a study of English words carrying the prefix *dis-*. In how many of these is the prefix an independent semantic constituent? Where *dis-* is a semantic constituent, how many distinct sense relations are encoded by *X:disX*? Discuss any difficulties.

2. Expressions with holistic properties

Each of the following sentences contains at least one conventionalized expression of some sort. Attempt a classification of these under the following headings (using the definitions given in the chapter):

- (a) idioms (of decoding); (b) frozen metaphors; (c) collocations; (d) clichés.
- (a) You have to hand it to him—he's got guts.
 - (b) The ball's in your court now.
 - (c) You're completely up the creek on this one.
 - (d) Why don't you just wait and see?
 - (e) She's got a bee in her bonnet about it.
 - (f) The affair was blown up out of all proportion.
 - (g) He took it in good part.
 - (h) Use your loaf!
 - (i) The situation went from bad to worse.
 - (j) He swallowed it lock, stock, and barrel.
 - (k) They beat the living daylights out of him.
 - (l) Well, you live and learn, don't you?

Suggestions for further reading

The principle of compositionality is a key feature of any formal approach to semantics. Chapter 1 of Cann (1993) provides a good introduction; more advanced treatments can be found in Partee (1984) and Bartsch (2002).

The account of idioms given here follows that of Cruse (1986: ch. 2). For a comprehensive survey of English idioms, see Makkai (1972). The syntactic behaviour of idioms is discussed in Fraser (1970), Katz (1973), and Newmeyer (1974). An interesting discussion of idioms from a psycholinguistic point of view is Gibbs (1990) (Gibbs's position on idioms is not as incompatible with Cruse (1986) as he seems to think).

For collocations (defined more inclusively than here) see Mackin (1978). Apart from the works by Sinclair, Hoey, and Wray mentioned in the text, Cowie (ed.) 1998, and Stubbs (2001) are worth reading.

CHAPTER 5

Contextual variability of word meaning

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Contextual variability of word meaning

5.1 Preliminaries

Once we try to grapple with the notion 'the meaning of a word', we come up against a serious problem, namely, that the interpretation we give to a particular word form can vary so greatly from context to context. The observable variations range from very gross, with little or no perceptible connection between the readings, as in: *They moored the boat to the **bank*** and *He is the manager of a local **bank***, through clearly different but intuitively related readings, as in *My father's firm built this **school*** (*school* here refers to the building) and *John's **school** won the Football Charity Shield last year* (in this case *school* refers to (a subset of) the human population of the school), to relatively subtle variations, as in the case of *path* in *He was coming down the **path** to meet me even before I reached the garden gate* and *We followed a winding **path** through the woods* (a different mental image of a path is conjured up in the two cases), or *walk* in *Alice can **walk** already and she's only 11 months old* and *I usually **walk** to work*, where not only is the manner of walking different, but so also are the implicit contrasts (in the first case, talking and standing up unaided, and in the second case, driving or going by bus/train, etc.).

This type of variation, which is endemic in the vocabulary of any natural language, means that answers must be sought to questions like: Do words typically have multiple meanings? How do we decide what constitutes 'a meaning'? Is there a finite number of such meanings? How are the meanings related to one another? The present chapter attempts to address questions of this sort.

5.2 Lexical ambiguity: one-many mapping of words to concepts

One of the core notions employed in the discussion in this chapter is that of lexical ambiguity. Given the conceptual orientation of this book, it is natural to picture lexical ambiguity as a one-to-many mapping of words to concepts. For the moment, we shall say (i) that each distinct concept that a word maps onto constitutes a sense of the word and (ii) that two concepts will be regarded as distinct if a sense boundary can be construed between them.

Before proceeding any further, two points should be made. The first is that not all ambiguity is lexical in origin. The main alternative source, of course, is syntax, as in the classic *old men and women* (is it just the men who are old, or does *old* apply equally to the women?). Many syntactic ambiguities arise from the possibility of alternative constituent structures, as here:

(old men) (and women)
old (men and women)

A syntactic ambiguity may involve functional alternation in one or more items, as in Hockett's classic telegram: *Ship sails today*, where *ship* and *sails* both belong to different syntactic categories in the two readings.

Non-lexical ambiguity can also arise from alternative interpretations of a simile or metaphor:

John works like lightning. (i.e. very fast)
John works like lightning—in brief flashes and with lots of noise.

A word should also be said about cases like *The man entered the room*. In any specific context of use, *the man* and *the room* will designate a particular man and a particular room, and in a different context, a different man and a different room. Is this ambiguity? It is not usually recognized as such, since there is no evidence that multiple entries will be necessary, either in the mental lexicon, or in any ideal language description. However, there seems no great harm in calling this phenomenon **pragmatic ambiguity** or **open ambiguity** (because the number of readings is potentially infinite).

The second point to bear in mind is that ambiguity does not exhaust the possibilities of contextual variation. Consider the different interpretations of *teacher* in (1) and (2):

- (1) Mary's teacher is on maternity leave.
- (2) Mary's teacher is on paternity leave.

Clearly, it will normally be understood that Mary's teacher in (1) is female, but in (2) is male, and these interpretations are influenced by the occurrence, respectively, of *maternity* and *paternity* in the context. However, it will be argued that *teacher* is not ambiguous, that is to say, no sense boundary can be construed between the readings (at least not in respect of the "male"/"female" distinction). It could be

argued that there is ambiguity between "teacher as a member of an established profession", as in *John is a teacher*, and "teacher by virtue of having taught someone something" as in *Mary learned to swim very quickly. She had a good teacher—her brother*. More will be said about this type of variation (called modulation) below. We shall now examine the criteria for recognizing the conceptual distinctness (i.e. the presence of sense boundaries) characteristic of true ambiguity.

5.3 Sense boundaries

There are various phenomena which reveal the presence of a sense boundary. They can be viewed as different ways in which a reading may be autonomous, that is, ways in which it plays an individual semantic role in a language. Three types of autonomy will be described.

5.3.1 Attentional autonomy

Two construals are said to show attentional autonomy (with respect to one another) if they are mutually antagonistic, that is to say, they are in competition for attention, they cannot both be held simultaneously at the centre of attention, and the best one can do is to switch rapidly from one construal to the other. The following sentences illustrate antagonistic readings:

- (3) We were exhausted when we got to the bank.
("margin of river"/ "financial institution")
- (4) John was wearing a light jacket.
("light in weight"/ "light in colour")
- (5) He has made a study of moles.
("animals"/ "skin defects" / "industrial spies")
- (6) If you don't do something about those roses they will die.
("flowers"/ "bushes")

In any normal use of any of these sentences, the speaker will have one reading in mind, and the hearer will be expected to recover that reading on the basis of contextual clues: the choice cannot normally be left open. If the hearer finds it impossible to choose between the readings, the utterance will be judged to be unsatisfactory, and further clarification will be sought.

One of the consequences of attentional autonomy can be observed in (7):

- (7) John was wearing a light jacket; so was Bill.

Intuitively, *light* means two different things: "light in colour" or "light in weight". Bearing in mind these two interpretations, there are four different situations with regard to the properties of John's and Bill's jackets: (i) they are both lightweight, (ii) they are both light-coloured, (iii) John's jacket is lightweight and Bill's is

light-coloured, John's jacket is light-coloured and Bill's is lightweight. Notice, however, that sentence (7) is capable of designating only two of these situations, namely, (i) and (ii). In other words, once one has decided on a reading for *light* one must stick with it, at least through subsequent anaphoric back-references. This restriction is known as the **identity constraint**. The constraint applies equally to speaker and hearer. A speaker can be held to account for the use of the above construction if they intended two different readings of *light*; in the case of the hearer, there is a processing constraint which makes it difficult to attach both readings simultaneously to one occurrence of the word. The identity constraint can also be observed in (8):

(8) John has made a study of moles; so has Bill.

Notice that the identity can be deliberately violated: in (8) John's moles could be of a different sort than Bill's, especially if the hearer knows this. But the penalty is a need for a greater cognitive effort on the part of the hearer, together with a sense of punning. The identity constraint observed in the above examples should be contrasted with its absence in (9):

(9) Mary has adopted a child; so has Jane.

The child in question must obviously be either a boy or a girl, but there are no constraints on the possible readings: Jane's adoptee does not have to be of the same sex as Mary's, hence there is no support here for any suggestion that "boy" and "girl" correspond to distinct readings of *child*.

Attentional autonomy also gives rise to the phenomenon of **zeugma** (or pun).

(10) ?John and his driving licence expired last Thursday.

This occurs when a sentence calls for two discrete and antagonistic readings to be activated simultaneously. In (10), *John* calls for the "die" reading of *expire*, while *his driving licence* calls for the "come to the end of a period of validity" reading, which creates a punning effect. Another, slightly more complex, example of zeugma can be seen in (11):

(11) When the Chair in the Philosophy Department became vacant, the Appointments Committee sat on it for six months.

5.3.2 Relational autonomy

Another indicator of discreteness is the possession by two readings of genuinely independent sets of sense relations (these are treated in detail in Chapters 6 and 7). For instance, the two readings of *light* have distinct opposites, namely *dark* and *heavy*. The fact that these two are completely unrelated strengthens the case for discreteness. The two obvious readings of *bank* also have quite independent sense relations. The (river) *bank* is a meronym (i.e. designates a part) of *river*, and has *mouth*, *source*, and *bed* among its co-meronyms (i.e. sister part-names). The

(money) *bank* is not a part of anything, but is a subtype of *financial institution*, and has, for instance, *building society* as one of its sister hyponyms. Care must be taken here in the definition of *independent*. For instance, the fact that *old* has two opposites *young* and *new*, might lead one to the conclusion that *old* is ambiguous between “old for a living thing” and “old for something inanimate”. But this is contradicted by the lack of zeugma in (12):

(12) John’s car is almost as old as he is.

However, a better analysis is possible. If we say that the concept evoked by *old* is something like “has been in existence for a relatively long time”, then its antonym conceptual counterpart can be expressed as “has been in existence for a relatively short time”. Unlike its partner, this concept is not associated with a single lexical item, but is shared between two, namely, *young* and *new*, which therefore jointly constitute the opposite of *old*.

5.3.3 Compositional autonomy

Compositional autonomy refers to the fact that one of the participating elements in a compositional process, say, the modification of a noun by an adjective, or the interaction of a verb with its direct object, will engage with only a part of the potential meaning of its partner. This can be illustrated with *bank*. In the expression *a steep bank*, the adjective engages only with either the “river bank” or “sloping ground” meaning of *bank*, and the meaning “financial institution” is completely ignored. Likewise, in *a high-street bank*, only the “financial institution” meaning of *bank* participates in the compositional process, as if the other meaning did not exist. Selective compositional autonomy can be taken as evidence of a sense boundary within the meaning potential of a word.

A useful way of exploiting compositional autonomy is the *Yes/No* test: Can a context be imagined in which a *Yes/No* question containing the relevant word can be answered truthfully with both *Yes* and *No*? Consider the case where Mary is wearing a light-coloured, heavyweight coat. If someone asks *Were you wearing a light coat?*, Mary can truthfully answer both in the positive and the negative, depending which reading of *light* she applies to *coat*. Notice that, for instance, *child* does not pass the *Yes/No* test (at least with respect to the “boy”/“girl” contrast). Suppose that John and Mary have adopted a child, and Jane asks: *Is it true that you have adopted a child?* John and Mary do not have a choice of truthful answers between *Yes* and *No*, depending on whether they interpret *child* as “boy” or “girl”.

5.4 Full senses: discrete, no unification

Full senses of a word can be characterized as fully discrete, that is, they display all three types of autonomy described above. But there is one more requirement, which distinguishes them from the sub-senses to be described in the next section:

they display radical attentional autonomy, in that there are no contexts where they are not antagonistic. To express the matter in another way, there is no possible construal in which the boundary between full senses is suppressed, and a unified reading created. By these criteria, the alternative readings discussed above of *bank* and of *light* are full senses.

5.5 Sub-senses: discrete, but unifiable

We have taken radical antagonism to be an essential criterion for full sensehood. However, there also exist alternative readings of words which show evidence of discreteness, but which in suitable contexts are unifiable. These are called **sub-senses**. There are two main varieties, **facets** and **microsenses**.

5.5.1 Facets

A clear example of a word displaying facets is provided by the word *book*. Sentences (13) and (14) exemplify two such readings:

- (13) Please put this book back on the shelf.
 (14) I find this book unreadable.

In the first case it is the physical object which is referred to, in the second case, the text which the physical object embodies. However, this is not ordinary ambiguity: the two readings coordinate quite happily, without producing a sense of punning:

- (15) Put this book back on the shelf: it's quite unreadable.

Such readings are called **facets**, and we may refer, for convenience, to the [TEXT] facet and the [TOME] facet (hopefully the labels are self-explanatory). There is considerable evidence of the discreteness of facets.

5.5.1.1 Evidence of discreteness in facets

(i) *Attentional autonomy: Identity constraint*

Consider sentence (16):

- (16) John thinks this is the most remarkable book of the century; so does Mary.

If it is known that John is speaking of the text, there is a strong presumption that that is what Mary admires, too; likewise if John is impressed by the physical presentation, then so is Mary.

(ii) *Relational autonomy:*

The hyponyms (sub-varieties) of *book* as [TEXT] are such things as *novel*, *biography*, *dictionary*, and so on. These do not correspond to hyponyms of *book* as [TOME], which are such items as *paperback*, *hardback*, and so on; that is to say, it is not the case that novels are typically hardbacks and biographies paperbacks, or

These sentences involve facets which can be designated, respectively, as [PREMISES], [PERSONNEL], and [INSTITUTION]. These can coordinate together without zeugma:

- (23) The friendly bank in the High Street that was founded in 1575 was blown up last night by terrorists.

A parallel set of facets will be found in *school* and *university*. A third group is represented by *Britain* in the following:

- (24) Britain lies under 1m of snow.
 (25) Britain mourns the death of the Queen Mother's corgi.
 (26) Britain has declared war on San Marino.

In (24) *Britain* designates a concrete geographical entity, in (25), the population, a human entity, and in (26), an abstract political entity. According to my intuitions, although they are discrete, they all coordinate together fairly happily without zeugma, as in (27):

- (27) Britain, despite the fact that it is lying under 1m of snow and is mourning the death of the Queen Mother's corgi, has declared war on San Marino.

5.5.1.4 Summary

Facets are discrete but unifiable alternative readings of a word. A word is necessary regarding the nature of the unification characteristic of facets. First, it probably has not escaped the reader's attention that sister facets are of different ontological types, principally CONCRETE, HUMAN, and ABSTRACT. For this reason, the unified meaning cannot be a superordinate of which the sister facets are hyponyms, nor can it be a whole of which the facets are, in the normal sense, parts. We shall say that the unified reading is a global one which has facets as components.

5.5.2 Microsenses

A second type of sub-sense is the microsense. A convenient example of a word with microsenses is afforded by the noun *knife*. A superordinate reading of *knife* appears in contexts such as *a collection of knives of various types*, which includes pen-knives, pruning knives, and table knives as sub-types. But *knife* also has a range of discrete specific readings which appear in appropriate contexts. Consider a meal-time context: young Johnny is tearing pieces of meat with his fingers. He has a pen-knife in his pocket, but not a knife of the appropriate kind for use at table:

- Mother: Johnny, use your knife.
 Johnny: I haven't got one.

Johnny's response is perfectly appropriate: he does not need to be more specific. In this context, *knife* means "knife of the sort used at table". A different reading of *knife* appears in: *The use of knives by street gangs is on the increase*. Another word with microsenses is *card*; (28) illustrates the superordinate reading, and (29) and (30) contrasting microsenses:

- (28) The box was full of cards of various sorts.
 (29) Jim is on holiday in Brittany—we got a card from him yesterday.
 (30) Here's my card; if you have any problems, let me know.

Yet another example is *ball*:

- (31) The box was full of balls of various sorts. (superordinate construal)
 (32) The ball just cleared the net. (tennis ball)
 (33) The ball struck the crossbar. (football)

At first sight, the above claimed instances of microsenses look suspiciously like the non-discrete contextual specification of meaning observed in (1) and (2), repeated here for convenience:

- (1) Mary's teacher is on maternity leave. (female teacher)
 (2) Mary's teacher is on paternity leave. (male teacher)

However, microsenses differ in a number of ways from such cases. In particular, there is evidence of discreteness.

5.5.2.1 Autonomy in microsenses

Attentional autonomy: Microsenses exhibit the identity constraint, although perhaps to a weaker extent than full senses:

- (34) I got a card from Bill; so did Mary.
 (35) I don't have a knife; neither does Bill.

Relational autonomy: The microsenses of *knife* have different superordinates, hyponyms, and co-hyponyms:

<i>knife</i> (1)	superordinate:	cutlery
	co-hyponym:	fork, spoon
	hyponym:	bread knife
<i>knife</i> (2)	superordinate:	weapon
	co-hyponym:	gun, cosh
	hyponym:	flick knife
<i>knife</i> (3)	superordinate:	surgical instrument
	co-hyponym:	scalpel, forceps
<i>knife</i> (4)	superordinate:	DIY tool
	co-hyponym:	hammer, chisel

which covers all the metaphorical extensions. Semantic spectra seem to be characteristic of situations where a core sense has a variety of relatively minor metaphorical extensions, and seem particularly prevalent when the basis of the metaphor is physical shape (as with *tongue*, *foot*, *head*, *arm*, *pin*, etc.).

5.6 Levels of autonomy below the level of sub-sense

5.6.1 Ways-of-seeing

There is another type of difference between readings which displays a level of discreteness less than that shown by facets and microsenses. These will be referred to as **ways-of-seeing**. A simple way of explaining these would be by analogy with looking at an everyday object from in front, the sides, from behind, from on top, etc. All these different views are perceptually distinct, but the mind unifies them into a single conceptual unity. Something similar happens with meaning. As an example consider the case of *house*. A house can be thought of as an example of a particular architectural style, as a dwelling, as a piece of property, or as a piece of construction work. Each of these points of view causes a transformation in the accessibility profile of knowledge associated with the lexical item *house*. Some of these profiles may be sufficiently distinct to give rise to discontinuity phenomena, such as compositional autonomy, shown by, for example, ambiguous phrases without ambiguous lexical items. An example might be *a delightful house*, which could be delightful from the point of view of its architectural qualities, or because of its qualities as a place to live in. (It could, of course, be both, but my intuition is that one would mean either one thing or the other.) Think also of *John began the book*. This is ambiguous, and two of its possible readings are that John began reading the book, and that he began writing it. Notice that in both cases it is the [TEXT] facet which is involved, so the ambiguity here cannot be explained by appeal to facets.

How many different perspectives are there? One might suppose there to be an indefinitely large number; but if we apply the constraint that different ways of seeing must give some evidence of discreteness, such as the possibility of ambiguous phrases, there seem not to be so very many. On one account, there are only four, which we shall illustrate in connection with the word *horse*. (What follows is a reinterpretation of Pustejovsky's **qualia roles**, as expounded in Pustejovsky (1995).)

(a) Seeing something as a whole consisting of parts

Consider the viewpoint of a veterinarian, acting in a professional capacity. Such a person is primarily concerned with the proper functioning of the horse's body and its parts. His/her approach has parallels with that of a garage mechanic to a car. (This corresponds to Pustejovsky's **constitutive role**.)

(b) Seeing something as a kind, in contrast with other kinds

For this perspective, think of the way a taxonomic zoologist would view a horse. This would involve the way horses differ from other species, such as deer, and zebras and so on, and also how the various sub-species and varieties of horse differ from one another. Ordinary speakers, too, have a 'mind-set' for classification; most 'folk taxonomies' depend heavily on perceptual features such as size, shape, colour, and so on, so these will figure largely in this perspective. (Some of the classificatory features will inevitably involve parts, but the point of view is different.) (This corresponds to Pustejovsky's **formal role**.)

(c) Seeing something as having a certain function

A characteristic way of looking at things is in terms of their function: think of the way a jockey, or a Kazakh tribesman will view his horse. Some things, of course, have many different uses, and each use will cause a different highlighting and backgrounding of conceptual material. But it is implicit in the fourfold division we are adopting here that within-perspective differences will be markedly less distinct (by various measures) than between-perspective differences. This is an empirical matter which has not been properly explored. As an example of between-perspective distinctness, think of a veterinarian's and a jockey's/racehorse trainer's differing interpretations of *This horse is in excellent condition*: health and race fitness are not the same thing. (This corresponds to Pustejovsky's **telic role**.)

(d) Seeing something from the point of view of its origins

Adopting this perspective means thinking of something in terms of how it came into being. For a living thing, like a horse, this would involve the life cycle, conception, and birth, and so on. It would also include the poet's view of his/her poem, a builder's view of a house, a farmer's view of farm products, and so on. Mention has already been made of the ambiguity of *John began the book*, which is ambiguous even when *book* is interpreted exclusively as [TEXT]: the ambiguity can be explained by saying that on the interpretation "John began reading the book", a functional perspective is being taken, since the purpose of a book is to be read, while on the interpretation "John began writing a book", a 'life-cycle' perspective (in the broadest sense) is being taken. (This corresponds to Pustejovsky's **agentive role**.)

5.7 Modulation

The effects of context on the meaning of a word can be summarized under the three headings **selection**, **coercion**, and **modulation**. All the examples of contextual variation in word meaning that we have examined so far have involved discrete ready-made bundles of meaning: well-established construals, selectively activated

by contexts. This selection operates largely through the suppression of readings which give rise to some sort of semantic clash with the context (see Chapter 9 for more detailed discussion of this). If all the readings are suppressed except one, then this one will be 'selected', and generally in such a situation the alternatives do not even enter the consciousness of either speaker or hearer. It sometimes happens that none of the established readings of a word is compatible with the context. Because of a tacit assumption that speakers are trying to convey an intelligible message, this typically triggers off a search through possible meaning extensions, such as metaphor or metonymy, for a construal which is compatible with the context. If one is found, this will be taken to be the intended reading, and we can say that context has **coerced** a new reading. However, selection and coercion do not exhaust the possibilities of contextual variation: a lot of variation arises as a result of contextual effects which do not go beyond the bounds of a single sense. This is called here **contextual modulation**. There are two main varieties, **enrichment** and **impoverishment**, according to whether the effect is to add or remove meaning.

5.7.1 Enrichment

The most obvious effect of context is to add semantic content, that is, to enrich a meaning or make it more specific. The enrichments arise as a result of processes of inference which are in principle no different from those operating more generally in language understanding (for instance, those which generate conversational implicatures (q.v.)). There are two main ways of being more specific: by narrowing down to a subclass (i.e. hyponymic specialization), and by narrowing down to a subpart (i.e. meronymic specialization). Both may, of course, operate at the same time.

Hyponymic enrichment. The context may simply add features of meaning to a word which are not made explicit by the lexical item itself. For instance, gender may be determined (in the following examples, the enriched word is in bold italic):

(38) My brother married John's ***cousin***.

or height:

(39) My ***brother*** always bumps his head when he goes through the door.

or temperature:

(40) The ***coffee*** burnt my tongue.

or legality:

(41) Our house was burgled while we were away. They only ***took*** the video, though.

Contextual determination may be to a specific kind (i.e. a taxonym—see Chapter 6.2.1) of the class normally denoted by the lexical item employed, rather than adding a feature:

- (42) I wish that *animal* would stop barking.
 (43) John is *going* well in the 1500 metres freestyle.

In some cases, the specialization is to a prototypical example:

- (44) I wish I could fly like a *bird*.

Notice that prototypical and non-prototypical interpretations coordinate without zeugma:

- (45) An ostrich is a bird, but it can't fly like one.

The first occurrence of *bird* designates the whole class, but the second (via anaphora) must receive a prototypical interpretation. The normality of (45) shows that we are not dealing with separate senses.

Meronymic enrichment. Specification may also be to part of what the lexical item used normally refers to. This may be a definite identifiable part:

- (46) The car has a puncture.

The only part of a car that this can refer to is one of the tyres. The specification may, on the other hand, be less definite:

- (47) The car was damaged when John drove it into a tree.

Here the damage can be located at the front end of the car rather than the rear end, but there is still a range of possibilities, and the damaged area may not constitute a definite part. This kind of narrowing down to a part is widespread in language use and not usually noticed. (For more examples, see the discussion of active zones in Chapter 15.6.5).

5.7.2 Impoverishment

The effect of context is not always to enrich: it may also impoverish, if it makes clear that a lexical item is being used in a vague sense. Compare the following:

- (48) The draughtsman carefully drew a circle.
 (49) The children formed a circle round the teacher.

It is clear that the use of *circle* in (49) represents an impoverishment of the stricter meaning in (48). (For a more detailed discussion of vagueness see Chapter 10.3.4.)

5.8 Homonymy and polysemy

Given that a word is ambiguous, it may be the case that there is an intelligible connection of some sort between the readings (the nature of such connections is discussed below), or it may be seemingly arbitrary. For instance, few people can intuit any relationship between *bank* (money) and *bank* (river), although a

connection between *bank* (money) and, say, *blood bank* is not difficult to construe (both are used for the safekeeping of something valuable), or between *river bank* and *cloud bank*. In the case of *bank* (river) and *bank* (money), we say that *bank* displays **homonymy**, or is **homonymous**, and the two readings are **homonyms**. It is normal to say in such circumstances that there are two different words which happen to have the same formal properties (phonological and graphic). A lexicographer would normally give two main entries for *bank*, *bank*¹ and *bank*². Where there is a semantic connection between the senses, as in *branch* in (50a) and (50b), we say that the word is **polysemous**, or manifests **polysemy**:

- (50) (a) The branch John was sitting on snapped.
 (b) Semantics is a branch of linguistics.

In this book the less common practice will be adopted of referring to the related readings of a polysemous word as **polysemes**.

Of course, the degree to which two readings can be related forms a continuous scale, and there is no sharp dividing line between relatedness and unrelatedness; furthermore, individual speakers differ in their judgements of relatedness. However, this does not render the distinction between polysemy and homonymy useless, because there are many clear cases.

5.9 Relations between polysemes

The possible relationships between a pair of polysemes can be classified under two main headings: linear relations (also called vertical relations) and non-linear relations (also called horizontal relations). A pair of polysemes stand in a linear relation if one of them covers a more restricted semantic area within the area covered by the other, that is to say, if one denotes either a subclass or a part (i.e. is either a hyponym or meronym) of the other. In non-linear relations, there is no relation of inclusion between polysemes.

5.9.1 Linear polysemy

5.9.1.1 Autohyponymy

Autohyponymy is the most frequently encountered type of linear relation. An example of this is *dog*, which has two senses, a general sense, "member of canine race", as in *Dog owners must register their pets*, and a more specific reading, "male member of canine race", as in *That's not a dog, it's a bitch*. Another example is *drink*, whose general reading occurs in *You must not drink anything on the day of the operation*, and whose specific reading is exemplified in *John isn't drinking today—he'll just have an orange juice*. Notice that in both the above cases, the specific reading has genuine autonomy. This is shown by the fact that a suitably

5.9.2 Non-linear polysemy

5.9.2.1 Metaphor

Many polysemous senses are clearly related metaphorically. A detailed consideration of metaphor will be postponed until Chapter 12: here we will simply characterize metaphor as figurative usage based on resemblance. A good example of a set of readings related metaphorically is provided by *position*:

That is an uncomfortable **position** to sleep in.

This is a good **position** to see the procession.

John has an excellent **position** in ICI.

What is your **position** on EC membership?

You've put me in an awkward **position**.

5.9.2.2 Metonymy

Another rich source of polysemous variation is metonymy (also dealt with in Chapter 12). This may be characterized for the moment as figurative use based on association. The following are examples (literal uses in brackets):

There are too many **mouths** to feed.

(Don't talk with your **mouth** full.)

John has his own **wheels**.

(One of the **wheels** fell off.)

Jane married a large **bank account**.

(Jane's husband has a large **bank account**.)

He is the **voice** of the people.

(He has a loud **voice**.)

5.9.2.3 Miscellaneous types

For some polysemous senses, although they are obviously related, it does not seem very illuminating to describe their relationship either in terms of metaphor or metonymy. An example is the calendric and non-calendric readings of words denoting periods of time, such as *week*, *month*, *year*. The clearest example is probably *month*, because the two readings do not even indicate the same length of time. A calendric month begins on the first day of the said month, and ends on the day before the first of the following month; a non-calendric month starts on any day, and ends four weeks later. The two specific readings of *door* would also count as non-linear.

5.10 Systematic polysemy

Some cases of polysemy are systematic in the sense that the relationship between the readings recurs over a range of lexical items that is at least partly predictable on

semantic grounds. Probably the least systematic is metaphor. There seems to be little pressure for systematicity in metaphor. For instance, in metaphors derived from the human body, one cannot assume that if *foot* is used for the lowest part of something, then *head* will be used for the upper part (or vice versa):

foot of mountain	*head/top of mountain
foot of tree	*head/crown of tree
head of a pin	*foot/point of a pin

We do speak of the *head* and the *foot* of a bed, but this is arguably a case of metonymy, that is to say, it indicates which part of the body is normally in that position.

The most systematic metaphors are probably the most basic ones, many of which are so naturalized that they hardly feel like metaphors any more. I am referring to cases like UP IS MORE/DOWN IS LESS. That is to say, if one can refer to something as *rising* (prices, popularity, hopes, etc.), the chances are pretty good that they are also capable of *falling*.

Metonymy can be highly systematic. Some examples are the following:

"tree species"/"type of wood"	beech, walnut, oak
"fruit"/"tree species"	apple, pear, cherry
"flower"/"plant"	rose, daffodil, azalea
"animal"/"meat"	rabbit, chicken, armadillo
"composer"/"music by same"	Beethoven was deaf. Do you like Beethoven?
"food"/"person ordering same"	The omelette is overcooked. The omelette complained.

There is some systematicity, too, in linear polysemy. Take the case of *dog*. The story is that in a situation where a category has a binary subdivision, and only one of the subdivisions has a name, then the superordinate term will develop a more specific reading to fill the gap. So, for instance, in the case of *dog*, of the subcategories of male and female animals, only the female has a distinct name, namely *bitch*, so the superordinate term moves down to fill the gap. In the case of *duck*, it is the female subcategory which is unnamed, so *duck* functions as partner for *drake* as well as denoting the kind of bird. In other cases one can argue that the development has proceeded in the other direction, in that the name of one of the subcategories (typically the most significant and familiar one, if there is a difference), moves up to function as a superordinate. This is perhaps what has happened in the case of *cow*.

5.11 The dynamic construal approach to variable word meaning

The discussion so far of variable meaning potential in words has been compatible with the notion that words are associated with a fixed number of units of sense, of varying degrees of distinctness. This picture is, however, to some degree misleading. In this section, a more satisfactory approach is outlined, which covers a wider range of facts, but does not directly contradict anything said so far. This is called the **dynamic construal** approach. The following account is based on Croft and Cruse (2004).

In the dynamic construal approach, words do not have a fixed set of meanings permanently assigned to them: rather, meanings emerge in actual use as a result of various processes of construal (mental processes of meaning construction). What every word does have as a permanent property is a mapping onto a body of conceptual content (here called *purport*) which is an essential part of the raw material for the construal processes, but which underdetermines any specific meanings. The processes of construal which result in contextualized meanings are subject to a battery of constraints of various kinds and of different strengths which make some readings of a word more likely than others.

5.11.1 Meaning

The notion of meaning is used here in a special sense. It is what we are conscious of when we grasp the import of an utterance in context and the contribution of its parts. The processes of construal which result in a conscious meaning are largely unconscious. There is a striking phenomenological difference between experienced meaning-in-use and what a dictionary seems to provide. Meaning in this sense is highly context-dependent.

5.11.2 Purport

Each lexical item (word form) is associated with a body of conceptual content which is called **purport**. Purport is one part of what the word contributes to processes of construal (the other part being a set of constraints). It does not correspond to any specific meaning. Purport can be pictured as some function of memories of previous experiences of the contextualized use of the word, probably not raw memories, but processed and digested memories. As such, it is continually developing: every experience of the use of a word modifies the word's purport, even if only minutely.

5.11.3 Construal

Construal, as it is understood here, is the process of constructing a meaning, using purport as raw material, and subject to a battery of constraints. There are many types of construal and the full process may well comprise several distinct stages.

A full account of construal types is not possible here, but some idea of the processes involved can be gleaned from a consideration of the following example:

- (53) The ball struck John full on the face and he suffered a broken nose and some bruising.

First of all, the word *ball* maps onto what can be considered two distinct regions of purport, corresponding roughly to "round object" and "social function involving dancing". It is extremely difficult to construe these as a single conceptual unity, due to conventional constraints, 'reality' constraints (our knowledge of the way the world is), and cognitive constraints (the way our minds work), and therefore one of them will normally be selected as relevant, and the other will play no further part in the construal process. The occurrence of *struck John in the face* in the linguistic context of *ball* will probably be sufficient to trigger the selection of the "round object" portion of purport, but this will almost certainly be reinforced by features of the situational context of the utterance. However, this is not the end of the construal process, because there are many different types of ball, and the consequences of being struck on the face differ greatly according to the type involved (think of a child's rubber ball and a cricket ball). Hence a narrower construal of a specific type of *ball* is needed. This provides what is called a **pre-meaning**.

The next stage is to construe some kind of representation of an individual ball (triggered by the definite article). How detailed this representation is will depend largely on contextual factors. For instance, context will influence the highlighting of certain features of the ball at the expense of others. In the case of someone being struck on the face, the ball's weight, velocity, and hardness are likely to figure prominently (but not, for instance, its colour, or age). A similar type of meaning construal will be necessary for other words in (53). For instance, the picture of being struck which is relevant here is different from that of a tennis player striking a ball, or a car striking a lamp post, and a broken nose is different in many respects from a broken windowpane.

5.11.4 Constraints

Of course, we are not free to construe an utterance (or any of its parts) in whatever way our fancy dictates (otherwise communication would be impossible): there are pressures, of various types and strengths, to interpret in particular ways. Constraints which have particular relevance to the processing of utterances fall into two main types, conventional constraints and contextual constraints.

5.11.4.1 Conventional constraints

The conventional constraints on the construal of a linguistic item such as a word are a reflection of how the speech community to which we belong habitually uses that item. They exert a kind of pressure to conform which is crucial to the functioning of language as a communicative system. There are two aspects of convention. One is the mapping of word forms onto purports; this can be regarded

as context-independent. The other is how the mapped-onto purport is construed; this is where contextual constraints operate. Certain construals, because they are so frequent and so stable across contexts, become subject to very strong constraints and acquire a special default status, and extra cognitive effort, or a strong countervailing constraint, will be required to impose a different interpretation.

5.11.4.2 Contextual constraints

Conventional constraints are what confer semantic stability, but this stability exists alongside contextual variability. This variability affects all aspects of meaning, from basic structural and logical properties to the subtlest nuances. Many features of context can affect construal (exemplified here with respect to spoken language):

- (i) linguistic context:
This includes previous utterances in the same discourse, and a word's immediate neighbours in the same utterance.
- (ii) physical context:
What the participants in a linguistic interaction can see, hear, and so on in their immediate situation.
- (iii) cognitive context:
Speakers have an enormous store of knowledge and remembered experiences which forms a background against which utterances are processed (some of this will be presumed to be shared with the hearer), and which can affect how meanings are construed.
- (iv) type of discourse:
A word may well be construed differently according to whether it occurs in a poem, a medical consultation, a casual conversation, or a police interrogation. The construal will also be sensitive to whether the situation is formal or informal, and what the field of discourse is (for instance, whether it is legal, political, medical, or sporting, and so on).
- (v) relations between communicants:
Construal can depend on what the social and power relations are between utterer and addressee, and on what they think and feel about one another.

5.11.5 Construal of sense boundaries

The possession of more than one sense is traditionally regarded as an inherent property of particular words, to be represented in the mental lexicon (and in any satisfactory dictionary). According to the dynamic construal approach, sense boundaries are construed in context on particular occasions of use, subject to a range of constraints. Of course, with some words, conventional constraints will be so strong that the same boundary will be construed on the vast majority of occasions of use, and the boundary placement may be regarded as a default construal. Obviously, the less scope there is for context to influence construal in particular instances, the less difference there will be between the dynamic construal approach and the traditional approach. However, two important points should be

made. First, it is probable that no conventional constraint is so strong that it can never be overruled; second, the strength of conventional constraints is a significant variable and many sense-boundary effects are clearly dependent on context. This overall picture is more satisfactorily captured by the notion of dynamic construal; confining the study of word meaning to cases where there is a clear default reading seriously distorts the resulting picture.

A typical case of traditional lexical ambiguity is *bank*, with the two meanings "financial institution" and "margin of river". The separateness of these two readings is so strongly supported by conventional constraints that it is extremely difficult to find contexts in which they are not distinct. However, it is not impossible. Take example (54):

(54) Not all banks are money banks.

To achieve a normal construal of (54) we have to interpret it as something like "Not all entities designated by the phonological form /bank/ are financial institutions". In other words, it requires a conceptual shift to a metalinguistic perspective. Examples like these have been used to argue that the zeugma test for ambiguity is not valid. But this objection rests on the assumption that a word found to be ambiguous in one context must be ambiguous in all contexts. No such assumption is made in the dynamic construal approach. Indeed, the absence of zeugma correctly indicates that *bank* in (54) is not ambiguous. However, the fact that a unified reading for *bank* is possible in only a very restricted range of contexts is a sign that there are very strong constraints favouring the construal of a boundary between the two sorts of bank.

Variable construals of sense boundaries are well illustrated by, for instance, lexical facets, as described earlier. It will be recalled that there are two facets of *book*, namely [TOME] and [TEXT]. There are contexts where a boundary between the facets must be construed:

- (55) a. a brown book [TOME]
b. a difficult book [TEXT].

Not much sense can be derived from the notion of a brown text, or a difficult physical object, so context must be able to isolate one facet and ignore the other. It may seem that nothing would be lost by saying that *book* possesses two facets as part of its inherent semantic nature. However, there are also contexts where there is apparently no trace of a boundary between the facets, although their content is an essential part of the meaning:

(56) They are planning to publish a book on the subject.

For (56) to make sense, the book in question must have both a text and a physical manifestation of some sort, but these are enclosed within a single conceptual envelope. This is difficult to explain if the boundary between the facets is an inherent part of the meaning of *book*, but receives a natural account if the boundary is construed in some contexts but not in others.

Vertical polysemy also provides many examples of variable construal of sense boundaries. Take the case of the word *pet*. One can find electronic devices which behave in certain ways like animals. These are sometimes referred to as *cyberpets*. If we ask people whether these objects belong to the category *PET* or not, some will answer *Yes*, and others, *No*. This can be taken to indicate that different speakers are placing the category boundary, and hence the sense boundary, differently. But suppose we ask the question in (57):

(57) Is a cyberpet a real pet?

This time, the overwhelming majority respond *No*, because the word *real* in the context causes the position of the category boundary to be construed differently. On the other hand, an educational psychologist consulted by the parents of a difficult child might say:

(58) I would advise you to get him some kind of pet, perhaps even an electronic one.

This will seem normal to most people (that is, semantically normal), even though *pet* is explicitly used to include the electronic variety: the presence of *some kind of* and *even* in the context cause a broader category to be construed. Another example is *cat* in (59):

(59) A cat has four legs.

Few will dispute the truth of this, even though there is nothing illogical about the notion of a three-legged cat. It seems that when we interpret (59), we construe the category of cats in such a way that only perfectly formed examples are included. A different construal is found in (60):

(60) Cats are vertebrates.

The word *vertebrate* is a technical term, and this encourages us to construe a category of cats appropriate to scientific discourse. This is likely to include three-legged cats. Notice that *cats* in (60) is ambiguous between (at least) "members of the cat family (including lions, ocelots, lynxes, etc.)" and "domestic cats". The latter construal is encouraged in (61):

(61) cats and other pets

Further types of variable construal are shown in (62), (63), and (64), in connection with the category *BIRD*:

(62) Birds evolved from dinosaurs.

(all kinds of birds)

(63) I wish I could fly like a bird.

(a prototypical bird, not injured or naturally flightless)

(64) All the redcurrants in our garden were eaten by birds.

(garden birds, not, for instance, eagles or seagulls)

The dynamic construal view does not exclude the possibility that some construals have a default status, that is, they are the interpretations that will emerge if there is not enough context to guide the process of construal. This is not the same as saying that these are the real, inherent meanings of words—they still have to be construed. There is, however, some uncertainty as to the correct criteria for deciding which readings are to be given the status of defaults. Some might feel that the reading of *cat*; in *It's a cat, therefore it's an animal* should be taken as the default, thus giving priority to technical or scientific usage. But why should this be? This is a rather artificial context. It is probably the case that on hearing the word *cat* out of context, most people will think of the domestic variety, which would point to the construal in *cats and other pets* as the default.

5.11.6 Some problems

In spite of its advantages, the dynamic construal approach undoubtedly raises a number of questions. For instance, the exact nature of both purport and the resultant fully developed construals is in need of clarification—traditional semantics does not help us much here. Another question concerns the status of the entries in a conventional dictionary in this view. No one can deny the usefulness of dictionaries; but if words do not have stable meanings, what does a dictionary record? Presumably default readings, if they exist, should have entries. Beyond these, we are faced with a range of readings falling somewhere on a graded scale of conventional pressure. Lexicographers always operate under severe practical constraints, such as the overall size of the dictionary, and the trade-off relations between the number of entries and the length of definitions. Ideally, they should work with distinct construals from as far down the conventional pressure scale as the dictionary can accommodate. This will produce what in theoretical terms is an arbitrary cut-off point. However, a normal dictionary user can intuit far more distinct construals than a dictionary can record in terms of separate entries. Presumably this is because the dictionary entry enables us to locate the relevant purport, on the basis of which our inherent competence in construal can operate. There are currently no definitive answers to these and many other questions, but ongoing research can be expected to bring fresh insights.

Discussion questions and exercises

1. Distinctness of readings

For each of the items in italics in the following, how would you characterize the difference between the readings exemplified? Think in terms of homonymy, polysemy, facets, microsenses, ways-of-seeing, contextual modulation.

- (a) (i) a *volume* of verse
(ii) a *volume* of 20 litres
- (b) (i) *Mary* ordered an *omelette*.
(ii) The *omelette* wants his coffee now.
- (c) (i) *John* is a complete *soldier*.
(ii) Have you got a complete *soldier*? (No, the right leg is missing)
- (d) (i) The *school* in George Street is going to be closed down.
(ii) The whole *school* joined the protest march.
(iii) That *school* is always being vandalized.
- (e) (i) The drawer contained a collection of *knives* of various sorts.
(ii) When you set the table, make sure that the *knives* are clean.
- (f) (i) They *led* the prisoner away.
(ii) They *led* him to believe that he would be freed.
- (g) (i) She was told not to eat or *drink* after 8 a.m.
(ii) It was after her husband left her that she began to *drink*.
- (h) (i) My *cousin* married an actress.
(ii) My *cousin* married a policeman.
- (i) (i) Put that *magazine* down!
(ii) This *magazine* is so boring.
- (j) (i) He has a *light* workload this semester.
(ii) There will be some *light* rain in the evening.

2. How many senses?

Consider how many distinct meanings of **collect** are represented in the following. How would you organize them in a dictionary entry? Compare your results with the treatment given in one or more standard dictionaries.

- (a) The books **collected** dust.
- (b) He **collects** stamps.
- (c) The postman **collects** the mail every day.
- (d) She **collected** her things and left.
- (e) She sat down to **collect** her thoughts.
- (f) She **collects** the children from school at 4 o'clock.
- (g) Dust **collects** on the books.
- (h) The students **collected** in front of the noticeboard.
- (i) They are **collecting** for Oxfam.
- (j) He **collects** his pension on Thursdays.
- (k) The dustmen **collect** the garbage on Wednesdays.
- (l) She **collected** two gold medals in Tokyo.
- (m) They **collected** rainwater in a bucket.
- (n) They **collect** the rent once a fortnight.
- (o) He will **collect** quite a lot on his accident insurance.

Suggestions for further reading

For a useful discussion of a range of approaches to polysemy see Geeraerts (1993) and the articles in Ravin and Leacock (eds.) (2000). The fullest account of Cruse's position is to be found in Chapter 5 of Croft and Cruse (2004).

Most linguists take a more monosemic view than the one presented here. For an extreme monosemic position, see Ruhl (1989) (Cruse (1992b) is a critical review of this). Among those accepting a high degree of polysemy is Langacker—see, for instance, chapter 10 of Langacker (1991b); the elaboration of Langacker's account in Tuggy (1993) is of particular interest.

For the earliest proposal within linguistics on the lines of dynamic construal, see Moore and Carling (1982).

CHAPTER 6

Paradigmatic relations of inclusion and identity

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Paradigmatic relations of inclusion and identity

6.1 The nature of sense relations

This chapter is mainly about a particular type of **sense relation**, that is, a semantic relation between units of meaning. But before discussing this in detail, we must look at the idea of a sense relation from a broader perspective.

6.1.1 What makes a significant sense relation?

Taking the most general view, there is a unique sense relation of some sort holding between any two words chosen at random, say, *dog* and *banana*. We could even give this one a name, say, *dogbananonymy*. However, it would not be a very interesting or significant relation. We need, therefore, to consider what makes a sense relation significant.

6.1.1.1 Recurrence

Probably the first point to make is that one of the main ways that sense relations can be significant is in structuring the vocabulary of a language. Natural vocabularies are not random assemblages of points in semantic space: there are quite strong regularizing and structuring tendencies, and one type of these manifests itself through sense relations. Now it is obvious that a sense relation which holds between only two vocabulary items cannot play much of a role in structuring a vocabulary. So sense relations which recur frequently across the vocabulary are at a premium. For instance, the relation between *dog* and *animal* and between *banana* and *fruit* is much more 'interesting', from this point of view, than that between *dog* and *banana*.

6.1.1.2 Discrimination

Conversely, a relation which holds between *all* pairs in the language, or even the majority, is for that reason less interesting as a relation. In other words, to be

interesting, a sense relation must not only include a significant number of lexical pairs, but must also exclude a significant number. An example of a non-discriminating relation is "can occur in the same English sentence as ...". The relation between *dog* and *animal* is discriminating in this sense, because it does not hold between, for instance, *dog* and *banana*, or between *dog* and *fruit*.

6.1.1.3 Accessibility

The significance of a relation is enhanced if it corresponds to an easily intuited concept, especially if the concept has been lexicalized or is readily expressible in verbal form. (This betrays the cognitive bias of the author, and no apology is offered.) A sense relation which ordinary speakers find hard to grasp is probably not worth recognizing, (or, at least, it will have to earn its status in some other way). On this basis, too, the relation between *dog* and *animal* comes out as significant, since it is easily verbalizable as *A dog is a kind of animal*; likewise, the relation between *long* and *short* is captured by the ordinary everyday word *opposite*.

6.1.1.4 Abstract vs concrete relations

Sense relations may be relatively abstract or relatively concrete. This distinction can best be explained by example. Suppose we are told that lexical items X and Y manifest the same relation as *dog/animal* and *apple/fruit*. What can we say about the semantic area to which X and Y belong, or about the nature of the meaning which differentiates X from Y? The answer is: nothing at all. All we know is that X is more specific than Y, and that, prototypically, all the features of Y are contained in the meaning of X. Suppose, now, that we are told that the lexical items A and B are related in the same way that *mare* and *stallion*, and *ewe* and *ram* are related. In this case, we can say much more about the meanings of A and B, and what differentiates them. We know, for example, that A and B refer to members of one species of animal, and that what differentiates A from B is that A refers to the female of the species and B to the male. The (relevant) relation between X and Y is, by our terminology, an abstract one, whereas that between A and B is (semantically) concrete. Lexical semanticists have mostly been concerned with abstract relations, and it is with these that we shall begin. This does not mean, however, that more concrete relations are without interest, and examples will crop up in later discussions.

6.1.2 Multiple simultaneous relations

It is perfectly possible for a number of relations to hold simultaneously between a pair of lexical items, even without taking account of polysemy. This is because relations, like word meanings, come in varying degrees of specificity. For instance, taking the pair *true* and *false* as an illustration, the following relations hold between them:

- (i) *true* has a different meaning from *false* (a relation which can be given the label **heteronymy**)
- (ii) *true* and *false* cannot both be true when applied to the same proposition
- (iii) *true* and *false* are opposites
- (iv) *true* and *false* cannot both be false when applied to the same proposition.

These relations are progressively more specific, and later relations presuppose relations occurring earlier in the list. Thus, relation (i) holds between *father: architect*, *red:green*, *long:short*, as well as *true:false*. Relation (ii) presupposes relation (i) but is more specific, as it holds between *red:blue*, *long:short*, and *true:false*, but not *father:architect*; relation (iii) presupposes relation (ii), and holds between *long:short* and *true:false*, but not *red:blue*; relation (iv) presupposes relation (iii) and holds between *true:false* but not *long:short*. All of these relations are abstract, and each of them has some significance in lexical semantics, as we shall see.

6.1.3 What sort of entities do sense relations relate?

The position adopted in this book is that meanings are conceptual in nature, so essentially, sense relations are relations between concepts, more accurately, between discrete conceptual units. In line with the dynamic construal approach, we can say that they are relations between contextually construed conceptual units. As we have seen, any lexical item may be associated with an unlimited number of distinct construals, so sense relations are not relations between lexical items, and a fortiori not between lexemes. There is no reason to exclude relations between different construals of the same lexical item.

6.1.4 Varieties of sense relations

Sense relations situate themselves on one of three major axes, paradigmatic, syntagmatic, or derivational. The significance of each of these three types of relation is different.

6.1.4.1 Paradigmatic relations

Paradigmatic relations reflect the semantic choices available at a particular structure point in a sentence. For instance:

I'll have a glass of —.

- beer
- wine
- water
- lemonade
- etc.

Typically, paradigmatic relations involve words belonging to the same syntactic category, although not infrequently there are minor differences:

We bought some —.
 knives
 forks
 spoons
 cutlery

Here, *cutlery* is a mass noun, whereas all the others in the list are count nouns. In principle, paradigmatic relations may hold between members of any of the major syntactic categories. The following are examples involving verbs and adjectives respectively:

John — across the field
 ran
 walked
 crawled

I'd like a glass of — sherry
 dry
 sweet

Notice that the pairs *knives/forks*, *knives/cutlery*, and *dry/sweet* exemplify different paradigmatic sense relations. These will be dealt with in greater detail below.

6.1.4.2 Syntagmatic relations

Syntagmatic relations hold between items which occur in the same sentence, particularly those which stand in an intimate syntactic relationship. For instance, it is by virtue of syntagmatic sense relations, in this case between adjective and head noun, that *I'd like a glass of dry sherry* is normal, while *I'd like a glass of striped sherry* is odd. For similar reasons,

(1) The girl ran across the field.

is normal, but

(2) The girl sat across the field.

and

(3) The smell ran across the field.

are odd. Notice that in (2) it is the combination of verb and prepositional phrase, i.e. *sat* and *across the field*, which causes the oddness, whereas in (3), it is the combination of subject and verb, i.e. *the smell* and *ran*.

Any well-formed sentence of a natural language can be thought of as a string of elements, each one chosen from a set of possibilities provided by the language (at least, each one which is not uniquely determined by the syntax, like the *to* of *I want to leave now*). In each case, the set of possibilities from which the choice was made is not completely free, but is constrained by the other elements in the sentence,

in the sense that a choice from outside a certain range will result in semantic incoherence. Thus, if we do not choose something from the realm of liquids for the completion of *John drank a glass of —*, the result will not be coherent. Syntagmatic sense relations, therefore, are an expression of coherence constraints. Paradigmatic sense relations, on the other hand, operate within the sets of choices. Each such set represents the way the language articulates, or divides up, some conceptual area, and each displays a greater or lesser degree of systematic structuring. Paradigmatic relations are an expression of such structuring. For instance, in the conceptual area of drinkable things, English provides a cover term, *liquid*, and a range of more specific terms such as *milk*, *beer*, *lemonade*, *brandy*, and so on; the more specific terms all stand in a particular semantic relation with the cover term, and in a different relation with each other, and some of them, e.g. *wine*, function as cover terms for yet more specific ones, thus extending the structuring of the field (relations such as these are discussed in some detail below). It can be seen, therefore, that paradigmatic and syntagmatic relations function in tandem, syntagmatic relations delimiting the space within which paradigmatic relations operate.

6.1.4.3 Derivational relations

Derivational sense relations are only accidentally found between words forming part of a set of paradigmatic choices, and only accidentally contribute to cohesion. They do, however, participate in one type of structuring of the vocabulary of a language, since they manifest themselves between items in what are called **word families** (i.e. words derived from a single root). Consider the following set of words:

(i) <i>cook</i> (v.tr.)	<i>Mary is cooking supper tonight</i>
(ii) <i>cook</i> (v.intr.)	<i>Can John cook?</i>
(iii) <i>cook</i> (v.intr.)	<i>The chicken is cooking</i>
(iv) <i>cook</i> (n.)	<i>Lesley is a good cook</i>
(v) <i>cook</i> (n.)	<i>Lesley is a cook</i>
(vi) <i>cooker</i>	<i>We've bought a new cooker</i>
(vii) <i>cooking</i> (n.)	<i>John's in love with Mary's cooking</i>
(viii) <i>cookery</i>	<i>John is taking cookery lessons</i>

The semantic relations between these words are partly systematic, partly idiosyncratic. Take the relation between *cook* (iii) and *cooker*. There is an obvious sense in which the *-er* of *cooker* has an instrumental meaning: a cooker is something that is used for cooking. But if John cooks the chicken over a fire, the fire does not thereby become a cooker. There is therefore some specialization of sense in the derivation of *cooker* from *cook* (iii) (if indeed that is the true source). However, it does not appear that there is any specialization in the meaning of the morpheme *cook*, nor, indeed, in the meaning of the instrumental affix. The specialization seems to operate at the level of the whole word *cooker*, in which case, *cooker* should be

regarded as an idiom. It is not sufficient to say, either, that a cooker must be an apparatus designed to be used for cooking (this is not true of fires generally), since a barbecue is not a cooker, nor is a microwave oven. Consider, now, the relationship between *cook* (iii) and *cook* (i) and (ii) (which are closely related). *Cook* (iii) refers only to the fact that the chicken is undergoing heat treatment so as to render it more acceptable as food. Sentence (ii), however, is not simply asking whether John is able to cause foodstuffs to undergo heat treatment (anyone can drop a chicken into a fire): it inquires whether John has certain complex and valuable skills. In this case, *cook* (ii) seems to carry a greater semantic load than *cook* (iii). In a similar way, *cook* (v) carries a greater semantic load than *cook* (iv), in that the default interpretation of sentence (v) is that Lesley is a professional cook.

6.2 Paradigmatic relations of identity and inclusion

For convenience of exposition, we shall divide paradigmatic sense relations into two broad classes, firstly those which express identity and inclusion between senses, and secondly, those expressing opposition and exclusion. We shall begin with the former.

6.2.1 Hyponymy

One of the most important relations structuring conceptual fields is **hyponymy**. This is the relation between (default construals of) *apple* and *fruit*, *car* and *vehicle*, *slap* and *hit*, and so on. We say that *apple* is a **hyponym** of *fruit*, and conversely, that *fruit* is a **superordinate**, alternatively **hyperonym**, of *apple*. This relation is often portrayed as one of inclusion. However, what includes what depends on whether we look at meanings extensionally or intensionally. From the extensional point of view, the class denoted by the superordinate term includes the class denoted by the hyponym as a subclass; thus, the class of fruit includes the class of apples as one of its subclasses. If we are dealing with verbs, we have to say that, for instance, the class of acts of hitting includes as a subclass the class of acts of slapping. Looking at the meanings intensionally, we may say that the meaning (sense) of *apple* is richer than that of *fruit* and includes, or contains within it, the meaning of *fruit*. This can be seen more clearly in the case of words which have obvious definitions. For instance, from the definition of *stallion* as "male horse" we can see that the meaning of *stallion* includes within it the meaning of *horse* plus something else. Similarly, if we define *murder* as "kill with intent and illegally", we can see that *murder* both has more meaning than *kill* and includes the meaning of *kill*.

Although hyponymy is a paradigmatic relation, it has syntagmatic consequences. There are expressions which prototypically require items related hyponymously:

apples and other fruit
 ?fruit and other apples
 ?apples and other pears
 Apples are my favourite fruit
 ?Apples are my favourite pears
 ?Fruit are my favourite apples

6.2.1.1 Hyponymy and lexical items

It is common to view hyponymy as a relation between lexical items. However, according to the dynamic construal approach, it is a relation between construals. A consequence of this is that it is possible that for a pair of words A and B, some, but not all, construals of A may be hyponyms of some, but not all, construals of B. Consider the categories denoted by the bold items in the following:

- (4) (i) **Dogs** and other pets. (Includes only domestic dogs, whether or not they are well-formed.)
 (ii) **Dogs** have four legs. (Includes only well-formed dogs, whether or not they are domestic.)
 (iii) **Dogs** are mammals. (Includes all dogs, wild and domestic, well-formed and ill-formed.)
- (5) (i) **Birds** and other flying creatures. (Includes only birds capable of flight.)
 (ii) **Birds** and other egg-laying creatures. (Includes flightless birds.)
- (6) (i) Police are to be issued with new **weapons**. (Includes only items designed as weapons, chosen from a limited range.)
 (ii) The murder **weapon** was a bread knife. (Includes any item used as a weapon.)

The pattern *Xs and other Ys* constrains us to construe X in such a way that it is hyponymous to Y. (If that is not possible, then the result is anomalous, as with *?apples and other pears*.) Hence, *dog* in 4(i) is hyponymous to *pet*, but in 4(ii) and 4(iii), *dog* is not hyponymous to *pet*; in 5(i), but not in 5(ii), *bird* is a hyponym of *flying creature*; in 6(ii), *bread knife* is a hyponym of *weapon*, but not in 6(i). Notice that the construals of *dog* in 4(i) and 4(ii) are both hyponymous to that of *dog* in 4(iii).

6.2.1.2 Hyponymy and entailment

Hyponymy is often defined in terms of entailment between sentences which differ only in respect of the lexical senses being tested: *It's an apple* entails but is not entailed by *It's a fruit*, *Mary slapped John* entails but is not entailed by *Mary hit John*. There are two sorts of difficulty with defining hyponymy in this way. One is that a sentence containing a hyponym does not invariably entail the corresponding sentence with the superordinate. For instance, although *It's a tulip* entails *It's a flower*, *All tulips grow from bulbs* does not entail *All flowers grow from bulbs*, nor

does *That she was given a tulip surprised Mary* entail *That she was given a flower surprised Mary* (suppose she was expecting an orchid). Clearly, to make the test work, we would have to restrict it to certain sentence types. This turns out not to be easy (see Cruse (1986: ch. 4.4) for some discussion). However, it is as well to remember that entailment is a relation between propositions, not between sentences as such. That being so, it would arguably be better to frame the test in terms of formulae whose logical structure is transparent. Ronnie Cann, a formal semanticist, gives the following definition of hyponymy (slightly modified):

X is a hyponym of Y if and only if $\forall x [X'(x) \rightarrow Y'(x)]$, where X' and Y' represent the extensions of X and Y respectively.

This can be glossed as 'X is a hyponym of Y if, and only if, the extension of X is a subset of the extension of Y'. It is essentially a formalization of the informal definition given above in terms of the logic of classes. Presumably the absence of the expected entailment in the examples quoted above would follow from an adequate representation of their propositional structure. We shall not pursue this further here. The second difficulty is that entailment between test sentences is not invariably diagnostic of hyponymy: *The bullet was embedded in John's thigh* entails *The bullet was embedded in John's leg*, but *thigh* is not a hyponym of *leg*, but a meronym (see below). Notice that *thigh* and *leg* would not pass Cann's test, because the class of thighs is not a subset of the class of legs.

6.2.1.3 Hyponymy and transitivity

Understood as a purely logical notion, hyponymy is a transitive relation: if A is a hyponym of B, and B a hyponym of C, then A is necessarily a hyponym of C (consider A = *spaniel*, B = *dog*, C = *animal*). However, several cases where transitivity seems to break down have been pointed out:

- (7) A hang-glider is a type of glider
 A glider is a type of aeroplane
 *A hang-glider is a type of aeroplane.
- (8) A car seat is a type of seat.
 A seat is a type of furniture.
 *A car seat is a type of furniture.

One suggested resolution of this apparent anomaly is to say that for informants to assent to statements like *A is a type of B*, it is sufficient that a prototypical A should fall within the category boundaries of B: it is not necessary that all As should be Bs. Transitivity breaks down in (7) (on this account) because a hang-glider is not a prototypical glider, and therefore is allowed to fall outside the category boundary of AEROPLANE (a similar account is given for (8)). A different account for transitivity breakdown is possible within the dynamic construal approach. This is based on the suggestion that hearers are predisposed to look for non-anomalous interpretations of input utterances. Hence, an utterance of *X is a type of Y* will be

judged normal if there are easily accessible construals of X and Y such that X is hyponymous to Y, and abnormal otherwise. Hence, *A car seat is a type of seat* is acceptable because there is a construal of SEAT that includes car seats; likewise, *A seat is an item of furniture* is felt to be normal because there is a construal of SEAT that excludes car seats and is hyponymous to FURNITURE. On the other hand, *A car seat is an item of furniture* is judged abnormal because there are no appropriate construals. In other words, two different construals of SEAT occur in (8), (similarly, there are two different construals of GLIDER in (7)). This means that (7) and (8) do not exemplify transitivity breakdown, as this would require consistency of construal.

6.2.1.4 Taxonymy

Many hyponyms and superordinates collocate normally in sentences formed on the pattern of *A horse is an animal* and *A horse is a type/kind/sort of animal*. However, a significant number of cases are normal in the first of these patterns (in the sense that there is no semantic clash—admittedly occasions of use are fairly rare), but not the second:

- A kitten is a cat/ ?A kitten is a sort of cat
 A stallion is a horse/ ?A stallion is a type of horse
 A queen is a woman/ ?A queen is a kind of woman

In Cruse (1986) the relation exemplified by *horse:animal* but not *stallion:horse* was labelled **taxonymy**, because of its relevance to classificatory systems. Taxonymy is thus a subtype of hyponymy. The question of what distinguishes taxonyms from other hyponyms is not an easy one to answer. It appears that a taxonym must engage with its superordinate in a particular way, by further specifying its core characteristic. Take the case of *A strawberry blonde is a type of blonde*. The core characteristic of a blonde is the possession of fair hair, and *strawberry blonde* specifies the hair colour more precisely. Contrast this with *?A blonde is a type of woman*. The key distinctive characteristics of a woman in the class of human beings are her sex and her age; however, *blonde* does not serve to specify either of these any further, hence it cannot represent a 'type'. A similar contrast can be seen between *A mustang is a type of horse* and *?A stallion is a type of horse: stallion* specifies the sex of the animal, but does not engage with what distinguishes horses from other animals.

6.2.2 Meronymy

Another relation of inclusion is meronymy, which is the conceptual reflex of the part-whole relation between individual referents. Examples of meronymy are: *hand:finger*, *teapot:spout*, *wheel:spoke*, *car:engine*, *telescope:lens*, *tree:branch*, and so on. In the case of *finger:hand*, *finger* is said to be the **meronym** (the term **partonym** is also sometimes found) and *hand* the **holonym**. Meronymy shows interesting parallels with hyponymy. (They must not, of course, be confused: a dog

is not a part of an animal, and a finger is not a kind of hand.) In both cases there is inclusion in different directions according to whether one takes an extensional or an intensional view. A hand physically includes the fingers (notice that we are not dealing with classes here, but individuals); but the meaning of *finger* somehow incorporates the sense of *hand*. (Langacker says that the concept "finger" is 'profiled' against the domain "hand".)

A logical definition of meronymy would require a special logic of spatial relationships (mereology). Defining it in terms of entailment between sentences runs into the same sorts of difficulty as with hyponymy. But informally, certain sentences with locative predicates express propositions with entailing properties. For instance, if X is a meronym of Y, then for an entity A, *A is in X* entails but is not entailed by *A is in Y*. For instance, (on the default construal of *cockpit*) *John is in the cockpit* entails but is not entailed by *John is in the plane*. For similar reasons, *John has a boil on his elbow* unilaterally entails *John has a boil on his arm*. Notice, however, that the matter is not straightforward: for instance, *The wasp is on the steering wheel* does not entail *The wasp is on the car*, but rather, *The wasp is IN the car*.

Meronymy can also be characterized in terms of normality in diagnostic frames, such as *An X is a part of a Y*, *A Y has an X/Xes*, and so on:

A finger is a part of a hand
A hand has fingers

6.2.2.1 Prototype features of meronymy

In comparison with hyponymy, meronymy is a much less sharply delimited relation. There are many borderline cases where informants are either unsure or are in disagreement. Judgements are also affected by contextual factors. For instance, people are unsure whether a pan lid is or is not part of a pan, but they are more likely to say that it is, if it is necessary to the proper functioning of the pan, if it is sold together with the pan, or if it is attached to the pan in any way. As a conceptual relation, meronymy has core realizations and peripheral realizations. A number of features appear to contribute to 'goodness of exemplar' for the relation:

Necessity. Some parts are necessary to their wholes, whereas others are optional. For instance, although a beard is part of a face, beards are not necessary to faces. On the other hand, fingers are necessary to hands. (We are not talking here of *logical* necessity, of course. This is what in Cruse (1986) was called **canonical necessity**: that is, a **well-formed** hand must have fingers.) Necessity also operates in the reverse direction, that is, some parts are non-canonical if they are not parts of appropriate wholes (e.g. finger), whereas some parts are capable of constituting satisfactory wholes on their own, and are only optionally parts of something else. Consider the case of a concert hall as part of a leisure centre. Presumably, other things being equal, necessity points towards centrality.

Integrality. Some parts are more integral to their wholes than others. One way of diagnosing integrality is by judging how easy it is to describe the part as being attached to its whole. For instance, both *The handle is a part of the door* and *The handle is attached to the door* are normal, as are *The hand is a part of the arm* and *The hand is attached to the arm*. On the other hand, *The fingers are attached to the hand* and *The handle is attached to the spoon* are both odd, and the difference seems to lie in the degree of integration of part into whole. Arguably, *The hand is part of the arm* and *The hand is attached to the arm* involve different construals of *arm*, one which includes the hand and another which excludes the hand. The oddness of *The fingers are attached to the hand* and *The handle is attached to the spoon* can be explained by the fact that there are no 'exclusive' construals of *hand* and *spoon*. This lack can be taken as an indication of a high degree of integrality. There seems to be a positive correlation between integrality and the centrality of a pair as manifestations of meronymy.

Discreteness. Some parts are more clearly divided from their sister parts than others (within a properly assembled whole). Obviously if they can be detached without harm, the division is clear. Likewise, if the part moves independently of the whole, like an arm with respect to the body, the division is clear. But some parts, such as the tip of the tongue, or the lobe of the ear, are less clearly separated. Other things being equal, we may presume that the more discrete a part is, the more prototypical the relation is.

Motivation. Generally speaking, 'good' parts have an identifiable function of some sort with respect to their wholes. For example, the handle of a door is for grasping and opening and shutting the door; the wheels of a car enable it to move smoothly over the ground; the blade of a knife is what enables the knife to fulfil its characteristic function of cutting, and so on. Functional motivation is especially important for a part which is not physically distinct, or is so only vaguely, like the tip of the tongue.

Congruence. The features of congruence are **range**, **phase**, and **type**.

- (i) **Range:** In many (if not in most) cases, the range of generality of the meronym is not the same as that of the holonym. The most frequent non-congruent cases are first, when the meronym is more general than the holonym, but completely includes it, in which case we may speak of a **supermeronym**, and second, when the two ranges overlap, in which case the term **semi-meronym** may be used. Examples of the former are: *handle: knife/umbrella*, *spout: teapot/watering can*, *wheel: car/train*, *leg: chair/table*, *switch: iron/lamp*, and *lens: glasses/microscope*, all of which may form part of different wholes, as illustrated. As an example of a semi-meronym, consider *handle: door*: there are doors without handles, and handles not attached to doors, so neither range includes the other. Intuitively, the best examples of meronymy are those, *hand: finger*, which show range congruence.

There is another way of looking at supermeronyms like *handle*, *wheel*, and *spout*, which recruits the notion of microsense. It is arguable that there is a separate microsense for every different holonym. Take the case of *wheel*. In everyday life we have very little use for an undifferentiated notion of wheel: on the vast majority of occasions of the use of the word, we have in mind a specific type of wheel. Think of two people A and B, working on a bicycle. A says to B *Have you got a spare wheel?* Suppose B does not have a spare bicycle wheel, but has a spare car wheel. He can quite correctly answer *No*.

- (ii) Phase: Parts and wholes are phase-congruent when, as in prototypical cases, they exist at the same time. But take the case of *grape juice:wine* or *flour: bread*. It does not seem wholly wrong to say that grape juice is part of wine, or that flour is part of bread, but it doesn't seem right, either. It is more correct, in these cases, to speak of **ingredients**, which go toward the making of something, but may not exist as such in the final product.
- (iii) Type: prototypical parts and wholes are of the same ontological type. I will not try to define this, but merely illustrate it. For instance, ideally, if a part is designated as a mass noun, then the whole should be likewise (*?A grain is a part of sand?*, *?Wood is part of a table?*). Think, too, of *vein:hand* and *nerve:leg* (as opposed to *palm:hand* and *calf:leg*, on the one hand, and *vein:vascular system* and *nerve:nervous system*, on the other): the consistent type pairs are somehow 'better'. (Cruse (1986) refers in such cases to **segmental parts** (*leg, arm, finger*) and **systemic parts** (*nerve, vein, bone, etc.*.) The two types are not confined to the biological sphere. For instance, a house can be divided into segmental parts (rooms) and systemic parts (plumbing, wiring, brickwork, and so on.) A string quartet (construed as a composition) has movements as segmental parts, and the 'parts' written for first and second violin, viola, and cello as systemic parts. There is a separate notion of type consistency which is also relevant to parts. This involves such notions as THING, STUFF, TIME, PLACE, EVENT, etc. If a whole is a thing, then its parts should be things, if a whole is a period of time, then so must its parts, likewise with places, stuffs, and events.

6.2.2.2 Parts and pieces

The relation 'piece of' is significantly different from the relation 'part of':

The floor of the garage was cluttered with parts of the car.

After the explosion, pieces of the car littered the ground over a wide area.

The main differences are as follows:

- (i) Pieces (of something) are exclusively concrete, whereas parts may not be: one can have, say, a part of a concert, but hardly a piece of a concert.
- (ii) A piece must have once belonged to an undamaged whole, hence an exact replica of a piece does not count as a piece. A part (think of *a spare part*) is

community which is part of a population. In spite of this, there is intuitively a cohesive entity which includes fingertips, but nothing smaller, and which is not part of anything larger. A major part of the explanation is undoubtedly that within the chain there is type consistency, but moving beyond the intuitive upper and lower limits would involve a change of type. Going from fingertip to nerves and blood vessels would involve a change from segmental to systemic parts; going from body to family, would involve a change from a thing to a group.

6.2.3 Synonymy

If we interpret synonymy simply as sameness of meaning, then it would appear to be a rather uninteresting relation; if, however, we say that synonyms are words with construals whose semantic similarities are more salient than their differences, then a potential area of interest opens up. What sort of differences do not destroy an intuition of sameness? Why are such synonyms so frequent? (Absolute sameness of meaning would seem to be functionally unmotivated.) Do they proliferate in particular areas of the vocabulary? Some of these questions are insufficiently researched, and will not be answered here.

Let us first distinguish three degrees of synonymy: absolute synonymy, propositional synonymy, and near synonymy.

6.2.3.1 Absolute synonymy

Strictly speaking, absolute synonymy is not a relation between meanings, but between word forms. We shall define absolute synonyms as words which are mutually substitutable in all contexts without change of normality. That is to say, for two lexical items X and Y, if they are to be recognized as absolute synonyms, in any context in which X is fully normal, Y is, too; in any context in which X is slightly odd, Y is also slightly odd, and in any context in which X is totally anomalous, the same is true of Y. This is a very severe requirement, and few pairs, if any, qualify. The following will illustrate the difficulty of finding uncontroversial pairs of absolute synonyms ('+' indicates "relatively more normal" and '-' indicates "relatively less normal"):

(i) *brave:courageous*

Little Billy was so brave at the dentist's this morning. (+)

Little Billy was so courageous at the dentist's this morning. (-)

(ii) *calm:placid*

She was quite calm just a few minutes ago. (+)

She was quite placid just a few minutes ago. (-)

(iii) *big:large*

He's a big baby, isn't he? (+)

He's a large baby, isn't he? (-)

(iv) *almost:nearly*

She looks almost Chinese. (+)

She looks nearly Chinese. (-)

(v) *die:kick the bucket*

Apparently he died in considerable pain. (+)

Apparently he kicked the bucket in considerable pain. (-)

Among the items sometimes suggested as candidates for absolute synonymy, and for which differentiating contexts are hard to find, are *sofa:settee*, and *pullover:sweater*. However, even for these items, in a typical class of students, a sizeable minority will find contexts which for them are discriminatory. One thing is clear, and that is that under this description absolute synonyms are vanishingly rare, and do not form a significant feature of natural vocabularies. The usefulness of the notion lies uniquely in its status as a reference point on a putative scale of synonymy.

Notice that by the definition given above, only one differentiating context is needed to disqualify a pair of words as absolute synonyms. However, only one such context would be a suspicious circumstance: unless there was at least one class of such contexts, one might legitimately doubt whether the effect was a genuine semantic one. Notice, too, that there is a problem, not taken up here, of ensuring that the same unit of meaning is involved in all the contexts used in the argument.

6.2.3.2 Propositional synonymy

Propositional synonymy can be defined, as its name suggests, in terms of entailment. Two sentences which differ only in that one has one member of a pair of propositional synonyms where the other has the other member of the pair are mutually entailing: *John bought a violin* entails and is entailed by *John bought a fiddle*; *I heard him tuning his fiddle* entails and is entailed by *I heard him tuning his violin*; *She is going to play a violin concerto* entails and is entailed by *She is going to play a fiddle concerto*. Notice that *fiddle* is less normal in the last example, while leaving truth conditions intact, which shows that *fiddle* and *violin* are not absolute synonyms. It must be emphasized here that the above definition does not apply to lexical items as such, but lexical items under particular construals. For instance, the most likely construal of *violin* in *John bought a violin* is "musical instrument". But the most likely construal in *We need more violins*, said by an orchestral conductor, is "violin player". Mutual entailment between *John bought a violin* and *John bought a fiddle* requires appropriate construals of *violin* and *fiddle*.

Differences in the meanings of propositional synonyms, by definition, necessarily involve one or more aspects of non-descriptive meaning (see Chapter 10.4), the most important being (i) differences in expressive meaning, (ii) differences of stylistic level (on the colloquial-formal dimension), and (iii) differences of pre-supposed field of discourse. Most usually, more than one of these comes into play at any one time. Take the case of *violin:fiddle*. Here the difference depends on certain characteristics of the speaker. If the speaker is an 'outsider' to violinistic culture, *fiddle* is more colloquial, and possibly also jocular compared with *violin*.

However, if the speaker is a professional violinist talking to another professional violinist, *fiddle* is the neutral term, with no jocularly, disrespect, or colloquiality, whereas *violin* is used mainly to outsiders. In the case of *shin:fibula*, the difference is almost purely one of field of discourse: *shin* is the everyday term, with no special expressive or stylistic loading, whereas *fibula* is used by medical specialists acting in that role (again neutrally). As a final set of examples consider:

This was the first time they had had intercourse.

This was the first time they had made love.

This was the first time they had fucked.

The first version would be more likely than the others in a court of law, the second is probably the most neutral, while the third would be more likely in a typical novel found in an airport bookstall.

Propositional synonyms seem to be commonest in areas of special emotive significance, especially taboo areas, where a finely graded set of terms is often available occupying different points on the euphemism-dysphemism scale. They also seem to be prevalent in connection with concepts which are applicable in distinct contexts, with differing significance and implications in those contexts.

6.2.3.3 Near synonymy

The borderline between propositional synonymy and near synonymy is at least in principle clear, even if decisions may be difficult in particular cases. The borderline between near synonymy and non-synonymy, however, is much less straightforward and it is not obvious what principle underlies the distinction. Two points should be made at the outset. The first is that language users do have intuitions as to which pairs of words are synonyms and which are not. No one is puzzled by the contents of a dictionary of synonyms, or by what lexicographers in standard dictionaries offer by way of synonyms, even though the great majority of these qualify neither as absolute nor as propositional synonyms. The second point is that it is not adequate to say simply that there is a scale of semantic distance, and that synonyms are words whose meanings are relatively close. (This would explain the somewhat uncertain lower boundary of near synonymy: people are typically vague as to what constitutes, say, an old woman, or a tall man.) The reason this is not adequate is that there is no simple correlation between semantic closeness and degree of synonymy. The items in the following are semantically closer as we go down the list, but they do not become more synonymous:

entity	process
living thing	object
animal	plant

animal	bird
dog	cat
spaniel	poodle
etc.	

In principle this list could continue indefinitely without ever producing synonyms. The point is that these words function primarily to contrast with other words at the same hierarchical level (see Chapter 8). In other words, a major function of *dog* is to indicate "not cat/mouse/camel/ (etc.)", i.e. to signal a contrast. Synonyms, on the other hand, do not function primarily to contrast with one another (this is what was meant by saying earlier that in the case of synonyms, their common features were more salient than their differences). In certain contexts, of course, they may contrast, and this is especially true of near synonyms: *He was killed, but I can assure you he was NOT murdered, madam.*

Characterizing the sorts of difference which do not destroy synonymy is no easy matter. As a rough and ready, but not very explicit, generalization it may be said that permissible differences between near synonyms must be either minor, or backgrounded, or both. Among 'minor' differences may be counted the following:

- (i) adjacent position on scale of 'degree': *fog:mist, laugh:chuckle, hot:scorching, big:huge, disaster:catastrophe, pull:heave, weep:sob*, etc.
- (ii) certain adverbial specializations of verbs: *amble:stroll, chuckle:giggle, drink:quaff*
- (iii) aspectual distinctions: *calm:placid* (state vs disposition)
- (iv) difference of prototype centre: *brave* (prototypically physical):*courageous* (prototypically involves intellectual and moral factors).

An example of a backgrounded major distinction would be *pretty* ("female" presupposed) vs *handsome* ("male" presupposed), both of whose propositional meaning may be glossed as "good-looking". When the gender distinction is foregrounded, as in *man:woman*, the resulting terms are not synonymous. Saying why we get near synonyms in a particular instance, rather than fully contrastive terms, is also difficult. A possibility is that contrastive terms appear when the conceptual differences have concrete behavioural consequences, as in technical and 'expert' fields. Much research remains to be done in the field of synonymy.

Discussion questions and exercises

1. Hyponymy and taxonomy

Which of the following hyponym-superordinate pairs represent taxonomy (assume default readings)?

sow:pig poodle:dog sheepdog:dog mother:woman
cottage:house hailstone:precipitation ice:water
teenager:person boot:footwear icing sugar:sugar

2. Meronymy

Classify the following pairs of words using the following categories:

1. Central/prototypical examples of meronymy
2. Examples of meronymy, but non-prototypical
3. Borderline cases
4. Not examples of meronymy

Attempt to explain the degrees of centrality that you find in terms of a set of prototypic features:

<i>belt:buckle</i>	<i>shoe:lace</i>
<i>jacket:lapel</i>	<i>building:façade</i>
<i>hand:vein</i>	<i>bottle:cap</i>
<i>beard:hair</i>	<i>bread:crumb</i>
<i>hot-water bottle:water</i>	<i>omelette:egg</i>
<i>colander:hole</i>	<i>fork:prong</i>
<i>finger:tip</i>	<i>bed:sheet</i>
<i>cassette-player:cassette</i>	<i>candle:wick</i>
<i>potato:peelings</i>	<i>door:hinge</i>

3. Synonymy

Consider the following set of words:

brave, courageous, gallant, valiant, intrepid, heroic, plucky, bold, daring

- (a) What types of synonymy are represented?
- (b) Look the words up in a typical learner's dictionary, such as the Oxford Advanced Learner's Dictionary, or the Collins Cobuild Dictionary, and consider how adequately they are differentiated.

Suggestions for further reading

The pioneering work on sense relations is Lyons (1963) and (1968).

The topics of this chapter are discussed in greater detail in Cruse (1986), especially chapters 4–8. Cruse (1994b) proposes a prototype-theoretical treatment of sense relations; an initial attempt at a formal semantic approach can be found in Cann (1993), and a more developed treatment in Cann (2002). Green et al. (2002) is a collection of articles on sense relations from various

theoretical perspectives. See also Murphy (2003) for a general treatment of semantic relations in the lexicon. For a psychologist's view of sense relations, see Chaffin (1992).

For hyponymy see Brown (2002a) and Cruse (2002f), and Croft and Cruse, (2004: ch. 6). For meronymy, see Brown (1976, 2002b), Anderson (1978), and Croft and Cruse (2004; ch. 6). Anderson and Brown offer a cross-linguistic (anthropological) perspective. For synonymy, see Cruse (2002d).

CHAPTER 7

Paradigmatic relations of exclusion and opposition

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Paradigmatic relations of exclusion and opposition

7.1 Incompatibility

Very often a superordinate has more than one immediate hyponym, and among these, there is typically a set of terms each of which is related to all the others by the relation of incompatibility. (Recall that relations like hyponymy and incompatibility are strictly relations between senses, that is, discrete construals. A reference to a relation between lexical items is to be understood either as a relation between default construals or between contextually relevant construals.) An example of this is the set of terms denoting kinds of animal (under the superordinate *animal*):

superordinate:	<i>animal</i>
hyponyms:	<i>dog, cat, mouse, lion, sheep, etc.</i>
superordinate:	<i>horse</i>
hyponyms:	<i>stallion, mare</i>

The relation between these hyponyms is an important and rather special one. It is not simple difference of meaning. Just as hyponymy can be thought of as a relation of inclusion, incompatibility is a relation of exclusion. This is easiest to grasp in its extensional manifestation: incompatibles are terms which denote disjunct classes, that is, classes which share no members. Hence, if something is a mouse, then it is not a dog, horse, or elephant: nothing in the world can belong simultaneously to the class of mice and the class of dogs. Incompatibility is a non-transitive relation, unless extra restrictions are applied. Hence, if A is an incompatible of B, and B is an incompatible of C, it does not follow that A is an incompatible of C. If A=*cat*, B=*mouse*, and C=*dog*, the entailment holds. But if A=*mouse*, B=*cat*, and C=*rodent*, then A and B are incompatibles, and B and C, but not A and C. However, the relation is transitive if A, B, and C (a) are co-taxonyms and (b) belong to the same taxonomic level (see Chapter 8).

It is important to understand that co-hyponyms are not necessarily incompatible in the above sense. For instance, *queen* and *mother* are both hyponyms of *woman*, but there is nothing to prevent someone who is a queen from at the same time being a mother. (In some cases, the compatibility of co-hyponyms is only apparent. For instance, *novel* and *paperback* at first sight seem to be compatible co-hyponyms of *book*. However, a closer study reveals that they are hyponyms of different sense units within the meaning of *book* (i.e. they are facets (see Chapter 5).) The co-hyponyms of each of the sub-units are incompatibles in the orthodox way:

superordinate	<i>book</i> [TOME]
hyponyms	<i>paperback, hardback</i>
superordinate	<i>book</i> [TEXT]
hyponyms	<i>novel, biography, textbook</i>

Incompatible co-hyponyms may or may not be co-taxonyms. For instance, *stallion* and *mare* are co-hyponyms of *horse*, but they are not co-taxonyms, for the reasons discussed in the previous chapter.

7.1.1 Incompatibility and entailment

Incompatibility is sometimes defined in terms of a contrary relation between sentences. For instance, *X is a dog* and *X is a cat* cannot both be true, but can both be false, similarly *John is walking* and *John is running*. Or, in terms of entailment, *X is a dog* entails but is not entailed by *X is not a cat*, similarly, *John is walking* entails but is not entailed by *John is not running*. However, definitions of this sort suffer from problems which parallel those suffered by similar definitions of hyponymy. The basic problem lies in the fact that the propositional structure of sentence meanings is insufficiently transparent. Consider the entailment relations between the (a) and the (b) sentences (which differ only in respect of incompatible items) in the following:

- (1) (a) John saw Mary today.
(b) John did not see Mary yesterday.
- (2) (a) Tom bought some peaches.
(b) Tom did not buy any bananas.
- (3) (a) Jane's eyes are blue.
(b) Jane's eyes are not red.

In none of these does the (a) sentence entail the (b) sentence (on a default interpretation). However, if it is made clear that the sentences in (1) refer to a single event, that Tom, in (2) only bought one type of fruit, and that in (3), the colour terms apply to the same area of Jane's eyes, then the entailments go through.

7.1.2 Incompatibility and construal

Incompatibility, like other sense relations, is a relation between distinct construals. This means that a pair of lexical items may be incompatible in some contexts but not in others. For instance, to interpret (4) correctly, we must construe *student* and *housewife* as incompatibles:

- (4) A: Is she a student?
B: No, she's a housewife.

Yet most students in semantics classes will judge that *Jane is not a housewife* does not follow logically from *Jane is a student*. This means that in this particular context, the words are not construed as incompatibles. In addition to contexts like (4), a coordinated list of items also encourages incompatible construal:

- (5) You meet all sorts of people here—doctors, civil servants, clergymen, students, housewives...

7.2 Co-meronymy

A relation of exclusion parallel to that which holds between co-taxonyms holds also between co-meronyms. If X and Z are sister meronyms of Y, then if the relation is a strictly logical one, no meronym of X is simultaneously a meronym of Z. Speaking extensionally, if X' and Z' are parts of some individual Y', then *A' is a part of X'* unilaterally entails *A' is not a part of Z'*. Put in another way, sister parts do not overlap. This strict logical relation holds between sister pieces, and pieces of pieces. Here again, construal comes into play. We saw in the previous chapter that *hand* is sometimes construed as a meronym of *arm* and sometimes as a co-meronym.

7.3 Opposites

Everyone, even quite young children can answer questions like *What's the opposite of big/long/heavy/up/out/etc.?* Oppositeness is perhaps the only sense relation to receive direct lexical recognition in everyday language. It is presumably, therefore, in some way cognitively primitive. However, it is quite hard to pin down exactly what oppositeness consists of. The following points seem to be relevant (a full account will not be attempted here; see Cruse (1986) for a fuller treatment):

(i) binarity

Opposites are, of course, incompatibles by the definition given above: *X is long* entails *X is not short*. But they are not *just* incompatibles. There is nothing in the notion of incompatibility itself which limits the number of terms in a set of

incompatibles; but there can only be two members of a set of opposites. Hence, binarity is a prerequisite.

(ii) inherent binarity

We must, however, distinguish between accidental and inherent binarity. There are, for instance, only two classes of buses on the 'decker' dimension, namely single-deckers and double-deckers. There may well be reasons, to do with stability and the height of bridges and so forth, for the absence of triple-deckers, but there is no **logical** reason. Likewise, there are only two sources of heat for cooking in the average suburban kitchen, namely gas and electricity; and only two sorts of hot drink were served (in my day) after lunch in the Senior Common Room at Manchester University, namely tea and coffee. But there is no more than the feeblest hint of oppositeness about *single-decker:double-decker*, *gas:electricity* or *tea:coffee*. That is because the binarity is accidental and pragmatic, rather than inherent. By contrast, the possibilities of movement along a linear axis are logically limited to two: the binarity of the pair *up:down* is thus ineluctable, and they form a satisfactory pair of opposites. Inherent binarity can thus be considered a prototypical feature for oppositeness.

(iii) patency

Inherent binarity is necessary for a prototypical pair of opposites, but is not sufficient. Take the case of *Monday:Wednesday*. The time dimension is linear, and *Monday* and *Wednesday* are situated in opposite directions from *Tuesday*. Yet they do not feel at all like opposites. What is the difference between these and *yesterday* and *tomorrow*, which display a much more marked opposite character? It seems that in the case of *Monday* and *Wednesday*, their location in opposite directions along the time axis relative to *Tuesday* (and hence the binarity of their relationship) is not encoded in their meanings, but has to be inferred, whereas the directionality of *yesterday* and *tomorrow* relative to *today* is a salient part of their meaning. In Cruse (1986) this difference was referred to as **latent** as opposed to **patent** binarity. The patency of the binary relation can thus be added to the list of prototypical features of opposites.

Lexical opposites fall into a number of different fairly clearly distinguishable types, of which the four principal ones will be described here.

7.3.1 Complementaries

The following pairs represent typical complementaries: *dead:alive*, *true:false*, *obey:disobey*, *inside:outside*, *continue (V-ing):stop (V-ing)*, *possible:impossible*, *stationary:moving*, *male:female*. Complementaries constitute a very basic form of oppositeness and display inherent binarity in perhaps its purest form. Some definite conceptual area is partitioned by the terms of the opposition into two mutually exclusive compartments, with no possibility of 'sitting on the fence'. Hence, if anything (within the appropriate area) falls into one of the compartments, it cannot

fall into the other, and if something does not fall into one of the compartments, it must fall into the other (this last criterion distinguishes complementaries from mere incompatibles). Thus if we consider the conceptual domain of possible responses to a felicitous command (i.e. one where the issuer has authority over the recipient, action required is both possible and not already carried out, recipient can hear and understand the command and so on) it is clear that responses must fall into either the category of obedience, or that of disobedience. Likewise, an entity belonging to the realm of living things must either be alive or dead, and a concrete object must be either stationary or moving.

Complementarity can be given a strict logical definition:

$F(X)$ entails and is entailed by $\text{not-}F(Y)$

From this it follows that *Y or X* is logically equivalent to *Y or not-Y*, which is a tautology; and *neither Y nor X* is equivalent to *neither Y nor not-Y*, which is a contradiction. Thus, *This proposition is either true or false* is a tautology, and *This proposition is neither true nor false* is a contradiction.

It is important to emphasize that complementarity holds only between particular construals of lexical items. Such construals typically embody certain assumptions. For instance, a complementary relation between *dead* and *alive* presupposes a restriction to the domain of animate things and implicitly excludes anomalous entities such as vampires and zombies; a complementary relation between *male* and *female* presupposes that the terms are predicated of a species which has genders and excludes various developmental or genetic abnormalities; the relation between *open* and *shut*, applied to a door, presupposes that the door has not been taken off its hinges. A given pair of lexical items may therefore be construed as complementaries in some contexts but have some other relation in others. For instance, in (6), *clean* and *dirty* are complementaries, but in (7) they are antonyms:

(6) I've put the clean shirts in the drawer, and the dirty ones in this bag.

(7) Your shirt is dirtier than mine, but it's cleaner than Bill's.

7.3.2 Antonyms

The most extensively studied opposites are undoubtedly antonyms. (Note that **antonymy** is frequently used as a synonym for **opposite**; it is here used in the narrower sense introduced by Lyons (1963).) Antonyms, too, fall into several relatively well-defined groups. One of these has a fair claim to be the central variety, so this group will be described in some detail, and the others will be sketched in more briefly.

7.3.2.1 Polar antonyms

The following are examples of polar antonyms:

long:short	heavy:light	thick:thin
fast:slow	strong:weak	high:low
wide:narrow	large:small	deep:shallow

The main diagnostic features of polar antonyms are as follows:

- (i) Both terms are fully gradable, that is to say, they occur normally with a wide range of degree modifiers: *very/slightly/rather/quite/a bit/too long*. (Complementaries characteristically show some reluctance to be graded: *?very/slightly/a bit/too dead*.)
- (ii) They occur normally in the comparative and superlative degrees: *long, longer, longest; light, lighter, lightest*. But even when used in the positive degree, they typically need to be interpreted comparatively in relation to some reference value. This is often contextually determined, but in the default case is usually some kind of average value for the class of entities denoted by the head noun. So, for instance, *a long poem* would, out of context, be taken to refer to a poem that was longer than the average poem. *My goodness! Isn't Tom tall?* would in all probability need a reference point drawn from the context, e.g. "tall for his age", "tall since the last time I saw him", etc.
- (iii) They indicate degrees of some objective, unidimensional physical property, prototypically one which can be measured in conventional units such as centimetres, kilograms, miles per hour, etc. One of the terms, when intensified, denotes a progressively higher value of the property (*very long* indicates more units of length than *long*), while the other term when intensified denotes a lower value of the property (*very short* denotes fewer units of length than *short*).
- (iv) They are incompatibles, but not complementaries. Hence, *It's neither long nor short* is not a contradiction (it might be of average length), nor is *It's either long or short* a tautology.
- (v) Comparative forms stand in a converse relationship (see below for further information on this relation): specifically, if X and Y are (polar) antonyms, and A and B are nouns, then *A is X-er than B* entails and is entailed by *B is Y-er than A*. (*A is heavier than B* entails and is entailed by *B is lighter than A*.)
- (vi) The comparative forms of both terms are **impartial**, that is to say, use in the comparative does not presuppose that the term in the positive degree is applicable. Thus, *X is longer than Y* does not presuppose that X is long, similarly with *shorter*.
- (vii) One of the terms yields a neutral question in the frame *How X is it?* and a neutral nominalization. Compare *How long is it?*, which merely inquires about length without any presuppositions, and *How short is it?*. Similarly *Its length worries me* tells us nothing about whether 'it' is long or short, but

Its shortness worries me indicates that 'it' is short. Notice that it is the term that indicates more of the relevant property that yields the neutral question: *How long/strong/big/thick/wide/fast is it?*

7.3.2.2 Equipollent antonyms

The two other main types of antonym can most easily be diagnosed by the impartiality or otherwise of their comparatives. In the case of **equipollent antonyms**, neither term is impartial (i.e. both are **committed**), hence, for instance, *hotter* presupposes "hot", and *colder* presupposes "cold". For this reason, both the following are odd:

?This coffee is cold, but it's hotter than that one.

?This coffee is hot, but it's colder than that one.

(It would be more normal to say *warmer* and *cooler*, respectively, in these situations.) Neither term yields a neutral *how*-question. Equipollent antonym pairs typically denote sensations (*hot:cold*, *bitter:sweet*, *painful:pleasurable*), or emotions (*happy:sad*, *proud of:ashamed of*).

7.3.2.3 Overlapping antonyms

With overlapping antonyms, for instance *good:bad*, one member yields an impartial comparative, and the other a committed comparative:

?John is an excellent tennis player, but he's worse than Tom.

John's a pretty useless tennis player, but he's better than Tom.

In this case, *good* yields a neutral *how*-question (*How good was the film?*), whereas *bad* gives a committed question (*How bad were the exam results?*). All overlapping antonym pairs have an evaluative polarity as part of their meaning:

good:bad	kind:cruel	clever:dull
pretty:plain	polite:rude	

It is invariably the positively evaluative term which is associated with impartial use.

A property of overlapping antonyms that is worth pointing out is that of **inherentness**. Take the case of *bad:good*. If two bad things differ in degree of badness, one may, without oddness, describe one as *worse* than the other: *The weather last year was bad, but this year it was worse; This year's drought is worse than last year's*. However, of two bad things, it is not always possible to describe one as *better* than the other: *The weather is bad this year, but it was better last year* is fine, but *?This year's famine was better than last year's* is odd. The general principle is that only things that are not inherently bad (i.e. where good examples are possible) can be described using *better*: inherently bad things can only be described as *worse*, and, furthermore, cannot be questioned using *How good*...? (*?How good is Mary's toothache?*).

conventional units are available for a given property in connection with some classes of referents, but not for others. An example of this is *strong*. We can speak equally normally of *strong beer* and *strong tea*, and ask *How strong is the tea?* and *How strong is the beer?* However, there is a clear difference in normality between *What is the strength of the beer?* and *?What is the strength of the tea?* The reason is that questions of the type *What is the NOM of X?*, where NOM is the name of a property, require an answer that specifies a quantity of the property in terms of some conventional units. If that is not possible, the question is odd: compare *What is the area of the room?* and *?What is the cleanness of the room?* In the case of *beer* and *tea*, the fact that the strength of beer can be measured (e.g. in degrees of alcohol), but there is nothing comparable for tea, constrains the way *strong* can be construed when applied to them.

7.3.3 Reversives

Reversives belong to a broader category of **directional opposites** which include straightforward directions such as *up:down*, *forwards:backwards*, *into:out of*, *north:south*, and so on, and extremes along some axis, *top:bottom* (called **antipodals** in Cruse (1986)). Reversives have the peculiarity of denoting movement (or more generally, change) in opposite directions, between two terminal states. They are all verbs. The most elementary exemplars denote literal movement, or relative movement, in opposite directions: *rise:fall*, *advance:retreat*, *enter:leave*. (Notice, however, that even in these cases it is the overall effective direction of movement from origin to goal which counts, not the details of the path traversed in between.) The reversivity of more abstract examples resides in a change (transitive or intransitive) in opposite directions between two states: *tie:untie*, *dress:undress*, *roll:unroll*, *mount:dismount*.

Interestingly, the manner of the process or action seems to have little significance; at least it does not have to be the same for the two processes or actions. For instance, the action of tying a bow in a ribbon is likely to be rather different from the action of untying the same bow. What counts here is the fact that in one case the ribbon starts out untied and ends up tied (for *tie*) and that in the other case it starts out tied and ends up untied (for *untie*).

7.3.4 Converses

Converses are also often considered to be a subtype of directional opposite. They are also, paradoxically, sometimes considered to be a type of synonym. There are valid reasons for both views. Take the pair *above:below*, and three objects oriented as follows:

- A
- B
- C

We can express the relation between A and B in two ways: we can say either *A is above B*, or *B is below A*. The logical equivalence between these two expressions is what defines *above* and *below* as converses. But since both are capable of describing the same situation, a unique situation among opposites, there is some point in thinking of them as synonyms conditioned by the order of their arguments. Consider now, however, A and C in relation to B: clearly A is above B and C is below B, hence *above* and *below* denote orientations in opposite directions, and are therefore directional opposites.

Other converse pairs with a salient directional character are: *precede:follow*, *in front of:behind*, *lend:borrow* (the thing borrowed/lent moves away from or towards the person denoted by the subject of the verb), *bequeath:inherit*, *buy:sell* (a double movement, here, of money and merchandise). The directional nature of some converse pairs, however, is pretty hard to discern (*husband:wife*, *parent:offspring*, *predator:prey*), although it is perhaps not completely absent.

The members of a converse pair of lexical items may not be congruent in respect of range. This is the case, for instance, with *doctor:patient*, since dentists, physiotherapists, and such-like also have patients. A similar lack of congruence can be observed in *lecturer:student* and *rapist:victim*. However, if we think in terms of construals, this anomaly disappears. Words like *patient*, *victim*, and *student* have what in Chapter 5 were termed microsenses. We rarely use them without having in mind some salient subset relevant to the context. For instance, there is not a great deal to be said about victims and patients in general, but the relations between, say, doctors and their patients, are significant. A normal relation of converseness holds between *doctor* (default construal), and *patient* (construed as "patient of doctor"), and between *dentist* (default construal) and *patient* (construed as "patient of dentist"), and so on.

7.3.5 Markedness

The notion of **markedness** is often applied to pairs of opposites: one term is designated as the **marked** term and the other as the **unmarked** term of the opposition. Unfortunately, this concept is used in a variety of different ways by different linguists, so it is necessary to be more specific. Lyons (1977) distinguishes three major conceptions of markedness, which may or may not coincide in a particular instance or type of instances. The first is **morphological markedness**, where one member of the opposition carries a morphological 'mark' that the other lacks. The mark, in the case of opposites, is invariably a negative prefix:

possible:impossible	happy:unhappy
kind:unkind	true:untrue

The second notion of markedness is **distributional markedness**: the unmarked term according to this conception is the one which occurs in the widest variety of contexts or context types. By this criterion it could be argued that *long* is unmarked with respect to *short* because it occurs in a variety of expressions from which *short* is excluded:

This one is ten metres long.
 What is its length?
 How long is it? (neutral question)

The third notion of markedness is the most interesting in the present connection. Lyons gives it the name **semantic markedness**. According to this conception, the unmarked term is the one which is associated with construals in which the normal opposition between the terms is **neutralized**, or non-operational, and which represent what is common to the two terms of the opposition. Take the case of *lion*: *lioness*. In *The lion and the lioness were lying together*, *lion* is given a construal which excludes lionesses. But in *We saw a group of lions in the distance*, the sex contrast is neutralized, and the group may well contain both males and females. This notion can be applied to, for instance, antonyms, too. Thus, in the neutral question *How long is it?*, we can say that the default contrast between *long* and *short* has been neutralized, and *long* refers to what is common to *long* and *short*, namely, the scale of length. (Notice that in some oppositions—those known as ‘equipollent’—both terms are marked in this sense.)

The notion of markedness is sometimes applied to the terms of the opposition, and sometimes to construals of those terms. Hence *How long is it?* (with the intonation nucleus on *long*) represents an unmarked construal of the unmarked term *long*. *How long is it?* (with the intonation nucleus on *How*), on the other hand, represents a marked construal of the same term, as it presupposes that the referent is long rather than short. Notice that our use of **impartial** cannot always be translated as **unmarked**. For instance, in the case of a comparative such as *shorter*, although it is impartial, because it does not presuppose the applicability of the default sense of *short*, it is not unmarked, because the contrast between *shorter* and *longer* is not neutralized.

7.3.6 Polarity

Another notion that is often applied to opposites is **polarity**, whereby terms are designated as **positive** and **negative**. This notion is used in an even greater variety of ways than markedness. The following are the main ones:

- (i) **morphological polarity**: one term bears a negative affix, the other does not.
- (ii) **logical polarity**: the determination of logical polarity depends on the fact that one negative cancels out another: if John is not not tall, then John is tall. The prototypical example of this is *true>false*. Is *true* to be analysed as equivalent to “not false”, or is *false* to be glossed “not true”? Which is the negative term and which the positive? The criteria for logical polarity give an immediate answer:

It's true that it's true. = It's true.
 It's false that it's false. = It's true.

False suffers the reversal when applied to itself, and is thus the negative term. The following are further examples of the same phenomenon:

She succeeded in succeeding.

She failed to fail. (reversal)

A large measure of largeness.

A small measure of smallness. (reversal)

This is good example of a good book.

This is a bad example of a bad book. (reversal)

- (iii) **privative polarity**: one term is associated with the presence of something salient, and the other with its absence. On this criterion, *alive* is positive and *dead* negative, because something that is alive possesses salient properties such as movement responsiveness, consciousness, etc. which a dead thing lacks; *married* is positive and *single* negative, because a married person has a spouse, and a single person does not; *dress* is positive and *undress* negative, because the end result of dressing involves the presence of clothes, whereas the end result of undressing involves the absence of clothes. This notion can be generalized to include "relative abundance" and "relative lack" (of some salient property). This move allows us to categorize *long*, *heavy*, *thick*, *wide*, *strong*, *fast*, and so on, as positive in this sense, because they denote a relative abundance of salient properties such as extension, weight, speed and so on, compared with their partners *short*, *light*, *narrow*, etc.
- (iv) **evaluative polarity**: one term is evaluatively positive, i.e. commendatory, and the other is negative. The obvious key example of this is *good:bad*. Other examples are: *kind:cruel*, *pretty:plain*, *clean:dirty*, *safe:dangerous*, *brave:cowardly*.

There is a relation between polarity and partiality: in the most general terms, positive members of a pair of opposites have the greater potential for impartial construal. However, there are relations of dominance among the different types of polarity. For instance, evaluative polarity generally dominates privative polarity. Take the case of *clean:dirty*. The most natural analysis in terms of privativeness is that *clean* is the 'absence' term (*Cleanness is the absence of dirt*) and *dirty* the presence term (*Dirtiness is the absence of cleanness*). Yet it is *clean* that yields a neutral question: *How clean is it?* This, however, is in accordance with the fact that *clean* is evaluatively positive. Similarly, privative polarity dominates logical polarity. Consider *far:near*; it seems that *far* is logically negative:

A is far from everything far from B = A is near to B

A is near to everything near to B = A is near to B

But *far* is privatively positive as it denotes the greater amount of the most salient property, namely distance. The neutral question *How far is it?* thus complies with privative rather than logical polarity. The exact details of these relationships remain to be worked out. (More discussion of polarity can be found in the section dealing with affixal negation in Chapter 17.)

Discussion questions and exercises

1. Types of opposition/exclusion relation

Identify the types of opposition exemplified by the (relevant readings of) the following pairs:

- (a) moving:stationary
- (b) aunt:uncle
- (c) engine:chassis (of car)
- (d) possible:impossible
- (e) fall ill:recover
- (f) black:white
- (g) probable:improbable
- (h) bequeath:inherit
- (i) cricket:football
- (j) approve:disapprove

2. Antonyms

Classify the following antonym pairs as polar, equipollent, overlapping, privative, or implicit superlatives (for implicit superlatives see Chapter 15.5.2). Note any alternative classifications for different readings.

far:near	happy:unhappy
beneficial:harmful	satisfied:unsatisfied
happy:sad	comfortable:uncomfortable
brilliant:stupid	polite:rude
deep:shallow	easy:difficult
advantageous:disadvantageous	thick:thin
fat:thin	rough:calm (of sea)

Suggestions for further reading

Incompatibility is discussed in chapter 4.1 of Cruse (1986); see also Cruse (1994b) and (2002a) for a prototype account.

All aspects of oppositeness are discussed in Cruse (1986: chs. 9–11); see also Lehrer (1985). For later developments within this approach, particularly on antonymy, see Cruse (1992a), Cruse and Togia (1995), and Croft and Cruse (2004: ch. 7); for reversives, see Cruse (2002b).

Alternative approaches to antonymy can be found in Lehrer and Lehrer (1982) (a formal account), and Mettinger (1994) (a structuralist approach).

CHAPTER 9

Syntagmatic semantic relations

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Syntagmatic semantic relations

9.1 Normal and abnormal co-occurrence

It is an obvious fact that some combinations of words 'go together' naturally, and it is easy to imagine a situation in which they could function as part of a discourse. Other sets of words do not go together in this way: it is impossible, or at least very difficult, to imagine a situation in which they could be used (although we must not underestimate the flexibility and ingenuity of the human mind in this respect). This chapter is about the relations between lexical units in the same sentence, phrase, or other syntactic structure, which govern the semantic well-formedness of such sequences. (There are, of course, important relations between sentences and larger units which are important for discourse cohesion and coherence. Here, however, we are concerned only with relations within the sentence.) All meanings co-present in a discourse affect one another to some degree and in one way or another. The interactions are complex and not yet fully understood; here only a sketchy outline can be offered. Before any details can be examined, it is necessary to make three important distinctions concerning normal and abnormal co-occurrence of elements in a string. First we must attempt to draw a line between grammatical and semantic normality and abnormality.

9.1.1 Grammaticality vs semantic normality

Before we can meaningfully discuss syntagmatic semantic relations, we need to be able to separate semantic aspects of normality and abnormality from questions of grammaticality and ungrammaticality. This is a rather contentious issue, but I believe it is possible to get some grip on it. The account given here largely follows that given in Cruse (1986).

The most commonly encountered criterion for separating the two types of anomaly is **corrigibility**: it is claimed that grammatical anomalies are typically corrigible in the sense that it is obvious what the 'correct' version should be, whereas semantic anomalies are typically not corrigible. Thus, **Me seed two mouses* can easily be corrected to *I saw two mice*, whereas there is no obvious way of amending **The noiseless typewriter-blasts squirmed faithfully*. However,

while this may be generally true, it is not difficult to find easily correctable anomalies which intuitively are clearly semantic: *This hole is too large for John to crawl through.*

There is a basic drawback with the notion of corrigibility, which is that it is presupposed that one knows what was originally intended. A better approach is to ask what is the minimum change to the sentence (or whatever) that will remove the anomaly. There are three possibilities (assuming that the anomaly has a single source):

- (i) The anomaly can only be cured by replacing one (or more) of the full lexical elements (i.e. a noun, verb, adjective, or adverb). In this case we can be reasonably certain that we are dealing with a semantic anomaly:
- (1) John is too *small to get through this hole.
big
- (ii) The anomaly can only be cured by changing one or more grammatical elements (affixes, particles, determiners, etc.), but not by changing a full lexical item. In this case we can be sure that the anomaly is grammatical:
- (2) Mary *be going home.
is
- (iii) The anomaly can be cured either by grammatical or lexical adjustment. In this case we need to know whether the lexical possibilities form a natural semantic class or not: if they do, the anomaly can be taken as semantic. Compare (3) and (4):
- (3) *Mary went home tomorrow/Mary will go home tomorrow
(grammatical adjustment)
Mary went home *tomorrow.
yesterday
last week.
etc.
(lexical adjustment)

Here the items which remove the anomaly share a component of meaning, namely, an indication of past time.

- (4) *Le livre est sur le table/Le livre est sur la table
(grammatical adjustment)
Le livre est sur le *table.
fauteuil
plancher
buffet
rocher
frigo

In this case the items which remove the anomaly have nothing in common semantically, and the anomaly of (4) can hence be diagnosed as grammatical.

There is one more possible diagnostic criterion: a semantic anomaly can often be **improved** by manipulating the context, whereas this is usually not possible with pure syntactic anomalies:

(5) The chair saw Mary

(Mary has a persecution mania. She believes all her accidents are due to malevolent forces. No doubt the chair saw her, computed her path across the room, and placed itself just where she would trip over it.)

No amount of contextual elaboration of this type, however, can reduce the anomaly of *The mans possess three car*.

9.1.2 Discourse interaction vs syntagmatic interaction

In this chapter we shall be concerned specifically with grammatically controlled semantic interaction between semantic units, that is, between, for instance, verbs and their subjects or objects, between modifiers and their heads, and so on. This type of interaction we shall call **syntagmatic interaction**. There is another sort of interaction, which we shall call **discourse interaction**, which is not controlled by grammar. Consider the following sentence:

(6) John and Mary will be joined in holy matrimony next week: who's going to get the spuds?

There are two sorts of oddness here. The first is the register clash between *holy matrimony* and *spuds*. This can easily be cured:

(7) John and Mary will be joined in holy matrimony next week: who is going to get the potatoes?

But we are still left with the difficulty of finding the relevance of potatoes to John and Mary's marriage. (There would be no problem if *potatoes* was replaced by *confetti*, or even *rice*.) These are both aspects of discourse interaction, as in each case the clash, as we may call it, is not between one item and its most intimate syntactic neighbour. The register clash is relatively superficial. Certain lexical items—they may have any syntactic function—serve as markers of degree of formality. Obviously contradictory markers are going to clash. The irreconcilability of *marriage* and *potatoes* has a much deeper origin, to do with the construction of plausible scenarios involving the two concepts, and drawing on cultural knowledge, which we cannot go into here, but is not obviously syntactically governed.

9.1.3 Interpretability vs normality

Another distinction needs to be made before the discussion can be advanced. There are two potential focuses of interest in studying syntagmatic semantic

relations: one is whether, or to what extent, a particular combination makes sense, the other is whether, or to what extent, a combination is normal or abnormal. Although these two characteristics often coincide, they are by no means the same thing. For instance, *My geraniums kicked the bucket in the hot weather* is perfectly understandable, but is nonetheless somewhat odd. In this chapter we shall be concentrating mainly on whether syntagmatic combinations are normal or abnormal.

It is undeniable that the normality of a particular string of words (even one which is close-knit syntactically) can be affected by the wider context in which they are set. This means that we must be careful what we mean when we say that a particular string is abnormal. Take a case like *heavy on air*. This might strike the ear as odd, if no context is given. But suppose the conversation is about space travel and the need to develop ways of recycling vital materials like water and air. In this context it is not difficult to make sense of a statement to the effect that a particular device is *heavy on air* (cf. *This car is heavy on petrol*). The reason the original presentation was odd was that the default construals of the constituent items do not go together; the effect of the context was to enable a relevant selection of interpretations to be made. Similarly, Chomsky's *colourless green ideas* might not be so anomalous if used to describe a boring lecture on environmental issues. The moral of this is that we are not concerned with strings of words, but with strings of construals. Very often, a potential anomaly is a clue to the fact that either a different reading of some item in the string must be selected, or a new reading must be created.

9.2 Co-occurrence preferences

9.2.1 Co-occurrence preferences and construal

It is important to emphasize that when we speak of words 'going together' (or not), we really mean "words under specific construals". This means that if we want to describe the constraints on the normal collocates of a word (its **co-occurrence preferences**), we must do so for each construal separately. To illustrate the point, consider the case of *Mary's eyes are green* and *Mary's eyes are red*. Both of these are normal, so it would appear that *eyes* is equally accepting of *red* and *green* as modifiers. However, this is misleading, because these two occurrences involve different construals of *eyes* (see the discussion of 'active zones' in Chapter 15.6.5). The part of the eye which in some persons is green is the iris, and it is not normal for this to be red; the part of the eye which can become red is the 'white of the eye', and it is not normal for this to be green. Each of these parts of the eye has a different range of normal colouring. As a second example, consider *Mary is a beautiful dancer*. This has two possible construals: either Mary is beautiful and is a dancer, or she dances beautifully, and *beautiful* collocates happily with *dancer* under either construal. Compare this with *Mary is a beautiful murderess*. This can

mean that she is beautiful and a murderess, but hardly that she murders beautifully. In other words, the co-occurrence preferences are specific to particular construals. They are also specific to particular grammatical relations. For instance, the co-occurrence preferences for, say, the verb *see*, are different for its subjects and objects.

9.2.2 Directionality of syntagmatic constraints: selectors and selectees

Constraints on co-occurrence between lexical items usually have directional properties. Two aspects of this are of particular interest. The first concerns which item does the selecting (the **selector**), and which gets selected (the **selectee**). It is necessary to separate two notions of selection here. If we are thinking of the selection from a set of polysemous or homonymous readings, then in a sense the process is obviously at least potentially bi-directional and there is no clear distinction between selector and selectee. In the combination a *hard match*, for example, *hard* rules out the reading "device for producing a flame" for *match*, and *match* rules out the reading "not soft" for *hard*, and we are left with the interpretation "difficult contest". Here we have a combination of two words, each with more than one reading, but there is only one felicitous combination of readings, and this emerges as the preferred interpretation. However, if we look closely at the relations between the meanings of items in a grammatical construction, we usually find another species of directionality, in that it is much easier to specify the restrictions imposed by one of the items than the other. Suppose we set ourselves the task of specifying the semantic nature of the adjectives which form normal modifier-head pairs with a noun such as *match* ("contest"). Think of the range of possibilities:

- (8) home, ill-tempered, exciting, hard-fought, postponed, three-day, all-ticket, important, decisive, qualifying

There is no cover term, or superordinate notion which encompasses all these, even approximately. The only thing they have in common is that they go normally with *match*. But look now at *hard* ("difficult") and perform the same exercise:

- (9) game, exercise, problem, journey, climb, job, crossword, exam

In this case we can roughly define the qualifying head-nouns as falling under the general heading of "human activity requiring effort". The same can be done with the other readings of both *hard* and *match*: in each case, the normal partners of the *hard* readings can be given a general specification, but those of the *match* readings cannot. In fact it becomes clear that the mechanism of selection for *match* readings is as follows: *match* readings select those adjectives whose co-occurrence preferences they satisfy. In other words, the apparent bi-directional selection has a unidirectional basis.

The direction in which selection operates, is correlated with grammar. The relevant generalization is that adjectives select their head-nouns and verbs select

their complements; nouns, in general, are always selectees. This can be made into a more satisfying generalization in logical terms: predicates select, and arguments are selected.

9.2.3 Specifying co-occurrence preferences

In this section some of the problems of stating the co-occurrence regularities of words will be discussed, without, perhaps, all of them being resolved.

Classically, selectional restrictions were stated in the form of semantic categories to which lexical partners had to belong (recall that most selectees are nouns). Furthermore, these categories were of the classical variety, with sharp boundaries and necessary and sufficient criteria for membership. So, for instance, in the case of *X drank Y* and *X poured Y into Z*, the selectional restrictions of both *drink* and *pour* require that Y denote a liquid. Violation of the restriction leads to anomaly. Hence, the following are normal:

- (10) John drank the milk.
- (11) John poured the milk into the cup.
- (12) Mary drank the beer.
- (13) Mary poured the petrol into the can.

while the following are not:

- (14) ?John drank the bread.
- (15) ?John poured the cabbage into the pan.
- (16) ?Mary drank her wedding ring.
- (17) ?Mary poured the cup into the milk.

In some cases (but probably not any of the above), the anomaly can be resolved by reinterpreting the sentence as a metaphor:

- (18) Mary drank in John's words.

If the patient of either of these verbs is not specified, then the feature [LIQUID] will be transferred to them; thus, in each of the following, a normal interpretation would be that the patient (i.e. the thing affected) is in liquid form:

- (19) Mary drank the medicine.
- (20) John poured the butter over the meat.
- (21) The aliens were drinking a purplish substance.

This is all very well, so far as it goes. However, consider, first, the following:

- (22) Mary poured the sugar into the bowl.
- (23) The lorry poured the bricks onto the road.

By no stretch of the imagination can the sugar and bricks be considered to belong to the category of liquids, yet these sentences are not as anomalous (are they at all?) as they ought to be. One possibility is that we have misidentified the selectional restriction: perhaps the restriction for *pour*, at least, should require that the patient

right, because *an avid womanizer* and *an avid drinker* do not feel good either (although the latter case might be explained by the necessity for "interest"): it seems that satisfaction of the basic appetites does not count. It is not clear what sort of account of selectional preferences is called for in such cases. It may be that we could build up a picture of a prototypical avid person in terms of which an account of preference grading could be framed. (The picture is complicated by the slightly different, but nonetheless related, requirements of *avid for*: This is satisfactory in combination with: *praise, affection, knowledge, recognition*; but less so with: *sex* (?), *food, exercise, music, money*.)

9.3 Types of abnormality

Two basic types of abnormality resulting from the combination of two senses can be distinguished. The first is where meanings simply do not 'go together'; the second is when one meaning adds nothing new to another one with which it is combined and thus appears unnecessary, or redundant. We shall call these **semantic clash** and **pleonasm**, respectively.

9.3.1 Semantic clash

The sorts of clash we are interested in here are those which resist contextual manipulation and can reasonably be considered to be lexical in nature. Clashes come in varying degrees of severity. Presumably this property varies continuously, but as a first approximation, three degrees of clash will be recognized: **inappropriateness**, **paradox**, and **incongruity**.

9.3.1.1 Inappropriateness

We shall give the name inappropriateness to abnormality resulting from a violation of non-propositional co-occurrence preferences. Take the case of *My geraniums have kicked the bucket*. There is here a semantic clash between *geraniums* and *kicked the bucket*: for full normality, *kick the bucket* requires a human subject. But the propositional content of *kick the bucket* is the same as that of *die*: it would not be honest to answer the question *Did my geraniums kick the bucket while I was away?* in the negative, if the geraniums in question had died, on the grounds that only humans can kick the bucket. The point is that kicking the bucket is not a special way of dying that only humans can suffer. It is more correct to say that the expression *kick the bucket* can only be used without oddness to refer to dying if certain contextual conditions are satisfied, one of them being that the 'patient' should be human, another being that the situation should be informal. The conditions (preferences) do not arise ineluctably from the propositional meaning, but are, as it were, tagged on independently and somewhat arbitrarily. Contrast this case with the oddness of *My letter to Mary kicked the bucket*. Here the clash is not just, or even principally, between *letter* and the

'tagged on' meaning present in *kicked the bucket*, since the oddness is not significantly improved by putting *died* in place of *kicked the bucket*. There is a much more radical clash between the propositional meaning of *kick the bucket* and *my letter*, in that the concept of dying is only applicable to things/entities that at some time were alive. "Living subject" can be thought of as a logical presupposition of the default meaning of *die*; "human subject" is merely a stylistic presupposition of *kick the bucket*.

9.3.1.2 Paradox

The remaining two degrees of clash result from the violation of propositional co-occurrence preferences. The least radical of these is paradox. Consider *The cat barked*, or *a tiny giant*. *Bark* means "to make a noise" and is characteristic of dogs. But notice the difference between this case and *kick the bucket* in relation to humans. Whereas humans do not have a special way of dying (at least, this is not what *kick the bucket* denotes), dogs do have a special way of making a noise. So *bark* is not adequately glossed as "make a noise" (applied to dogs): it must be "make the characteristically canine noise". And it would not be misleading to answer the question *Did I hear the cat bark?* in the negative, if the cat had, in fact, miaowed (or, indeed, if it had been the dog which had made the noise). On the other hand, *bark* and *miaow* are in a sense the same kind of thing, both animal noises, so the clash is at a kind of intermediate level. Paradox is also involved when the 'wrong' value on a dimension is indicated: *It's too small to fit into this box*; *Rain falls upwards, usually*; *If you walk any faster, you'll be standing still*. Paradoxes are typically 'correctable'.

9.3.1.3 Incongruity

The most serious degree of clash is **incongruity**. This is when the ontological discrepancy is so large that no sense can be extracted at all, without radical reinterpretation. Since there is not even an inkling of sense, in the worst cases, there is no feeling that the utterance could be corrected. Examples are:

purple gestures of rat milk
 the sky's nipple is a dictionary
 crystalline miasmas of safety-pins
 in phonemic toe-buckets

This is reminiscent of the worst sort of avant-garde poetry. A way of firming up these distinctions will be offered below, but it must be re-emphasized that degree of clash varies continuously, and the divisions are only first approximations.

9.3.2 Pleonasm

A pleonastic relation between two elements occurs when one of them seems redundant, and appears not to add any semantic information not already given by the other element. So, for instance:

(26) John kicked the door with his foot.

Here *with his foot* adds nothing, since we know from *kick* what the instrument of striking was. Pleonasm can be avoided either by omitting *with his foot*:

(27) John kicked the door.

or by replacing *kick* with *strike*:

(28) John struck the door with his foot.

Similarly, (29) is pleonastic, because *female* gives no information that is not already conveyed by *aunt*:

(29) One of my female aunts told me.

Notice, however, that (30) is not pleonastic:

(30) John kicked the door with his left foot.

This is because the phrase *with his left foot* now contains new information: the repetition involved in *foot* is unavoidable as otherwise the adjective *left* would have nothing to modify. Similarly, *my lesbian aunt* is not pleonastic, although *lesbian* incorporates the notion "female", since *lesbian* also brings new information not present in *aunt*.

9.3.2.1 Conditions for pleonasm

Stating the conditions for pleonasm to appear involves an aspect of directionality. Generally speaking, if a combination of words is to be non-pleonastic, the combination must yield more information (in a broad sense) than either of the combined items on its own. This must be pretty obvious. What is slightly less obvious is that the burden of providing extra information falls asymmetrically on the combined items. The regularities cannot be stated in terms of predicate and argument. What we need instead are the categories of **(semantic) head** and **(semantic) dependant**. Roughly speaking, the semantic head of a combination (construction) is the element which governs the semantic relations of the combination, viewed as a unit, with other elements or combinations. Take the case of an adjective-noun combination: this combination, in the form of a noun phrase, may in turn combine with a verb, but it is only the semantic properties of the noun which determine whether or not the combination is normal. Take the combination *The small table sneezed*, which we can all agree is odd. Suppose we hold *sneezed* constant and ask ourselves what is the minimal change which will restore normality. The answer is that we must change *table* (*The small boy sneezed*); no substitution of the adjective will produce any improvement. Of course, *small* semantically interacts with *table*, but once the combination is effected, *small* has no further combinatory role to play. However, this is not the whole story. Take the case of *The dead man sneezed*. Here it seems that the basic clash is between *dead* and *sneezed*—substituting the noun will not remove the clash. Here, the clash is between two incompatible predicates applied to the same argument, each of which would be normal on its

own. By the characterization given above, this is a case of paradox. The clash between *table* and *sneezed*, however, is a case of incongruity, the most radical type of clash. It appears that in the identification of the semantic head of a construction, we must confine ourselves to incongruity. Similar arguments show that it is the verb which governs the combinatorial properties of a verb phrase.

Now that we have a notion of semantic head and its dependants, we are in a position to state a generalization regarding pleonasm: it is the duty of a non-head to bring information not available in the head; the head is under no such compulsion. This conforms with the observation of pleonasm in:

- (31) a female aunt
 a new innovation
 Please repeat it for me again
 He kicked it with his foot
 She chewed it in her mouth
 I heard it by listening
 etc.

(The reader may consider me pedantic on some of these examples.)

9.3.2.2 Semantic duplication without pleonasm

It is important to realize that repetition, or semantic duplication, does not automatically bring about pleonasm. In some cases it is required by the grammar, in which case it is usually called **agreement**. For instance, in the phrase *two books*, one might argue that plurality is signalled twice, once by the numeral *two*, and then by the *-s* of *books*. In some languages, for instance, Turkish, although a plural affix exists, the noun would have no plural marker in such circumstances: *kitaplar* ("books", *-lar* is the plural affix); *iki kitap* ("two books").

If a negation is repeated, either one negative cancels out the other (32), or weakens it (33):

- (32) I *didn't* not see him.
 (33) That's not uncommon.

In some cases, repetition has an intensifying, rather than a pleonastic effect:

- (34) That is very, very good.
 (35) Mary rushed quickly to the window.
 (36) John murmured softly in Bertha's ear.
 (37) Some children were shouting loudly in the street.
 (38) During last summer's scorching heat-wave ...
 (39) Jack gasped—a huge giant stood at the door.

One might have expected pleonasm in these cases, since quickness, for instance, is of the essence of rushing, softness of murmuring, loudness of shouting, and so on. Also, substituting antonyms for these epithets results in paradox:

- (40) ?Mary rushed slowly to the door.
 (41) ?John murmured loudly in Mary's ear.
 (42) ?Some children were shouting softly in the street.
 (43) ?Jack gasped—a small giant stood at the door.

The examples (35)–(39) all involve some gradable property which is incorporated into the meaning of a verb or a noun: expressing the same property with a separate adjective or adverb has the effect of reinforcing the notion.

Some cases of repetition have the effect of signalling a prototypical, or central, or ideal example of something. My mother-in-law would say *C'est du café café*, meaning that it was real, or proper coffee, rather than, say, the instant variety. Or if I asked her whether a certain expression was correct in French, she might answer *C'est correct, mais ce n'est pas correct correct*, meaning that in the purest version of classical French, it would not pass muster, but it was acceptable in everyday French.

Another type of situation where pleonasm fails to appear occurs with certain verbs of bodily motion. Consider the following:

- (44) Mary shrugged her shoulders.
 (45) Mary stamped her foot in annoyance.
 (46) Mary pouted her lips.

Why are these not pleonastic? What else can one shrug with except one's shoulders, or pout with, except one's lips? Also, *What Mary pouted were her lips* and *What Mary shrugged were her shoulders* are pleonastic, and, of course, *What Mary shrugged were her thighs* and *What Mary pouted were her ears* are paradoxical. The generalization here seems to be that these verbs denote actions which can serve as signals. If the body part is not explicitly mentioned, then the signalling function of the action is highlighted (*Mary shrugged, Mary pouted*); if the body part is mentioned, the action itself is highlighted, and this may, or may not, be intended also to carry the conventional message (cf. *John shrugged his shoulders to dislodge the parrot* and ?*John shrugged to dislodge the parrot*). The impossibility of **Mary smiled her lips* or **Mary frowned her forehead* is presumably due to the fact that these are basically intransitive verbs.

Discussion questions and exercises

1. Semantic clash

Identify the degree of clash in the following (i.e. inappropriateness, paradox, incongruity):

- (a) She's more than just a pretty countenance.
 (b) The president is said to be unconvinced by the locomotion.

- (c) Mum, it's so nice to be back in my place of domicile again!
- (d) The whole thing was over in an age.
- (e) I don't know if he acted from motives of despair or crockery.

2. Selectional restrictions

Consider the selectional restrictions governing the X-position in the following (give a prototype account where appropriate):

a record X X is sad a leisurely X

Can you lend me an X? (consider why *tree* is odd in this position)

Suggestions for further reading

This chapter is mostly a development of ideas which first appeared in Cruse (1986), especially chapters 4.12 and 12.2. Cruse (2002a) takes a prototype-theoretical approach to syntagmatic sense relations. The notion of 'semantic head' presented here is quite closely paralleled by Langacker's 'profile determinant' (see Langacker 1991b). For a structuralist account of selectional restrictions, see Kastovsky (1980). Katz and Fodor (1963) give the first generative version. Jackendoff's 'preference rules' (see, for instance, Jackendoff (1983)) yield a prototype-like account of co-occurrence restrictions/preferences.

CHAPTER 12

Extensions of meaning

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Extensions of meaning

12.1 Literal and non-literal meaning

Most people (adults, at least) are aware that if someone says *Jane's eyes nearly popped out of her head*, a **literal** truth has not been expressed, Jane's eyes were not, as a matter of fact, on the point of being projected from her head; the message is rather that Jane was very surprised. At the everyday level, the contrast between literal and figurative use does not seem problematical. It is not so easy, however, to be more precise about what 'literal meaning' really is. Let us look at some possible ways of pinning down the essence of literalness.

The reading of a word with the earliest recorded use. Dictionaries often organize their entries historically, with the earliest first. It would be a reasonable requirement of a dictionary that it should indicate which meanings are literal, and which figurative: most users would probably assume that the literal meaning would be given first. However, this is not really a satisfactory explanation of what literalness is. The most obvious objection is that while we might reasonably expect an intelligible path of change from past meanings to present meanings, most speakers are ignorant of the history of their language, so history cannot be the (direct) cause of current intuitions.

The most frequently occurring reading of a word. Frequency is another common principle for organizing entries. At first sight this seems more promising as a rationale for intuitions of literalness. However, this turns out not to be so. An example is the verb *see*. Two of the readings of this verb are "have a visual experience" and "understand" (as in *Do you see what I mean?*). There can be little doubt that it is the first of these readings which intuition points to as the literal reading. Yet it appears that the second reading has a greater text frequency. Clearly, we must look elsewhere for an account of literalness.

The default reading of a word. The **default** reading of a word is the one which first comes to mind when the word is encountered out of context, or the reading which one would assume to be operative in the absence of contextual indications to the contrary. This criterion would seem to give the right answer for *see*: it is the first

meaning to come to mind, and if, say, a foreigner were to ask the meaning, one would hardly begin by saying that it meant to "understand". However, even if the literal meaning coincides with the default reading, there remains the question of why this reading is the default.

The reading from which the most plausible path of change begins. Consider the following three readings of the noun *position*:

- (1) Mary has been offered an excellent position with a firm of solicitors.
- (2) What is your position on the single currency?
- (3) This is an excellent position from which to watch the parade.

It seems implausible that one could begin with either (1) or (2) and derive the remaining two readings by metaphorical extension. On the other hand, starting from (3), involving location in physical space, the extensions to mental space in (2) and to a place in an institutional hierarchy in (1) seem relatively natural. Again, it is easy to derive the "understand" reading of *see* metaphorically from the "have a visual experience" reading, but not vice versa. In both these cases, the most plausible starting point is also intuitively the literal reading. But what about *expire*, with its two readings "die" and "come to the end of a period of validity"? In this case, either reading can be convincingly derived from the other. Which, then, is the literal reading? According to my intuitions, the expiring of driving licences is the extended reading, but to my undergraduate students, it was the other way round. It is not clear what the basis for the differing intuitions is.

The reading most closely related to basic human experience. This criterion follows from a claim that not only much of language, but also many conceptual categories, are metaphorical in nature, and are extensions from basic experience, especially, but not exclusively spatial experience. On this basis, the "location in physical space" reading of *position*, the "have visual experience" reading of *see*, and the "die" reading of *expire* would be literal, and their other readings figurative/extended. However, on its own this factor cannot explain why my students feel that the "driving-licence" reading of *expire* is the literal one.

Perhaps a distinction ought to be made between diachronic and synchronic processes of extension. It seems that for diachronic change, the 'plausible path' criterion and the 'basic experience' criterion give the right answer. Let us suppose that if there is only one plausible path, then the diachronic literal/figurative relationship will persist in the face of later frequency changes. However, when there are alternative metaphorical extensions, while these criteria give the right answer for historical development, synchronically, an individual will judge the most frequent/familiar reading (which will probably, incidentally, also be the one which is learnt first) to be the literal one, and the least familiar as the extended one. (Notice that the two directions of derivation for *expire* produce two distinct metaphors, not two variants of the same metaphor.) For this explanation to be correct, it would have to be the case that when I first encountered the word *expire*, the "die" reading was much more frequent than it is now.

12.2 Naturalized, established, and novel extensions

12.2.1 Naturalized extensions

What is historically no doubt an extended meaning may be so entrenched and familiar a part of a language that its speakers no longer feel that a figure of speech is involved at all: such readings of a word (or expression) will be said to be **naturalized**:

- (4) He's **in love**.
- (5) It's hard to **put into words**.
- (6) The **kettle's boiling**.

12.2.2 Established extensions

There are also readings which are well established, and presumably have entries in the mental lexicon, but are nonetheless felt to be figures of speech:

- (7) John's a **parasite/a lounge lizard/a couch potato**.
- (8) She **swallowed** the story.
- (9) There are too many **mouths** to feed.

12.2.3 Novel extensions

Nonce readings are ones for which there are no entries in the mental lexicon; they therefore cannot be 'looked up', but have to be generated and interpreted using strategies of meaning extension such as metaphor and metonymy. The following are selected (almost) at random from Patricia Cornwell's best-seller *Hornet's Nest*:

- (10) West gave him a look that was heat-seeking, like a missile.
- (11) He had never told her his fantasies about being overpowered by her, cuffed, pinned, held, yoked, and hauled away in the paddy wagon of erotic captivity.
- (12) His heart rolled forward at such a pitch, he could not catch up with it.

12.3 Metaphor

A typical dictionary definition of metaphor is: "The use of a word or phrase to mean something different from the literal meaning" (*Oxford Advance Learner's Dictionary*). This is not very enlightening: since it does not even hint at any rationale for such a curious practice; it makes metaphor seem, at best, carelessness, and, at worst, perversity. However, as Lakoff (and others) have persuasively

(72) I'm finally in *Who's Who*!

Nunberg's account of metonymy is undoubtedly on the right lines, but the following examples suggest that something is still missing:

(73) *This key is parked in the next street.

(74) *That book on suicide committed suicide himself.

From the point of view of a garage attendant charged with putting the car into the garage, what could be more relevant to the car's key than the location of the car it fits? Likewise, the fact that the author of a book on suicide killed himself is surely a noteworthy property of the book. The answer perhaps lies in a more adequate characterization of functional correspondence and/or noteworthiness, but it is not clear what the necessary modifications are.

Even if we had a fully adequate account of what licenses predicate transfer, the question would still remain of what metonymy is for. There are many cases where an indirect metonymic strategy of reference appears to be preferred to a more direct mode of reference. Take the following examples:

(75) Where are you parked?

(cf. Where is your car parked?)

(76) The kettle's boiling.

(cf. The water in the kettle is boiling.)

(77) Room 44 wants a bottle of champagne.

(cf. The occupant of room 44 wants a bottle of champagne.)

(78) Why is John not in *Who's Who*?

(cf. Why does John not have an entry in *Who's Who*)

One possible motivation is that the expression is rendered shorter, hence more economical of effort. Intuitively, although it may play a part, this does not seem to be sufficient. Perhaps metonymic reference also serves to highlight the functional correspondence(s) and/or the noteworthiness which license the expression.

12.6 Semantic change

One can hardly read a chapter of, say, a novel by Jane Austen (to go no further back in time) without becoming aware of the fact that words change their meaning through time. In the case of Jane Austen, the changes are relatively uncommon, and relatively subtle. For instance, *interfere* has not yet developed its negative aspect: its meaning is closer to modern *intervene*; *handsome* is applied indifferently to men and women (and girls); *amiable* was a much more positive recommendation of a person's character than now; *direction* no longer refers to the indicated destination of a letter... and so on. Historical processes of semantic change are of course intimately linked to synchronic processes of meaning extension. One possible scenario might run as follows.

- (i) Word *W* has established literal sense S^1 .
- (ii) Some creative person uses *W* in new figurative sense S^2 (according to the rules of synchronic extension).
- (iii) S^2 'catches on', and becomes established (i.e. laid down as an entry in the mental lexicons of members of the speech community), so that *W* becomes polysemous between S^1 and S^2 . S^1 is still perceived as literal, and S^2 as figurative.
- (iv) S^1 begins to become obsolescent. S^2 begins to be perceived as literal, and S^1 as figurative.
- (v) S^1 is lost, at which point meaning of *W* has changed from S^1 to S^2 .

This can be illustrated with English *expire*. First, before there were such things as tickets and licences with limited periods of validity, this just meant "die". Then, it was metaphorically extended to mean "come to the end of a period of validity", which existed as a clear figurative use alongside the literal use. Nowadays, the "die" sense is quite uncommon, and classes of students will declare that for them, it is a metaphorical extension of the "cease to be valid" sense. Stage 5 is perhaps yet to occur, but there is no doubt that the default reading has changed.

This example illustrates one way in which synchronic meaning extension forms an essential part of diachronic change (there are, of course, other scenarios). In principle, the meaning of a word may change along any of a range of semantic dimensions; however, no attempt will be made here to give a full account of historical change in word meaning.

Discussion questions and exercises

1. Conceptual metaphor

Using Lakoff's study of anger as a model, investigate the metaphorical representation of other emotional states such as fear and depression.

2. Non-literal language

How many examples of non-literal language use can you find in the following sentences (from Grafton 1994)? Classify each example as metaphor, metonymy, or hyperbole.

- (a) Occasionally I went over to the shallow end of the pool and got my feet wet. If I lowered myself into the depths by as much as six inches, I suffered shortness of breath and a nearly overwhelming desire to shriek.
- (b) I had a quick bowl of soup with Henry and then downed half a pot of coffee, managing in the process to offset my lethargy and kick into high gear again. It was time to make contact with some of the principals in the cast.

- (c) The hotel's air-conditioning, which was fitful at best, seemed to drone off and on in a fruitless attempt to cut into the heat.
- (d) I'm sorry sir, room 323 is not answering.
- (e) I went out onto my balcony and leaned my elbows on the railing, staring out at the night.
- (f) I was aware of the yawning three-storey drop, and I could feel my basic dislike of heights kick in.
- (g) His name was being withheld from the local papers because of his age.
- (h) I could practically hear Mac squinting through the telephone lines.
- (i) July in Santa Teresa is an unsettling affair.
- (j) I rolled out of bed, pulled on my sweats, brushed my teeth and combed my hair, avoiding the sight of my sleep-smudged face.
- (k) "Can you get me an address?"
"Shouldn't be too hard. She's probably in the book."
- (l) He was mortgaged to the eyeballs, so his house wasn't worth a cent.
- (m) The day seemed interminable, all heat and bugs, kids shrieking in the pool with ear-splitting regularity.
- (n) "I want to talk to Lieutenant Whiteside first. Can you have me switched over to his extension?"
- (o) Steep hills, pleated with erosion, rose up on my left, while to the right, the heaving gray Pacific was pounding against the shore.

Suggestions for further reading

On metaphor, an excellent source of readings is Ortony (1979); the present account has drawn heavily on the paper by Max Black in this volume, but many of the other papers are well worth reading, and will give an idea of a variety of approaches. Lakoff's views appear in several publications: a popular introduction is Lakoff and Johnson (1980); a later account with a literary focus is Lakoff and Turner (1989). The fullest exposition of Lakoff's approach, applied particularly to ANGER, is to be found in Book II, Chapter 1 of Lakoff (1987), to which may be added Lakoff (1990). An analysis of LOVE on Lakoffian lines is Kövecses (1988); see also Kövecses (2002) and Dirven (2002). For blending theory, see Grady et al. (1999) and Coulson (2000).

For post-Lakoff treatments of metaphor see Glucksberg (2001) (strongly critical of Lakoff) and Stern (2000). Croft and Cruse (2004: ch. 8) discusses metaphor and its relation to metonymy and simile. There is an interesting and thorough discussion of predicate transfer and related matters in Ward (2004).

Part 3

Grammatical Meaning

Communication using isolated words is necessarily extremely limited: words need to be used together with other words. But a simple collection of words is not much use, either: combinations of words need to be governed by grammatical rules. Grammar has a dual role in producing intelligible messages. First, there are rules of combination, which determine what sort of global meaning results when constituent meanings are combined. Second, the grammatical elements which articulate grammatical structures (affixes, particles, constructions, syntactic categories, etc.) carry a distinguishable sort of meaning, which contributes in a special way to the meaning of whole constructions and sentences.

Chapter 13 begins with a discussion of the notion of grammatical meaning and its main varieties. It then goes on to examine meanings associated with nouns and noun phrases, such as number and gender. The topic of Chapter 14 is argument structure and transitivity. Chapter 15 looks at grammatical meanings associated with verbs, such as tense and aspect, and with adjectives, such as degree. Chapter 16 considers the sorts of meanings typically carried by prepositions, and Chapter 17 examines the semantics of a representative selection of derivational affixes.

CHAPTER 13

Grammatical meaning; nouns and noun phrases

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Grammatical meaning; nouns and noun phrases

13.1 What is grammatical meaning?

Before examining examples of grammatical meaning in this and subsequent chapters in this section, it is necessary first to clarify what is meant by grammatical meaning. A distinction is often made between lexical and grammatical meaning (sometimes only the latter is allowed as being properly linguistic). There are dangers in all dichotomies; this one is harmless provided it is borne in mind that in reality there is a continuously varying scale of what might be termed lexicality and grammaticality. If we characterize lexical meaning as semantic information carried by major lexical units (which for the moment we can take to be nouns, verbs, adjectives, adverbs), then grammatical meaning can be defined as semantic information in a sentence not carried by major lexical units. Grammatical meaning can be conveniently treated under four major headings: the meanings carried by grammatical elements (this will be defined more precisely below); meanings linguistic expressions have by virtue of belonging to particular grammatical categories (noun, verb, etc.); meanings signalled by sequential order of elements; meaning carried by grammatical constructions.

13.1.1 Meanings carried by grammatical elements

One way of characterizing grammatical, as opposed to lexical, units is in terms of **closed-set items** and **open-set items**. Central examples of closed-set items have the following characteristics:

- (i) They belong to small substitution sets (perhaps as small as one).
- (ii) Their principal function is to articulate the grammatical structure of sentences.
- (iii) They change at a relatively slow rate through time, so that a single speaker is unlikely to see loss or gain of items in their lifetime. (No new tense markers or determiners have appeared in English for a long time.) In other

words, the inventory of items in a particular closed-set grammatical category is effectively fixed (i.e. 'closed', hence the name).

These may be contrasted with open-set items, which have the following characteristics:

- (i) They belong to relatively large substitution sets (especially if semantic plausibility is ignored).
- (ii) There is a relatively rapid turnover in membership of substitution classes, and a single speaker is likely to encounter many losses and gains in a single lifetime. (Think of the proliferation of words relating to space travel, or computing, in recent years.)
- (iii) Their principal function is to carry the meaning of a sentence.

Both closed- and open-set items carry meaning, but their different functions mean that there are differences in the characteristics of the meanings that they typically carry.

A closed-set item, in order to be able to function properly as a grammatical element, has to be able to combine without anomaly with a wide range of roots, and for this to be possible, it must have a meaning which is flexible, or broad enough, or sufficiently 'attenuated', not to generate clashes too easily, and must signal contrasts which recur frequently. Hence, meanings such as "past", "present", and "future", which can co-occur with virtually any verbal notion, and "one" and "many", which can co-occur with vast numbers of nominal notions, are prototypical grammatical meanings. In contrast, there is no limit to the particularity or richness of the meaning an open-set element may carry, as there are no requirements for recurrent meanings or wide co-occurrence possibilities. Hence, open-set items typically carry the burden of the semantic content of utterances. Because of the richness of their meanings and their unrestricted numbers, they participate in complex paradigmatic and syntagmatic structures.

What are called **content words** (basically nouns, verbs, adjectives, and adverbs) prototypically have one open-set morpheme (usually called the **root** morpheme) and may also have one or more closed-set items in the form of affixes. Lexical semantics is by and large the study of the meanings of content words, and is oriented principally to the contribution that open-set items make to these. Grammatical semantics concentrates on the meanings of closed-set items. However, a strict separation between grammatical and lexical semantics is not possible because the meanings of the two kinds of element interact in complex ways.

It was mentioned above that in reality there is not a strict dichotomy between closed-set and open-set items, but rather a continuous scale of lexicality/grammaticality, or, in terms of meanings, a scale of richness/poverty of meaning. The following list is arranged (roughly) in descending order of semantic richness:

Full lexical items:	<i>dog, democracy, delicious</i>
Prepositions:	<i>over, before, during, across</i>
Classifiers:	(see below, section 13.2.3)
Other items:	Weak/light verbs (<i>make (a move), take (a walk), have (a look), do (some work)</i>), <i>auxiliaries</i> (will, should, may, have, be, <i>get</i>), pronouns, articles, conjunctions, particles (e.g. <i>up</i> in <i>finish up</i>), affixes

(No attempt will be made to order the items in the last category.)

13.1.2 Meanings of the major grammatical categories

Traditionally, syntactic categories are defined semantically: nouns are defined as words referring to "persons, places or things", verbs are "doing words", i.e. they refer to actions, while adjectives are "describing words". In early structuralist linguistics such definitions were shown to be seriously flawed: (*a*) *punch* refers to an action, but is a noun; *seem* is a verb, but does not refer to an action; in *John shouted*, *shouted* describes what John did, but is not an adjective, and so on. It was recommended that syntactic categories should be defined on syntactic criteria: for instance, nouns are inflected for number, gender, and case and take articles as modifiers; verbs are inflected for tense and aspect, etc. Connections with semantics were held to be non-systematic. More recently, the question of the semantic basis of grammatical categories has been raised once again.

One approach has been to utilize the insights of prototype theory: perhaps grammatical categories are like natural categories such as BIRD and FRUIT, not definable by a set of necessary and sufficient criteria, but with fuzzy boundaries and graded typicality. We might then say, for instance, that a prototypical noun refers to a person or thing, a prototypical verb refers to an action, and so on, but that more marginal examples of these categories may not conform to these descriptions. There would seem to be some justification in this view. For instance, there are many respects in which *seem* does not behave syntactically like a typical verb: it does not occur in the passive (**happy was seemed by John*), or the progressive aspect (**John is seeming happy*). There is a certain plausibility in correlating the verb's semantic marginality with its syntactic marginality. Likewise, a semantically atypical noun like *jogging* (as in *Jogging is good for you*) is also syntactically atypical: it can be modified by an adverb (*Jogging gently is good for you*), it is unhappy with certain determiners (*this/that jogging*), and so on.

A more illuminating and unified approach pictures the difference between nouns, adjectives, and verbs in terms of temporal stability: all languages have a way of making a difference between persistent entities whose properties change relatively little over time, and highly time-sensitive occurrences. That is, a distinction is made between entities and events, with nouns typically denoting entities and verbs denoting events. Adjectives, if they occur, denote states of affairs which fall between the two poles. (Not all languages have adjectives: the

functions they typically have in English being performed either by nouns or verbs.)

This approach, too, falls foul of the same sorts of counter-example as the traditional approach: in what sense is a punch a temporally stable entity? Once again, one can fall back on the prototype escape-clause, but this does not seem entirely satisfactory. Another line of defence is to say that the characterizations do not apply directly to referents, but to conceptualizations: when we say *John punched Bill*, we conceive the punch as a time-bound happening; but when we say *The punch John threw...*, we reconceptualize it as something with a certain permanence, we, as it were, freeze it in mid-flight, to allow ourselves to examine it and say things about it.

13.1.3 Meanings signalled by word order

Languages differ in the degree to which the order of elements is grammatically significant, and in the sort of semantic effects changes in the order of elements produce. In English, word order goes to the heart of grammar and signals basic aspects of meaning. For instance, the functions of subject and object and their associated meanings of "who-did-what-to-whom/what" are signalled by word order:

The boy kissed the girl.
The girl kissed the boy.

In Latin, by contrast, these meanings are signalled by the form of the nouns, and the order of the words has no effect on their role as subject or object:

Puer puellam videt. Puellam puer videt. Videt puellam puer.
"The boy saw the girl."
Puella puerum videt. Puerum puella videt. Videt puerum puella.
"The girl saw the boy."

This does not mean that word order has no significance in Latin, merely that it does not signal basic grammatical relations. Change of word order in Latin can have the same sort of effect on information structure (see Chapter 21.1.5) that can be observed in English:

I like him.
Him, I like.

Two further examples of grammatically and semantically significant word order are:

- (i) boathouse
houseboat

Here, the second element in a compound word indicates the sort of thing referred to, so a boathouse is a kind of house (roughly speaking), while a houseboat is a kind of boat.

- (ii) John is brave.
Is John brave?

What is signalled here is a major sentence-type distinction, namely, declarative vs interrogative.

13.1.4 Meanings carried by constructions

An alternative perspective, which incorporates order information along with other types of information, is to think in terms of grammatical constructions as bearers of meaning independently of the lexical items that fill them in particular cases. Take the so-called Covariational Conditional construction, which can be represented formulaically as *The X-er the Y-er*:

The higher you go the colder it gets.
The more I hear about it the less I like it.
The more they earn the more they want.

These all involve two variable quantities (in the broadest sense), an independently varying quantity (indicated by the first phrase) and a dependent quantity (indicated by the second phrase). The construction thus specifies a particular order of elements, together with a resultant meaning which cannot be predicted from the elements themselves. The three sentences above are therefore fully compositional. Another example is the Ditransitive construction, *Subj V Obj1 Obj2*:

Mary gave John a book.
John gave the dog a bone.
Bill gave the door a coat of paint.

These all have the meaning that (the referent of) the subject causes the transfer of (the referent of) the second object to (the referent of) the first object. Again, the order of the elements and the meaning are specified by the construction. The different sentence types mentioned in the previous section can also be attributed to constructions:

The declarative construction: *Subj Aux Pred*

John is brave.
John will be there.
John has locked the door.

The interrogative construction: *Aux Subj Pred*

Is John brave?
Will John be there?
Has John locked the door?

Every language has a large inventory of constructions, and a specification of these is as important as listing its lexical and grammatical units.

13.2 Number and countability

Certain types of meaning are typically carried by grammatical elements associated with nouns or noun phrases. The most important of these are: definiteness, number, animacy, gender, and case. Definiteness is dealt with in Chapter 19, and will not be discussed here; case is concerned with functional roles and these are dealt with in Chapter 14.4. Here, we shall look at number, animacy, and gender.

Number is an inflectional category of nouns or noun phrases, which is not found in all languages. Semantically, number systems are all concerned, one way or another, with how many there are of some item. Number systems are not to be confused with numeral systems, which are linguistic devices for counting (*one, two, forty-three, one hundred and ninety*, etc.); obviously there are connections between the two, but numerals are syntactically and semantically distinct from number markers.

The number system in English has only two terms: **singular** and **plural**. We shall examine the semantics of these in a moment. A minority of languages have a three-term number system including a **dual**, used for just two things. A very small minority have four-term systems, in which the fourth term is either a **trial**, (for three things), or a **paucal** (for a few things). No language has a trial or a paucal, without also having singular, dual and plural; no language that has a dual does not also have singular and plural. (Of course, the meaning of *plural* is not precisely the same in a two-term system as in a three- or four-term system: *plural* in English means "more than one"; in a four-term system it means either "more than three" or "many" (i.e. "more than a few").

13.2.1 Count nouns and mass nouns

English nouns are traditionally divided into two classes, **count nouns** and **mass nouns**. They can be recognized by the following criteria:

- (i) Count nouns:
 - (a) cannot occur in the singular without a determiner:
*This cup is clean; *Cup is clean*
 - (b) occur normally in the plural
 - (c) are quantifiable by *a few, many*, and numerals, but not by *much* or *little*:
a few cups, many cups, thirty cups
**much cup, *little cup*
- (ii) Mass nouns:
 - (a) can occur in the singular without a determiner:
Butter is good for you.

- (b) are odd in the plural (or require reinterpretation):
?butters, ?milks
- (c) are quantifiable by *a little, much*, but not by *a few, many*:
*a little/much milk; *many milk, *a few milk*

Count nouns present something as being manifested in discrete, bounded units that in principle can be counted; mass nouns present their referent as an unbounded mass, an undifferentiated 'stuff'. Notice that this is a matter of conceptualization, not of objective reality: the blood referred to in *There was blood on the floor* may well have occurred in discrete drops and patches, but it is thought of as an undifferentiated substance.

What determines whether the name of something is a mass noun or a count noun? Obviously, if there is nothing to count, as with liquids and gases and many abstract notions, then the name will be a mass noun. But in the case of many mass nouns, there are observable particles of some sort: rice comes in discrete grains, and sugar in grains or crystals; even flour can be seen to consist of fine particles. In such cases, the crucial factor seems to be the size of the particles. The crossover point seems to be somewhere between the size of an average pea and that of a typical grain of rice (at least for English). So, we have *beans, peas, noodles*, and *lentils* as count nouns, but *barley, rice, sugar*, and *flour* as mass nouns. The boundary is not rigid and there may be a degree of arbitrariness: *sweetcorn* and *spaghetti* seem on the large side for mass nouns (in Italian, *spaghetti* is plural and it is pluralized in French: *les spaghettis*). And it is worth recalling that *peas* is a reanalysed form of the older *pease*, which was a mass noun. In some cases, the same referent can be designated either by a count noun or a mass noun, with a corresponding difference of construal. For instance, the *leaves* of a tree (using a count noun) can also be referred to as the *foliage* of a tree (mass noun). Likewise, a crowd of people in movement ('people' is a count noun, although it has no singular) might be described as 'a seething mass of humanity' ('humanity' is a mass noun).

In some cases, the distinction between count and mass use seems to disappear. Usually such cases are obviously 'mass' in nature: *mashed potatoes/potato, scrambled eggs/egg*. (Notice, however, that in *Have some potato* and *Have some potatoes* the distinction is fully operative.) The dual use can perhaps be explained in terms of whether the conceptualization focuses on the original state of the ingredients (i.e. discrete units), or on the state of the final product, however, cases where the final product is also in the form of discrete units are harder to explain: *poached egg/poached eggs*.

13.2.2 Secondary uses of count and mass nouns

In the above discussion it has been assumed that a given noun is 'basically' either mass or count. This has been disputed, on the grounds that the vast majority of nouns in English can be found with both count and mass uses. While this is true, it is also true that for the majority of nouns, one use is intuitively more basic than the

one	Animal	horse
"one horse"		
se-	buah	buku
one	Inanimate	book
"one book"		

Some languages have a large number of classifiers. Japanese, for instance, has separate classifiers for aeroplanes, small boats, large boats, train coaches, buildings, schools, houses, among many others.

13.3 Animacy and gender

Gender is a classification system for nouns, which affects such grammatical matters as agreement and pronominal reference. Many different types of gender system can be found in the world's languages, some of them quite exotic (like the case made famous by Lakoff, in which one gender class includes words referring to 'women, fire and dangerous things'); but the most widespread are those which correlate to a greater or lesser degree with the sex of the referent, and the present account will be limited to these.

It is usual to make a distinction between **natural gender** and **grammatical gender**. English is usually said to exhibit natural gender (insofar as it has gender at all—it affects only pronominal reference), since the appropriate pronoun (*he*, *she*, or *it*) can be predicted with a high degree of success purely on the basis of the sex (male, female, or neuter) of the referent. In languages possessing grammatical gender, at least a significant proportion of cases of gender assignment are apparently semantically arbitrary, although in some cases the arbitrariness is less than it seems at first sight. Often cited as exemplifying the semantic arbitrariness of gender are the German words *Löffel* ("spoon": masculine), *Gabel* ("fork": feminine), and *Messer* ("knife": neuter). However, in German, as in French, there is a strong tendency for words referring to male beings (especially humans) to be grammatically masculine, and for words referring to females to be grammatically feminine (there are exceptions in both languages). (Since there are no languages with completely arbitrary gender assignment, we should probably think in terms of a scale of naturalness/arbitrariness, rather than an arbitrary/natural dichotomy.)

Gender is of course intimately bound up with animacy, since prototypically, only living things can be male or female. Many languages have grammatical processes which are sensitive to animacy, or relative animacy. On the basis of an examination of a wide range of languages the following scale has been put forward (after Frawley (1992): animacy decreases from left to right):

1st Person > 2nd Person > 3rd Person > Human > Animal > Inanimate

An examination of the English pronoun system shows that *it*, too, correlates to some extent with the animacy scale:

<i>he/she only</i>	<i>he/she/it</i>	<i>it only</i>
non-infant humans	infant humans	things
	animals	
gods, angels	(cars, ships)	

What seems to underlie the scale of animacy is perceived potency, or capacity to affect other things (including the human mind, hence also saliency and relevance) and bring about changes. What a culture regards as potent may not coincide with our notions: it is reported, for instance, that Yagua uses the same classifier for humans, animals, the moon and stars, rocks, brooms, and fans, while the sun, spoons, and other inanimates have a different classifier. This system makes more semantic sense when it is realized that the Yagua are moon-worshippers, while rocks, brooms, and fans are valued for the effects they produce (in the case of rocks, for crushing food).

Discussion questions and exercises

Number

In what way(s) is the number-related behaviour of the following English nouns unusual?

cattle oats scissors iron filings

Suggestions for further reading

The most complete currently available account of grammatical semantics is Frawley (1992), which covers most of the topics dealt with in this section in a fairly accessible way.

For number see Allan (1986: vol. 1, 120 ff.), Cruse (1994a), and Corbett (2000). For gender, see Corbett (1991).

CHAPTER 14

Argument structure

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Argument structure

14.1 Introduction

This chapter and the following three chapters present a further selection of topics generally considered to belong to grammatical semantics. The topics are organized, admittedly to some extent arbitrarily, but an attempt has been made to organize them into natural groupings. We begin with the clause-level topics of argument structure and transitivity.

14.2 Functional roles and transitivity

Consider the sentence *John opened the door*. There are two main participants in the event, John and the door. These, however, have different relationships to the act of opening: John is the doer, the agent, and supplies the force needed to open the door; the door is passive, is affected by the action, and undergoes the designated change of state. Consider, now, the sentence *John saw the door*. Again there are two participants, but at least one of these has a third possible relation to the verb. John is no longer a supplier of force resulting in the change of state of the door; in fact, he is now the entity that is affected, in that he has a perceptual experience. However, it would be misleading to say that John's experience was caused by the door in the same sense that the door's opening was caused by John. Hence we have identified three (possibly four) different possible relationships that the NP in a minimal transitive clause can contract with the verb. As a final example, consider *This key will open the door*. Here the door seems to be in the same relationship with the verb (plays the same functional role) as it does in *John opened the door*. The role of *key*, however, is a new one: the key although it affects the door, does not supply the necessary force; rather, it transmits it from another entity (unmentioned). The relationships that have been illustrated are variously called **functional roles**, **case roles**, **deep cases**, **participant roles**, and **thematic roles**.

When a wide range of languages is examined, it appears that the same roles crop up again and again, and it seems that in some sense there is a limited number of possibilities. There are many accounts of functional roles, which differ not only in what roles are recognized, but also in the number recognized. None of the suggestions so far has received general acceptance. A full discussion of this topic is not possible here; what follows is merely illustrative.

In this section we shall examine the relations between syntactic roles such as subject and object, and participant roles like those mentioned above. We shall begin by concentrating on the syntax.

14.3 Syntactic arguments and adjuncts

It is first necessary to distinguish between **syntactic arguments** and **adjuncts**. Consider the following sentences:

- (1) John repaired his bicycle in the garage.
- (2) John put his bicycle in the garage.

In (2), the phrase *in the garage* has a much more intimate relation to the verb than the same phrase in (1): it is part of the 'inner' structure of the clause. In (1), on the other hand, it is external to the clause nucleus. In traditional terms, *in the garage* in (2) is a complement (that is, it fulfils a participant role) of the verb, whereas in (1) it is a clausal adjunct (that is, it fulfils a circumstantial role). How do we tell the difference? Well, for a start, all adjuncts are optional syntactically—that is to say, omitting them does not render the clause ungrammatical, whereas all obligatory elements are complements. On this basis, *in the garage* in (2) is a complement. The major problem with this characterization concerns optional complements. We shall not delve into this matter too deeply. The following can be taken as indications of complement status:

- (i) occurrence as subject, direct or indirect object of verb (see below for discussion of these).
- (ii) omission leads to 'latency' (i.e. 'missing' element must be recovered from context, as with the direct object of *watch* in *Somebody's watching*).

We shall henceforth concentrate on complements.

14.4 Transitivity

Transitivity is concerned with the number of syntactic arguments associated with a verb within the sentence nucleus, and their syntactic functions. It is necessary at this point to make a distinction between syntactic and semantic (i.e. logical)

arguments because although there is a strong relationship between the two, they can diverge quite considerably.

The problems of determining the number of arguments needed to satisfy a predicate (i.e. to yield a complete proposition) were discussed in Chapter 2. However, the number of arguments required to satisfy a predicate (i.e. a verb, in the present context), is not necessarily the same as the number of syntactic arguments in the nucleus of a sentence. For example, verbs of commercial transaction (*buy, sell, etc.*) have four semantic arguments: seller, buyer, merchandise, and price. But the syntax of English only provides three argument slots for the nucleus; the fourth argument, if expressed, is expressed in an adjunct:

(3) John sold Mary a car for £3000.

The verb *fetch* only allows two syntactic arguments:

(4) The car fetched £3000.

Even though English has three syntactic slots, for these verbs it is not always obligatory to fill them all:

(5) Mary bought a car for £3000.

Bearing this in mind, let us look at the range of syntactic argument patterns and their semantic correlates for English.

14.4.1 Intransitives

An intransitive sentence is one whose main verb has only one (syntactic) argument, namely, a subject. Among the diagnostic characteristics of subjects are:

(i) They may have a characteristic form:

(6) I saw **him**.

(7) **He** saw me.

(ii) They contract number and person concord with the verb:

(8) I **am** here.

(9) He **is** here.

(10) We **are** here.

(iii) A second occurrence in a coordinated clause can be deleted:

(11) Mary poured the tea. Mary cut the cake.

(12) Mary poured the tea and cut the cake.

(iv) The subject is prototypically the topic of the sentence.

For semantic purposes, it is necessary to distinguish several subtypes of intransitive.

14.4.1.1 Mono-argumental verbs

Mono-argumental verbs are verbs with a single semantic argument. There are three sorts: (i) unergative verbs, (ii) unaccusative verbs, and (iii) verbs which display the causative/inchoative alternation:

(i) *Unergative verbs*:

(13) cough, smile, giggle, yawn

These are intransitive verbs whose subjects are perceived as being actively responsible for the event denoted by the verb. Their normal occurrences are in intransitive sentences:

(14) Mary smiled.

(15) John giggled.

In languages which display a variation in the choice of auxiliary used to form a past or perfect tense, unergative verbs tend to choose (the equivalent of) HAVE rather than BE:

(16) Jean a baillé (*est baillé).
(John yawned.)

(17) Mary a toussé (*est toussée).
(Mary coughed.)

Occasionally they appear in what appear to be transitive sentences:

(18) Mary smiled a little smile.

(19) John yawned a protracted yawn.

However, these are not normally considered to be true transitives. The apparent objects (*a little smile*, *a protracted yawn*—often called **cognate objects**, because they are usually nominal forms of the verb) typically have a kind of adverbial function.

(ii) *Unaccusative verbs*:

(20) fall, die, emerge, arrive

These are intransitive verbs, typically denoting changes of state or location, whose subjects are not perceived as being actively responsible for the event denoted by the verb. In languages which display a variation in the choice of auxiliary used to form a past or perfect tense, unaccusative verbs tend to choose (the equivalent of) BE rather than HAVE, as in the following examples from Italian:

(21) Maria é caduta (*a caduto).
(Maria fell.)

(22) Mario é arrivato (*a arrivato).
(Mario arrived.)

(iii) *Causative/inchoative verbs:*

(23) The door opened/Mary opened the door.

(24) The ice melted/John melted the ice.

These verbs have been classified, here, somewhat arbitrarily, as basically mono-argumental. They typically denote changes of state or location. The intransitive form takes BE as auxiliary and the transitive form HAVE:

(25) Jean est sorti.

(John went out.)

(26) Jean a sorti les livres.

(John took his books out.)

14.4.1.2 Pseudo-intransitives

This is a convenient label for intransitive sentences whose main verb has more than one semantic argument. The 'missing' argument is the one that would normally appear in the object position. It is possible to distinguish three main types, illustrated in (27), (28), and (29):

(27) Thanks, we've already eaten.

(28) Be careful, John's watching.

(29) I was shaving when the bomb went off.

The main distinction is between those whose unexpressed argument is indefinite (e.g. (27)) and those whose unexpressed argument is definite ((28) and (29)). The type illustrated in (29) is distinguished from that in (28) by the fact that the unexpressed argument is identical with the subject. The difference between definite and indefinite unexpressed arguments needs some explanation.

Consider the difference between the following two sentences:

(30) Mary's watching.

(31) Mary's reading.

There are several features which these two sentences have in common. Neither verb makes sense without there being something which plays the role of direct object, or patient of the action: one can't read or watch, without reading or watching *something*. Furthermore, in neither case is the patient of the action explicitly mentioned. However, there is a crucial difference between them, and that is that the hearer is required to recover (from the context) a specific direct object for *watch*, but not for *read*. We shall borrow Matthews's term (Matthews 1981) and say that there is a **latent** direct object in (30). The evidence for this is as follows:

- (i) 'Reading' counts as an autonomous activity; 'watching' does not. Imagine someone (A) standing outside the closed door of a room, speaking to (B) who is inside the room:

- (32) A: What are you doing?
 B: I'm reading
 B: ?I'm watching.

The reason B's second answer is odd is that A is not in a position to recover the 'missing' direct object.

- (ii) *Watch* gives rise to an identity constraint in verb-phrase anaphora, whereas *read* does not:
- (33) John is reading; so is Bill.
 (34) Mary is watching; so is Sue.

For (34) to be normal, Mary and Sue have to be watching the same thing (which could, of course, be the same television programme on two widely separated television sets); there is no need for John and Bill in (33) to be reading the same thing.

14.4.2 Transitives

Transitive sentences are those which have two syntactic arguments, a subject and an object. Prototypically, objects can act as subjects of passive sentences (36), can be questioned by *What DO NP V?* (37), and nouns and pronouns in object position often have a characteristic form (38) and (39):

- (35) Mary stroked the cat.
 (36) The cat was stroked by Mary.
 (37) What did Mary stroke?
 (38) She kissed him.
 (39) He kissed her.

Transitive sentences may have verbs which take three or more semantic arguments:

- (40) John gave the pictures.
 (41) The pictures were given by John.
 (42) What did John give?

This (rough and ready) characterization excludes 'equative' sentences:

- (43) Mary looks tired.
 (44) *Tired is looked by Mary.
 (45) *What does Mary look?

(Some two-argument sentences pass only one of the tests:

- (46) The brooch fetched/cost £3000.
 (47) *£3000 was fetched/costed by the brooch.
 (48) *What did the brooch fetch/cost?

For present purposes we shall regard them as transitive.)

14.4.3 Ditransitives

Ditransitive sentences are those which have three syntactic arguments, a subject, a **primary object**, and a **secondary object**. Only primary objects are normal as subjects of passive sentences:

- (49) John gave Mary a brooch.
 (50) Mary was given a brooch.
 (51) ?A brooch was given Mary.

But only the secondary object is fully happy with the *What...?* test:

- (52) What did John give Mary?
 (53) ?Who(m) did John give the brooch?

Sentences in which one of the semantic arguments is expressed by an adjunct are not considered to be ditransitive:

- (54) John gave a brooch to Mary.
 (55) *Mary was given a brooch to.

In (54), *Mary* is called an **indirect object**. Notice that in (56), *a brooch* is a normal transitive direct object, and can form the subject of a passive:

- (56) A brooch was given to Mary (by John)

The above account of syntactic roles is focused specifically on English. A few general remarks are in order at this point on the typological status of English in the context of other languages.

- (i) *Obligatory subjects*: In English, as in German and French, a subject is obligatory, even in cases where there is nothing for it to refer to, as in *It's raining*, *Il pleut*, *Es regnet*. In many languages, however, an overt subject is not obligatory. Italian and Spanish are examples: *Dorme /Duerme* ("He/she/it is sleeping"); *Piove/Llueve* ("It's raining"). These are commonly called 'Pro-drop' languages.
- (ii) *Formal marking of syntactic role*: In English, only pronouns are marked for the roles relevant to transitivity, and the maximum number of distinctions is two: subject and non-subject:
- (57) I/we/you/he/she/it/they yawned.
 (58) John saw me/us/you/him/it/her/them.
 (59) Mary gave me/us/you/him/her/them some money.

In many languages, all or most noun phrases carry a mark of their transitivity role. There are two major patterns of marking. In the so-called nominative-accusative group, to which English belongs, the single syntactic argument in an intransitive sentence, and the agent argument in a transitive sentence receive identical marking, and the form in question is called the **nominative** form. The patient argument in a transitive sentence has a different form, which is called **accusative**. Hence, the

pronouns in (57) have the nominative form, and those in (58) have the accusative form. (More accurately, the pronouns in (57) and (58) have the **oblique** form, because English does not formally distinguish primary objects, secondary objects, objects of prepositions, and complements of equative verbs.)

In the so-called ergative languages, the pattern is different. The single syntactic argument in an intransitive sentence, and the patient argument in a transitive sentence receive identical marking (called **absolutive**), while the agent argument receives a different mark (called **ergative**). This means that the notions of subject and object are not applicable. There is no space here to go further into the many ramifications of this distinction.

With the above brief sketch of the possible transitivity patterns, we can proceed to a consideration of the semantic correlates of the syntactic functions of subject and object.

14.5 Functional roles

There is no agreement as to the best way of describing functional roles, although a significant number of linguists appear to feel that there is a finite number. It would be impossible in the limited space available to give a thorough discussion of the various suggestions: what we shall do here is to go back to the earliest set of proposals, namely those of Fillmore (1968: 24–5), and point out some of the difficulties and later developments. Fillmore's proposals had an elegant simplicity, but history shows elegant simplicity to be a fragile thing in linguistics. Fillmore's original list went as follows (with a slight modification under **OBJECTIVE**):

- (i) **AGENTIVE**: The typically animate perceived instigator of the action identified by the verb.
[**Mary** kicked the cat.]
- (ii) **INSTRUMENTAL**: The inanimate force or object causally involved in the state or action identified by the verb.
[John used **the hammer** to break the window.]
[**The hammer** broke the window.]
- (iii) **DATIVE/EXPERIENCER**: The animate being affected by the state or action identified by the verb.
[**Mary** heard the nightingale.]
[The nightingale enchanted **Mary**.]
- (iv) **FACTITIVE**: The object or being resulting from the action or state identified by the verb, or understood as part of the meaning of the verb.
[John cooked **a delicious meal**.]
- (v) **LOCATIVE**: The location or spatial orientation of the state or action identified by the verb:
[Mary vaulted **the wall**.]
[John put his finger **on the button**.]

- (vi) **OBJECTIVE:** The inanimate entity affected by the action or state identified by the verb:
 [Mary opened **the door**.]
 [**The door** opened.]

The following remarks indicate the flavour of some later developments:

- (i) **Agentive:** Most modern treatments subdivide the AGENTIVE role. There are various problems. A prototypical agent is animate, supplies the energy for the action, and acts deliberately. First of all, an agent-like cause may not be animate: *The wind rattled the windows*. By Fillmore's definition, *wind* should be INSTRUMENTAL, but this does not seem satisfactory; some linguists suggested a new case, FORCE, which was distinct from AGENTIVE. (Does this apply to *computer* in *The computer is working out the solution*?) Secondly, there are agent-like entities which do not really supply the energy for the action, although they do supply the will, as in *The sergeant-major marched the recruits round the parade ground*. This has been called the INSTIGATOR, although it is then not clear what role to assign *the recruits* to. Finally, there are cases where the agent-like entity supplies the energy, but not the will, as in *John accidentally knocked the vase onto the floor*, or *The flying golf ball broke the window*. A suggestion for this is EFFECTOR.
- (ii) **Instrumental:** Instruments are supposed to be inanimate; what, then, are we to make of *sniffer dogs* in *The police used sniffer dogs to locate the drugs*? (This syntactic frame is often put forward as diagnostic for INSTRUMENTAL.)
- (iii) **Dative/experiencer:** The definition for this role leaves open the possibility that *John* in *Mary threw John out of the window* is EXPERIENCER, but it does not seem significantly different from *Mary threw John's trousers out of the window* (and they coordinate without zeugma, sometimes given as a test for same role: *Mary threw John and his trousers out of the window*). One way round this is to stipulate that EXPERIENCER can only occur in connection with a process or action where animacy is crucially involved. This is clearly not the case in the above example, but is in *Mary terrified John*, and *John heard the noise*. A distinction is often made between EXPERIENCER, BENEFACTIVE (exemplified by *Mary* in *John made Mary a cake*, and RECIPIENT (exemplified by *Mary* in *John gave Mary a brooch*).
- (iv) **Factitive:** This is not now usually separated from PATIENT (see below).
- (v) **Locative:** Various subdivisions can be made of this role. One is a simple, static location, as in: *The Ighzui inhabit a remote island in the Pacific*. Three dynamic subdivisions are possible (i.e. cases where motion is at least implied). First, we have SOURCE, as in *The lamp emits heat*; second, PATH, as in *Mary crossed the street*; and finally GOAL, as in *We finally reached the igloo*.
- (vi) **Objective:** A frequent division under this heading focuses on whether the affected entity is changed by the process or action, or not. An unchanged

inanimate affected is a THEME, as in *John put on his hat*; a changed item is a PATIENT, as in *Mary minced the meat*.

Two points should be made about participant roles. The first is that there are obviously many borderline and intermediate cases—one can go on subdividing until the cows come home. Clearly some criteria are needed. Since we are dealing with grammatical semantics, one criterion is that a proposed subdivision should have grammatical consequences. Again, there are two possibilities: a case role distinction can be recognized if *any* language makes the distinction grammatically; or a distinction can only be justified within a particular language if *that* language makes the distinction grammatically. It should probably be borne in mind also, that necessary and sufficient definitions of participant roles are likely to be hard to come by, and that the best approach may be to characterize the prototypical cases.

14.6 Subjects and objects

14.6.1 Subjects

Functional roles provide an approach to the characterization of syntactic functions such as subject, and direct and indirect object. Traditionally, the subject is the 'doer' and the object the 'done to' (in the active voice), but it is easy to think of exceptions to this. A more promising approach is to establish a scale of 'activity', and define the subject as the most active participant. Fillmore's **activity hierarchy** went as follows:

AGENTIVE > INSTRUMENTAL > EXPERIENCER > LOCATIVE > OBJECTIVE

In English, a subject is obligatory, so if there is only one NP in a sentence, it automatically becomes the subject. The hierarchy goes some way to explaining cases like the following, where the subject has different roles, but is always the most active in the sentence:

John cut the wood with a saw.
 This saw won't cut the wood.
 The ball broke the window.
 The door opened.
 Mary saw the incident.
 The noise frightened the cat.

(For the last example, *the noise* will have to be classified as a subtype of agentive, for instance, an EFFECTOR.)

14.6.2 Direct objects (of transitives)

The semantic significance of the direct object can be characterized in a parallel way to the subject: if there are two syntactic arguments, then the *least* active one becomes the object, whatever its precise role:

Mary opened the door.
 This key will open the door.
 John walks the dog every morning.
 Mary crossed the road.
 The dog frightened Mary.

14.6.3 Primary and secondary objects (of ditransitives)

Ditransitive sentences contain three syntactic arguments, which are associated with three participant roles: the subject is AGENTIVE, the direct object is THEME, and the indirect object is either RECIPIENT or BENEFACTIVE:

John sent Mary a postcard.
 John baked Mary a cake.

It is usually considered that the indirect object is prototypically animate, and that cases of inanimate recipients are to be explained as metaphorical extensions:

Mary gave the gate a coat of paint.
 The paint job gave the car a higher sales value. (Goldberg 2006: 27)

Some ditransitives can be paraphrased with the primary object replaced with a *to* adjunct, and some with a *for* adjunct:

John sent a postcard to Mary.
 John baked a cake for Mary.

This seems to depend on whether the verb is a verb of transfer or not (note that *John sent a postcard for Mary* is possible, but is not a paraphrase of *John sent Mary a postcard*).

14.6.4 Voice

In this section we shall look only at the three traditional voices:

- (i) **Active** *John opened the door*
- (ii) **Passive** *The door was opened by John*
 The door was opened
- (iii) **Middle** *The door opened*

To understand the passive, we must first consider the nature of a prototypical transitive clause. In this, one participant, the most 'active', exerts some kind of force on a second, less active participant, resulting in some change, denoted by the verb. In the active voice, the more active participant plays the syntactic role of subject, and the less active participant plays the syntactic role of direct object. There is another difference between the two participants, besides their relative level of activity: the more active, the subject, is thrown into higher relief than the other—and in the basic form of the clause is the 'topic', the entity that the clause 'is about'. The effect of passivization is to promote the less active participant (the logical object), as it were, to the front of the stage by making it the syntactic subject, and to background the logical subject (to such an extent that it becomes an optional adjunct). The effect of the middle voice is to abolish the logical subject altogether, and construe the event as being causeless. (Even in the short passive, although the logical subject is not overtly mentioned, the event is construed as being the result of an action by an 'off-stage' agent.)

Clauses whose semantic nature departs radically from the prototype may resist passivization:

- (60) The box contains Mary's jewellery.
- (61) *Mary's jewellery is contained by the box.
- (62) John resembles his brother.
- (63) *John's brother is resembled by him.

(Notice that although *John resembles Bill* is too far, semantically, from the prototype for passivization to occur, it has not lost all contact with the prototype: there are still two participants, one relatively highlighted, the other relatively less prominent and functioning as a reference point.)

Discussion questions and exercises

Case roles

What case roles are represented by the **bold** items in the following?

- (a) **John** watched **the squirrel**.
- (b) Mary put the cup **on the table**.
- (c) **You** can taste the wine. (two possible answers)
- (d) We followed **the river** for three miles.

- (e) John drilled **a hole** in the wall, then filled **it** with plaster.
- (f) They left **London** yesterday.
- (g) **The storm** had ripped the roof off.
- (h) Mary bought **John** a tie.

Suggestions for further reading

The seminal work on case roles can be found in Fillmore (1968 and 1977). See also Kearns (2000: ch. 10).

CHAPTER 15

Verbs and adjectives

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Verbs and adjectives

15.1 Grammatical meaning associated with verbs

We shall illustrate three distinct areas of grammatical meaning which typically are associated with verbs. These are tense, aspect, and modality. Although all three show a strong affinity for the verb as far as their expression is concerned, the domain over which tense and modality operate is the proposition, rather than the verb or verb phrase.

15.2 Tense

Semantically, the grammatical feature of tense serves primarily to locate the event referred to in the sentence with reference to the time at which the utterance was produced (although it may have other secondary functions). Only languages which encode timing distinctions by means of grammatical elements (usually inflectional morphemes or grammatical markers such as auxiliary verbs) can be properly said to manifest the grammatical feature of tense. Many languages encode the timing of a designated event lexically, rather than grammatically, by means of words or expressions with meanings such as "yesterday", "last year", "next week", etc.

A distinction is usually made between **primary** (or **absolute**) tenses, which encode event time directly relative to the time of speaking, and **secondary** (or **relative**) tenses, which encode event time relative to a secondary reference time, which in turn is located relative to speaking time, thus making the relation between event time and speaking time an indirect one. The tense systems of most languages are said to be **vectorial**, that is, the grammatical terms indicate merely the direction along the timeline from speaking time to event time, rather than how distant in time the event is. There are three basic primary tenses: past

(event occurs before time of speaking), present (event occurs concurrently with speaking time, or includes it), and future (event is projected to occur after the time of speaking):

- (1) John saw Bill.
- (2) John sees Bill.
- (3) John will see Bill.

In the case of secondary tenses, there are nine possibilities (in each of the following, the reference time is John's arrival, and the time of Bill's action is situated relative to that):

- (4) At the time John arrived, Bill had switched on the lights.
(event prior to reference time; reference time in past)
- (5) At the time John arrived, Bill switched on the lights.
(event coincident with reference time; reference time in past)
- (6) At the time John arrived, Bill was about to/was going to switch on the lights.
(event subsequent to reference time; reference time in past)
- (7) At the time John arrives, Bill has switched off the lights.
(event prior to reference time; reference time in present—can only receive a habitual interpretation)
- (8) At the time John arrives, Bill switches off the lights.
(event coincident with reference time, reference time in present—can only receive a habitual interpretation)
- (9) At the time John arrives, Bill is about to switch off the lights.
(event subsequent to reference time, reference time in present)
- (10) At the time John arrives, Bill will have switched off the lights.
(event prior to reference time; reference time in future)
- (11) At the time John arrives, Bill will switch on the lights.
(event coincident with reference time, reference time in future)
- (12) At the time John arrives, Bill will be about to switch off the lights.
(event subsequent to reference time, reference time in future)

Presumably all languages can express all nine secondary tense relationships one way or another; however, apparently no language with an inflectional tense system has distinct inflections for all nine.

Some languages have what is called a **metrical** system, which grammatically encodes degrees of remoteness as well as direction along the time line. The most frequent metrical system is the **hodiernal** system, which distinguishes "today" and "not today". Frawley gives the example of Grebo:

- (13) Ne du- e bla
 I pound today rice
 "I pound rice today"

(the pounding may occur before or after the speech event, provided it falls within the bounds of "today")

(14) Ne du- ə bla
 I pound yesterday rice
 "I pounded rice yesterday"

(15) Ne du- a bla
 I pound tomorrow rice
 "I will pound rice tomorrow"

Up to six or seven intervals may be distinguished, with, as in most tense systems, the past being more highly differentiated than the future. According to Bernard Comrie, an authority on typological linguistics, (1985: 99), Yagua makes the following distinctions in its grammatical tense system:

- (i) past (today)
- (ii) yesterday
- (iii) within a few weeks ago
- (iv) within a few months ago
- (v) distant past

15.3 Aspect

It is important to distinguish aspect clearly from tense. Tense serves to locate an event in time; aspect says nothing about when an event occurred (except by implication), but either encodes a particular way of conceptualizing an event, or conveys information about the way the event unrolls through time. It is also important to make a distinction between aspect as a semantic phenomenon, and aspect markers in a particular language, which may have a variety of semantic functions. To make things even more complicated, a lexical verb may encode aspectual information as part of lexical meaning; this may affect the way the meaning of the verb interacts with the meanings of aspectual markers with which it is associated.

15.3.1 Basic aspectual features

From the semantic point of view, **aspect** is normally regarded as a property or characteristic of events and states. (There is no convenient cover term for these in English. They are sometimes referred to as 'eventualities', or 'situations'. We shall use 'events' to cover both, as is customary.) Events are held to fall into one of a limited number of **aspectual classes**, which are defined on the basis of the following more fundamental aspectual features.

Change. A state of affairs can be construed as changing or as remaining constant. An event is described as **homogeneous** if it is construed as unchanging, and **heterogeneous** if it is construed as changing. Generally speaking, if something 'happens', or 'is happening', then change is involved.

Boundedness. Some events are construed as having one or more inherent boundaries. A boundary may be at the beginning or the end of an event, but it is the final boundary that is generally regarded as the most significant. An event with a final boundary is described as **telic**, and one with no final boundary is described as **atelic**. It is natural to think of a telic event as 'finishing' or 'being completed', as opposed to merely 'stopping'.

Duration. An event may be construed as taking time to unfold, or as occurring in an instant. An event thought of as instantaneous is described as **punctual**; an event that is spread over time is **durative**.

15.3.2 The major aspectual classes of events

The main aspectual classes of events can be characterized using the above features.

15.3.2.1 States

States are homogeneous, in that no change is involved; they are unbounded, in that they have no inherent beginning or end; and they are durative, in that persistence through time is of the essence. They may be expressed in English by adjectival expressions (16), prepositional phrases (17), or stative verbs (18):

- (16) Dolphins are highly intelligent.
- (17) Edirne is in Turkey.
- (18) Frank loves his garden.

15.3.2.2 Activities and processes

Activities and **processes** (which differ in respect of the non-aspectual feature of agentivity) resemble states in being unbounded and durative, but differ in that they are heterogeneous. Something is 'going on', but this is not construed as a movement towards an inherent point of completion:

- (19) It is raining.
- (20) Mary is practising her scales.
- (21) I wish they would stop arguing.

Notice, however, that context can induce a construal of boundedness:

- (22) Mary has finished practising her scales.

This suggests that Mary is in the habit of practising scales for a fixed time.

15.3.2.3 Accomplishments

Accomplishments share the feature of durativity and heterogeneity with activities and processes, but are distinguished by being telic, i.e. by being inherently completable:

- (23) I'm going to mow the lawn.
- (24) Bill is preparing lunch.

(25) Let's wash the dishes.

The difference between activities and accomplishments can show up in striking fashion when they are combined with the verb *stop*:

(26) Mary stopped mowing the lawn.

(27) John and Bill stopped arguing.

In (26), the existence of a natural point of completion of an event of lawn-mowing induces a strong sense of unfinished business, which is completely absent from (27). From a strictly logical point of view, there is no reason why Mary in (26) should not have stopped because she had finished the job: the inference of incompleteness is a generalized conversational implicature (see Chapter 20.1.4.3).

15.3.2.4 Achievements

Achievements are events in which there is a transition from one state to another which is construed as being instantaneous. Achievements are thus heterogeneous, naturally bounded (by the point of transition), and punctual:

(28) Mary arrived yesterday.

(29) John forgot everything he had learned.

(30) They graduate next week.

Some state transitions are felt to be the beginning of a new state. This is known as the **inchoative** aspect:

(31) She was born during a thunderstorm.

(32) The new arrangements were set up last week.

(33) As soon as I saw him I knew he was guilty.

Other transitions are construed as the end of an old state:

(34) My driving licence expired a month ago.

(35) The business went bankrupt.

(36) We soon exhausted our stocks of food.

15.3.2.5 Semelfactives

The class of **semelfactives** cannot be neatly distinguished from the other aspectual classes in terms of the features given earlier. They have the same features of heterogeneity, boundedness, and punctuality as achievements. They differ from achievements in that they do not involve a transition between two states:

(37) The ball hit the wall.

(38) John gulped.

(39) Mary tapped John on the shoulder.

A possible way of accounting for semelfactives using the features employed for the other four types is to say that whereas accomplishments are initially and finally bounded, in the case of semelfactives the initial and final bounds are fused.

Here a series of punctual events is being construed as a unified durative process. The same interpretation is possible for (78):

(78) John is switching on the lights.

However, this interpretation is not available if the direct object is singular:

(79) John is switching the light on.

In this case, the punctual event is extended to include preparatory actions like going towards the switch, and in that way receives a durative reading.

15.4 Modality

Modal expressions are those which signal a particular attitude or opinion on the part of the speaker to the proposition expressed or the situation described (typically in a statement). So, for instance, in *It's probably the case that imported versions are cheaper*, the words *It's probably the case (that)* indicate the speaker's assessment of the likelihood of the proposition "imported versions are cheaper" being true. Other modals indicate the degree of desirability (or otherwise) of a proposition becoming true: *I think you should ask John about it first*. Here the speaker expresses an assessment of the merit of bringing about the truth of the proposition "you ask John about it first".

Taking modality to be a semantic phenomenon, it is clear that it is not exclusively grammatical in nature. Indeed, in the first sentence quoted above, it is expressed by lexical means. In this section, however, we shall be mainly concerned with modality as expressed in the grammatical system. As far as English is concerned, this involves the so-called **modal verbs**, such as *may, might, should, ought, can*, and so on.

15.4.1 Types of modality

Three main conceptual domains of modality are commonly recognized: **epistemic**, **deontic**, and **dynamic**.

15.4.1.1 Epistemic Modality

Epistemic modality is concerned with the degree to which a speaker is willing to commit him/herself to the truth of a proposition being expressed. Two varieties of epistemic modality can be distinguished: **judgements** and **evidentials**. Judgements involve a straightforward assessment of a proposition being true:

- (80) John must/has to be at the station by now (he left two hours ago).
- (81) John should be at the station by now (he left two hours ago).
- (82) John may be at the station by now (he left two hours ago).
- (83) John might be at the station by now (he left two hours ago).
- (84) John may not be at the station yet (he only left half an hour ago).
- (85) John might not be at the station yet (he only left half an hour ago).

- (86) John shouldn't be at the station yet (he only left half an hour ago).
 (87) John mustn't be at the station yet (he only left half an hour ago).

These are arranged according to the degree of confidence of the speaker that John is at the station, ranging from a fair degree of confidence that he is at the station, through various degrees of uncertainty, to a fair degree of confidence that he is not at the station. (I am ignoring a number of semantic subtleties.)

Evidentials are concerned with the grounds on which a speaker makes a judgement. For instance, Turkish makes a distinction between first-hand and second-hand knowledge:

- (88) Ahmed hasta.
 Ahmed ill
 "Ahmed is ill." (first-hand knowledge)
 (89) Ahmed hasta-y-muş.
 Ahmed ill (hearsay)
 "I understand/they say/apparently Ahmed is ill."

English can of course express evidential notions, but not in the grammar.

15.4.1.2 Deontic Modality

Deontic modality covers notions of obligation and permission. (The British linguist Michael Halliday, the leading figure in 'systemic linguistics', says that whereas epistemic modality calibrates the area between *Yes* and *No*, deontic modality calibrates the area of meaning between *Do it!* and *Don't do it!* (Halliday 1985).) The following examples illustrate the range:

- (90) You must do it.
 (91) You ought to do it.
 (92) You should do it.
 (93) You may do it.
 (94) You shouldn't do it.
 (95) You ought not to do it.
 (96) You mustn't do it.

15.4.1.3 Dynamic Modality

Dynamic modality is concerned with ability and inability:

- (97) I can do it.
 (98) I could do it (possibly).
 (99) I can't do it.

15.4.2 Ambiguity in modals

It is a notable fact that grammatical modal expressions regularly display a split personality, alternating between deontic and epistemic, or dynamic and epistemic

High and low values of modality are distinguished by the fact that there is a marked difference in meaning according to whether the modal is negated or the proposition; for a median value modal, there is relatively little difference of meaning. In the case of high and low value modals, negation reverses the value, so that a high value modal assumes a low value, and vice versa:

- (I09) You must do it. (high value modal)
- (I10) You mustn't do it. (high value; proposition negated)
- (I11) You needn't do it. (low value; modal negated)
- (I12) You may do it. (low value modal)
- (I13) You may not do it. (deontic; high value; modal negated)
- (I14) It shouldn't be too difficult. (epistemic; modal negated; median value)
- (I15) It should be not-too-difficult. (epistemic; proposition negated; median value)

Halliday classifies modal verbs with respect to value as follows:

- high*: must, ought to, need, have to, is to
- median*: will, would, shall, should
- low*: may, might, can, could

15.4.4 Modality as deixis

Recently it has been suggested that modality can be regarded as a form of spatial deixis (see Chapter 19 for a treatment of deixis), with modals indicating the extent to which the speaker associates or distances him/herself from the proposition. This might have a superficial plausibility, but the arguments are far from compelling. Clearly modality would have to be seen as a metaphorical extension of space (along the lines of *That is far from the truth*). However, in the case of grammatically expressed modality, this would leave us with the rather anomalous notion of metaphorical expressions with no literal basis.

15.5 Adjective-related grammatical meaning

Not all languages have adjectives (the functions that adjectives perform in English being covered by nouns, verbs, or some combination of these), but in those languages which have them, adjectives prototypically denote atemporal properties, that is to say, properties which are relatively stable over time, or which are construed in such a way that no account needs to be taken of the passage of time. Adjectival properties are also prototypically unidimensional, denoting an easily isolable concept, such as length or temperature, in contrast to prototypical nouns, which denote rich, highly interconnected complexes of properties.

15.5.1 Modification

The principal function of adjectives is **modification**: the combination of Adj. + Noun prototypically restricts the domain designated by the noun alone to a subpart, and designates a subset of the entities denoted by the noun alone.

There are two main positions for adjectives in English:

a long book **attributive** position
the book is long **predicative** position

Most adjectives can occur in both positions (there are exceptions: *The man is afraid!***the afraid man*; *the main problem!***The problem is main*). One suggestion as to the semantic correlates of this positional difference is that an adjective in attributive position tends to be construed as designating a relatively permanent property, whereas the predicative position is neutral with respect to permanent or temporary properties. The difference shows up with adjectives that denote properties that can be either short-term or long-term. Consider the difference between (116) and (117):

- (116) Mary is calm now.
 (117) Mary is a calm person now.

Sentence (116) suggests that Mary was agitated or excited in the recent past, whereas the default construal of (117) is that Mary has changed, over a much longer time period, from having an excitable disposition to having a placid or serene disposition.

15.5.2 Degrees of comparison

The only inflectional category relevant to adjectives is comparison. Traditionally three degrees of comparison are recognized. These are **positive** (*long*), **comparative** (*longer*), and **superlative** (*longest*). The comparative and superlative of longer adjectives and adverbs are usually formed with *more* and *most*, respectively (*more intelligent*, *most intelligent*), rather than with the *-er* suffix (**intelligenter*, **intelligentest*). Superlatives can be construed as **relative superlatives**, as in *She is the cleverest of the three girls*, or as **absolute superlatives**, where, strictly speaking, no comparison is involved, just a high degree of the property, as in *You have been most kind*, or *His daughter is the sweetest little thing*. Some adjectives can arguably be described as **implicit superlatives**. Implicit superlatives in English can be recognized by a number of features:

- (i) They are resistant to verbal grading compared with normal antonyms: *very huge*, *huger*, *extremely tiny*, *very minuscule*, etc. are all to some degree (some more than others) odd (although comparatives are usually happier with *even*: *The first one was huge*, *the second one was even huger*).

- (ii) They can be prosodically graded, by varying the pitch range of an intonational fall carried by the adjective—the greater the fall, the higher the degree of the underlying property; normal antonyms sound odd with this intonation.
- (iii) They can be modified by a low-pitch unstressed *absolutely*:

absolutely huge! absolutely tiny! ?absolutely large!

- (iv) they resist affixation of *-ish*:

largish, smallish, *hugish, *minusculish

15.5.3 Gradability

Gradable adjectives denote properties that are thought of as varying in degree, such as length, weight, speed, temperature, and so on. These naturally inflect for degree: *longer, heavier, faster, hotter*. **Non-gradable adjectives** denote properties which are thought of as present or absent, rather than more or less. Thus, a person is either dead or alive, not more dead or less dead; a door is either locked or not; one is either married or not.

15.5.4 Absolute and relative adjectives

The second major division among adjectives is between **absolute** and **relative** (or **syncategorematic**) types. A simple test for this distinction is as follows:

If *A is a(n) Adj. N¹* entails *A is a(n) Adj. N²*, where N^2 is a superordinate of N^1 , then *Adj.* is absolute.

So, for instance, *It is a black dog* entails *It is a black animal*, hence *black* is an absolute adjective. If there is no entailment, then the adjective is a relative one. Hence, *It's a small tyrannosaurus* does not entail *It's a small animal*, so *small* is a relative adjective. The essence of a relative adjective is that it cannot be interpreted except in connection with the head noun. Adjectives inflected for degree are prototypically gradable (rather than non-gradable) and syncategorematic (rather than absolute). (Gradability, and absolute and relative adjectives, are treated in much greater detail in Chapter 7, in connection with antonymy and complementarity.)

15.5.5 Aspectual character in adjectives

Adjectives share some characteristics with verbs. For instance, adjectives may be one-place or two-place predicates, corresponding to intransitive and transitive verbs. Adjectives like *alive, green, and vertical* are one-place, like single-argument verbs such as *sleep*. Examples of two-place adjectives are: *afraid* (one is prototypically afraid *of* something or somebody), *contemptuous, superior, resistant*, etc. An aspect-like contrast is that between states and dispositions. Take the contrast

Discussion questions and exercises

1. Tense

Construct a set of sentences parallel to (4)–(12), but with the secondary tense in the subordinate clause, and the reference time in the main clause, as in:

When John had eaten, Bill switched off the lights.

Notice the different distribution of forms.

2. Progressive and simple forms of verbs

Consider the meaning differences between the simple and progressive forms of the following verbs:

<i>resemble</i>	<i>die</i>	<i>guess</i>	<i>look (happy)</i>
<i>exaggerate</i>	<i>command</i>	<i>feel (cold)</i>	<i>explode</i>

3. Event types

- (a) I'll just hang these things out to dry.
- (b) Smoke was coming out of the bedroom window.
- (c) I know that man.
- (d) Jane caught a cold yesterday.
- (e) Mary is practising for the concert.
- (f) There was a knock on the door.

4. Modality

The notion of modality is sometimes extended beyond modal verbs proper to expressions like *it is possible that*. Classify the following as 'high', 'median', or 'low' value modals:

it is probable that
it is possible that
it is unlikely that
it is certain that

5. Implicit superlatives

Which of the following adjectives are implicit superlatives?

<i>vast</i>	<i>hot</i>	<i>pretty</i>	<i>ugly</i>	<i>strong</i>
<i>enormous</i>	<i>excellent</i>	<i>charming</i>	<i>dirty</i>	<i>hilarious</i>
<i>fast</i>	<i>rude</i>			

6. Types of combination

Identify the type of combination exhibited in the following phrases:

<i>a forged passport</i>	<i>a dead cat</i>	<i>long eyelashes</i>
<i>a clever footballer</i>	<i>a high price</i>	<i>artificial cream</i>
<i>a former Miss World</i>	<i>a black hat</i>	<i>a brilliant pianist</i>
<i>a poor singer</i>	<i>a small planet</i>	<i>a striped dress</i>

Suggestions for further reading

Tense and aspect are dealt with in Dahl (1985) and Kearns (2000: chs. 8, 9). See also Comrie (1976) for aspect and (1985) for tense. For modality see Halliday (1985) and Palmer (1986).

On adjectives, Frawley (1992: ch. 10) covers much of the subject matter of this chapter. For types of adjective-noun combination see Dillon (1979). Feist (2009) discusses gradability and related topics and presents an interesting proposal for explaining the order of pre-modifying adjectives.

CHAPTER 16

Prepositions

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Prepositions

16.1 Introduction

Prepositions are words which combine with noun phrases to form phrases with an adverbial function, such as locative (*in the kitchen*), temporal (*on Sunday*) or manner (*with great diligence*). In English (and many other languages), prepositions precede the noun phrases they govern, but in some languages, for instance Turkish, words with a similar function follow their noun phrases (and may be called **postpositions**). In English, prepositions are often homophonous with words with a different function. For instance, *up* in *Jim climbed up the lamp post* is a preposition, and joins with *the lamp post* to form a locative phrase, but in *John used up all his money*, *up* is a joint constituent with *used* in a verb-particle construction. Likewise, *over* in *A robin flew over the lawn* is a preposition, but in *The game is over*, *over* has an independent adverbial meaning (words that can function both as adverbs and prepositions are sometimes called **adpreps**).

Prepositions are usually considered to be grammatical elements rather than full lexical items. However, in some respects they are not prototypical grammatical elements. They do largely constitute a closed set (unlike nouns and verbs), but the set has a relatively large number of members: there are 67 prepositional word forms listed in the Oxford 3000 word list (see the *Oxford Advanced Learner's Dictionary*, Seventh Edition (2005), pp. R99–113), each with several senses. In terms of complexity of meaning, they lie somewhere between typical lexical items and typical grammatical elements. The majority carry a spatial meaning, or have a meaning which is arguably derived from a spatial one. Most temporal senses of prepositions are clearly related to spatial senses (*at three o'clock*; *at the station*) although a few are not (*during*, *since*, *until*); Several non-spatial, non-temporal prepositions have no obvious spatial origin (*as*, *concerning*, *despite*, *like*, *except*, *plus*, *than*). The discussion in this chapter will be confined mostly to prepositions whose basic meaning is spatial, although the most frequent of these are highly polysemous and have senses which extend well beyond the spatial domain.

16.2 Outline of approach

The following brief treatment of the semantics of spatial prepositions (and their extensions) takes as a basis the much more detailed account in Tyler and Evans (2003). They adopt a cognitive linguistic approach. A basic tenet of this approach is that meaning is conceptual in nature: spatial meanings, for instance, rest on spatial concepts, which in turn are derived from human experience with physical objects in space. In this section, a number of key notions to be employed in the later analyses are introduced.

16.2.1 Polysemy vs monosemy

There are basically two ways of approaching the semantic description of a linguistic element that displays a range of meanings in different contexts. One way, the **monosemic** approach, is to look for a single general meaning underlying all the variants, and to attribute the variations to local contextual effects. Typically, on this view, only the underlying general meaning is stored in long-term memory; all the variations are construed online. The alternative approach is to accept that multiple senses are individually stored in long-term memory, and that different contexts can make different selections from these. Tyler and Evans adopt the second of these approaches, arguing that in many cases there is no plausible candidate general meaning from which all the observed variants can be derived by contextual modulation alone. Of course, any selected sense will be additionally modulated by its context, and different contexts may differently modulate the same sense. In theory, a multiple sense approach could treat the individual stored senses as unrelated, i.e. as homonyms, like the two senses of *bank*. However, in the case of prepositions, Tyler and Evans maintain that all the stored meanings associated with a word are derived ultimately from a single spatial meaning by well-motivated processes of extension. The derivation is not necessarily direct: an extension can serve as the base for further extensions which cannot be derived directly from the original source meaning. The result is that all the senses of a single preposition form an interconnected set which Tyler and Evans call a 'network' (but which in most cases is a species of hierarchy). Tyler and Evans call this model of meaning the 'principled polysemy model'. It is broadly compatible with the account of polysemy presented in Chapter 5.

16.2.2 Individuating senses

The principled polysemy model requires us to be able to determine whether the different meanings of a word in different contexts are due to the selection of different senses or to contextual modulation of one and the same sense. The method Tyler and Evans use for answering this question is basically as follows. Starting from the primary sense of a word (see next section), they ask whether or

not the meaning of the word in a given context can be inferred from the primary sense taken together with features of the context. If the answer is in the negative, then the word in question in the context in question represents a different sense from the primary sense. By way of illustration, consider sentences (1), (2), and (3):

- (1) The humming bird hovered over the flower.
- (2) John nailed a board over the hole in the ceiling.
- (3) The robin flew over the lawn.

Let us assume that the primary sense of *over* in *X is over Y* involves a situation in which X is higher than Y and that this is exemplified in (1). Looking now at sentence (2), it is clear that, in the most natural interpretation, the board covers the hole, but is lower than the ceiling. Not only can this not be inferred from the meaning of *over* in (1), but it directly contradicts it. Hence we can conclude that (1) and (2) exemplify different senses of *over*. Contrast this with (1) and (3). In (3), the most natural interpretation is that the robin's flight path took him from one side of the lawn to the other, whereas (1) does not entail that the humming bird crossed from one side of the flower to the other. However both cases exemplify the basic vertical relationship signalled by *over*; furthermore, there is contextual support for the difference between (1) and (3), in that *fly* is a movement verb, whereas *hover* is not. Hence, there is a prima facie case that (1) and (3) exemplify the same sense of *over*, the difference being due to contextual modulation.

Tyler and Evans make only passing reference to ambiguity as a criterion for individuating senses. However, it is arguably very important. For instance, sentence (2) is ambiguous between an interpretation where the board is above the hole and one where the board is below the hole, and this gives strong support for the existence of distinct senses.

16.2.3 The primary sense in a network

In the network model proposed by Tyler and Evans, there is one sense which is primary in the sense that it is not derived by extension from any other sense in the network, whereas all the other senses in the network are derived from it, either directly or indirectly. The primary sense in a network thus has a formal relationship to the other senses in the network rather like that of the beginner in a taxonomic hierarchy to the other elements in the hierarchy (this comparison is not drawn by Tyler and Evans).

Tyler and Evans propose a number of criteria for identifying the primary sense in a network. Two will be mentioned here. The first is the earliest attested meaning of the word. If one meaning can be shown to have been active before any of the others, it is reasonable to assume, in the absence of contrary evidence, that it is the derivational source for the later meanings. Tyler and Evans claim that for prepositions with both spatial and non-spatial senses, historical evidence points to the spatial senses as being the earliest. The second criterion is what they call predominance in the semantic network. For instance, of the fifteen senses of

over identified by Tyler and Evans, eight involve X being higher than Y in X (*be*) *over* Y situations.

The search for a primary sense has obvious connections with the discussion in Chapter 12 of ways of identifying literal meaning. There it was pointed out that meaning extensions are typically unidirectional, in the sense that, given two senses A and B such that one is derived from the other, there is only one plausible direction for the derivation, and furthermore, if one of the senses is concrete and the other abstract, the direction of derivation is always from concrete to abstract. One example given was *position* (i) "location in space" and (ii) "opinion". A similar unidirectionality can be observed with prepositions (although this is not adduced as evidence by Tyler and Evans). Take, for instance, the use of *in* in (i) *in water* and (ii) *in love*. It seems highly unlikely that if *in* originally had no spatial sense, that this could have arisen by extension from its meaning in (ii).

16.2.4 Mechanisms of extension

According to Tyler and Evans, many new senses arise from closely associated experiences via pragmatic strengthening. Consider the two senses of *over* in (4) and (2) (repeated for convenience):

- (4) The picture hangs over the mantelpiece.
- (2) John nailed a board over the hole in the ceiling.

Let us accept that (4) represents the primary meaning of *over*, with the picture being higher than the mantelpiece. It is a frequent everyday experience that in a situation in which some entity X is described as being 'over' some other entity Y, not only is X understood to be higher than Y, but there is simultaneously a natural inference (an 'implicature—see Chapter 20.1.1) that X covers Y, as in (5):

- (5) He spread the cloth over the table.

Tyler and Evans have the following to say about such cases (p. 60):

If an implicature is recurring, it can be reanalysed as distinct from the scene of which it is part. This reanalysis results in the conventionalization of the implicature as a distinct meaning component associated with the lexical form with which it is related, that is, with *over* in this case. As a consequence, *over* has, in addition to its Higher Than sense, a Covering sense associated with it. Once instantiated in semantic memory this additional sense can be employed in new contexts of use unrelated to the context that originally gave rise to it.

This means that *over* can be used to mean "covering" in cases where "higher than" does not apply, as in (2).

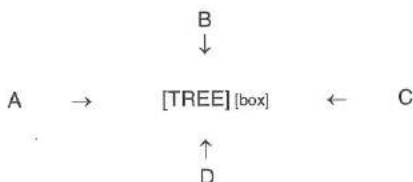
While it seems eminently plausible that the "covering" sense of *over* arises from the frequent co-occurrence of "higher than" and "covering" in everyday experience, I find Tyler and Evans's explanation of how the "covering" sense becomes detached from the "higher than" sense unenlightening. There are two possible alternative explanations. One is that separation comes about as the establishment

through repetition of an online metonymic extension. The advantage of this is that an online metonymic construal is already by its nature distinct from its literal source. Thus the derivation of the “covering” sense of *over* from the “higher than” sense may have occurred in a manner similar to the development of the distinct “type of wood” sense of *oak* (as in *This table is made of solid oak*) from the “type of tree” sense as in (*The tree at the bottom of our garden is an oak*), which is presumably the literal source.

Another possible explanation is that the derivation of the “covering” sense does not in fact depend on the frequent co-occurrence of covering and being higher than, but is due to a perceived analogy between a board covering a hole in the lawn, say, and one covering a hole in the ceiling—both involve a board oriented in a particular way with respect to a flat surface, blocking a hole. In such a scenario, the new use of *over* would not be metonymic but metaphoric, that is, due to resemblance between spatial scenes (the ceiling being interpreted as an ‘honorary horizontal’), rather than association within a single spatial scene. Something similar happens with *across*. The default interpretation of *X V'ed across Y* implies that Y is to be construed as oriented horizontally (*swim across the river*, *crawl across the railway line*, *stagger across the lawn*, and so on). However, some years ago I attended a lecture in which the speaker claimed that the complement of *across* necessarily denoted something oriented horizontally. The lecture was held in a room whose walls were covered with frescoes. In one of the walls there was a crack which began inside one of the frescoes and finished outside the fresco. I suggested that it would be perfectly natural to say that the crack *ran across the edge of the fresco*. The rest of the audience unanimously concurred. The vertical wall was granted the status of honorary horizontal. (This does not mean that speakers actually experienced the wall as horizontal: rather, they construe that relation between the crack and the wall *as if* the wall was horizontal.). Unfortunately, since the conventionalization of the “covering” sense occurred a long time ago, we are unlikely to be able to discover exactly how it happened.

16.2.5 Vantage point

Differences in the interpretation of prepositions can occur due to differences of vantage point. Consider the situation illustrated below. A, B, C, and D are observers disposed around a tree next to which is a small box:



How would the four observers describe the position of the box relative to the tree? Most likely as follows:

- A: The box is behind the tree.
 B: The box is to the left of the tree.
 C: The box is in front of the tree.
 D: The box is to the right of the tree.

These descriptions assume that each speaker is using him/herself as vantage point in formulating the utterance. This is what speakers most usually do. However, that is not the only possibility. In neither (6) nor (7) does the speaker function as vantage point:

- (6) Follow my instructions carefully. Walk slowly towards the tree. You will find the box in front of the tree.
 (7) Tell John to follow the instructions carefully. He must walk slowly towards the tree. He will find the box in front of the tree.

16.2.6 Orientation

Many objects (in the broadest sense) have an inherent orientation in that they have a 'canonical' front and back; this is true of persons, buildings, vehicles, and so on. Other objects do not have a canonical front and back, for example a tree, a dustbin, a lamp-post. If an object *X* does not have a canonical front and back, the expression *in front of X* means "situated somewhere on an imaginary line between *X* and the relevant vantage point". However, if an object has a canonical front and back, then *in front of X* is ambiguous, and can mean either "at or near the canonical front of *X*" or "situated somewhere on an imaginary line between *X* and the relevant vantage point". So, for instance, uttered by someone situated at the side of the car in question, the sentence *The box is in front of the car* indicates two possible locations for the box, either on an imaginary line extending along the canonical direction of motion of the car, or, assuming the default vantage point, on an imaginary line between the speaker and the car. Another possible orientation, giving rise to potential ambiguity, involves the up-down dimension, which, like the front-back dimension, can be inherent or non-inherent. This can be illustrated with reference to (8) and (9):

- (8) The caterpillar crawled up Samantha's leg.
 (9) The caterpillar crawled down Samantha's leg.

The human leg has an inherent orientation, whereby "towards the hip" is *up* and "towards the foot" is *down*, and this determines the default interpretation of both (8) and (9). But suppose the caterpillar crawled from Samantha's knee to her ankle while Samantha was lying on her back with her legs in the air. In this situation, the caterpillar's trajectory could be correctly described using either (8) or (9), according to whether the prepositions *up* and *down* are construed relative to the inherent orientation of *leg*, or relative to the non-inherent orientation relative to the centre of the earth.

William James's well-known conundrum involving a squirrel on a tree is resolved by reference to inherently oriented and inherently non-oriented entities. Imagine you are walking through a wood and you spot a squirrel on a tree. As you approach the tree, the squirrel hides behind it. You then walk right round the tree, but the squirrel positions himself so that he is always on the other side of the tree to you. You have walked right round the tree, but have you walked round the squirrel? The answer is *Yes and No*—it depends what you mean by *round*. The default meaning of *walk round X* is "follow a trajectory which traces a closed figure which includes X" (a circular path is not necessary). In this sense you have certainly walked round the squirrel. But there is another interpretation based on the inherent orientation of the squirrel. On this interpretation, *walk round the squirrel* means "follow a path which takes you successively to the squirrel's inherent left, front, right, and back (in that, or the reverse order, but with any starting point)". In that sense you have not walked round the squirrel.

16.2.7 Associated functions

Spatial prepositions often carry a meaning component in addition to their purely spatial meaning, which Tyler and Evans call an 'associated function'. An example is the CONTAINMENT feature which frequently accompanies spatial uses of the preposition *in*. Take a simple example of the use of *in*: *the money in my wallet*. This denotes a spatial relationship between the money and the wallet. But there are also typical consequences of this relationship which are not purely spatial. For instance, the wallet exercises control over the movement of the money it contains: if the wallet moves, so does the money, and the wallet places constraints on the free movement of the money inside it. The wallet also constrains access to the money, which typically cannot be seen or removed unless the wallet is opened. Further examples of associated functions will be given in the next section.

16.3 Illustrative examples

This section illustrates the range of senses displayed by a small selection of prepositions. In no case is the range exhaustively covered.

16.3.1 Over

16.3.1.1 The primary sense

Tyler and Evans argue that the basic sense of *over*, from which all the other senses are directly or indirectly derived, involves one entity being in a static spatial relation to another, such that the first entity is higher than the second. They utilize Langacker's terms **trajector** (henceforward TR) and **landmark** (henceforward LM) to distinguish the two entities, and say that for *over*, the TR is higher than the LM. For present purposes, the trajector for a spatial preposition can be defined as

the entity whose location is being specified, and the landmark as the entity with respect to which the trajector is being located.

In addition to the purely spatial meaning, Tyler and Evans propose that the basic sense of *over* also includes a functional element, namely, that TR and LM are 'within one another's sphere of influence'. This includes, for instance, potential contact. Part of the evidence for this is the way *over* contrasts in certain contexts with *above*, which in spatial terms has a very similar meaning. Consider (10) and (11), from Tyler and Evans:

- (10) The cross-country skier skimmed over the snow.
 (11) The cross-country skier skimmed above the snow.

The most natural interpretation of (10) is that the skier was actually in contact with the snow, whereas (11) conjures up a vision of the skier magically moving without touching the snow.

Some scholars, notably Lakoff (1987), postulate a distinct "path" sense of *over* for occurrences like (12):

- (12) The cat jumped over the wall.

Tyler and Evans argue at some length that there is no need for this. They claim that the "path" reading in such cases can be accounted for by (in our terms) contextual modulation of the basic sense. Briefly, they say that the construal of the notion of path in (12) arises from the verb *jump*, which, being a motion verb, entails a trajectory; *over* merely specifies that at least part of the trajectory is higher than the wall. Hence, the "path" construal of (12) requires only the basic sense of *over* together with contextual information.

The claimed evidence for the existence of a distinct "path" sense for *over* includes the occurrence of contrasts like that between (13) and (14):

- (13) The girl walked on the bridge.
 (14) The girl walked over the bridge.

In (13), there is no implication that the girl crossed over the bridge, whereas that is an implication of (14). Why should this contrast appear unless *over* has a "path" sense? Tyler and Evans point out that this contrast only appears with a certain type of LM: for instance, it is either absent, or very much weaker in (15) and (16):

- (15) The girl walked on the lawn.
 (16) The girl walked over the lawn.

They attribute the "crossing over" reading in (14) to the nature of the LM *the bridge*, which has the default function of facilitating the crossing of something. However, there are two problems with this account. The first is the absence of a "crossing over" reading in (13), which is not explained. The second is that, at least to me, (16) is ambiguous between a "crossing over" reading and a "walking about" reading. Perhaps (17) provides a clearer example of this type of ambiguity:

- (17) The boy flew the kite over the lake.

This can mean either (i) that the kite remained stationary above the lake, or (ii) that it was caused to cross the lake. That this is true ambiguity is strongly suggested by the identity constraint in (18), where both John and Bill must perform the same action:

(18) John flew his kite over the lake; so did Bill with his kite.

This evidence points to the existence of a separate "path" sense of *over*. Some further derived senses of *over* are given below (the "covering" sense has already been discussed).

16.3.1.2 The "on-the-other-side-of" sense

Tyler and Evans relate a number of senses to a type of complex event, frequently encountered in everyday experience, in which a TR starts on one side of a determinate LM, follows a trajectory which passes over the LM, and ends up on the other side of the LM. The event described in (12) falls into this category. The "on-the-other-side-of-sense" is one of these. It is exemplified in (19) and (20) (from Tyler and Evans):

(19) The old town lies over the bridge.

(20) John lives over the hill.

Tyler and Evans point out that these sentences cannot be interpreted on the basis of the primary sense of *over* together with contextual information, since neither of the verbs entails a trajectory, and the TR is not in any way higher than the LM. Hence *over* in (19) and (20) must represent a sense distinct from the primary sense. One explanation of how this sense arose (although this is not Tyler and Evans's explanation) is that (say, for (19)) a virtual path from the vantage point to the old town passes over the bridge, and this provides the basis for a metonymic extension of *over*, via a PATH FOR END-POINT OF PATH derivation. It is worth pointing out that this type of derivation is not confined to *over*:

(21) John lives across the road.

(22) The ticket office is through the tunnel.

(23) The letter box is round the corner.

16.3.1.3 The "more than" sense

Tyler and Evans give (24) and (25) as examples of a sense which they call the 'Above-and-beyond (Excess 1) sense':

(24) Your article is over the page limit.

(25) Most students wrote over the word limit in order to provide sufficient detail.

An essential feature of this sense, according to Tyler and Evans, is the notion of "excess". They also propose a separate "more" sense, of which (26) and (27) are examples:

- (26) Jerome found over forty kinds of shells on the beach.
 (27) John is over fifty years of age.

This they derive from everyday experiences where "higher" implicates "greater quantity", as in, say, adding sand to a heap, or pouring water into a bottle. The frequent association between "higher than" and "greater quantity" in uses of *over* licenses the development of a separate "greater quantity" reading for *over* which can be employed in situations where the literal "higher than" of the primary sense does not apply. (Notice that for this derivation to occur, in addition to the separation, there has to be a metaphorical extension of the notion of quantity to such things as age and temperature. This point is not mentioned by Tyler and Evans.)

At this point it is legitimate to question whether Tyler and Evans's "Above-and-beyond (Excess 1)" sense and the "more" sense are genuinely distinct. The difference between (24) and (25) on the one hand, and (26) and (27) on the other, is that the notion of "excess" is absent from the latter. However, it is arguable that the presence of the notion of "excess" in (24) and (25) is due not to a separate sense, but to the presence of the word *limit* in the context. Consider sentence (28):

- (28) John was driving over the speed limit.

The most frequent understanding of *limit* is "upper limit", and this is how it would most likely be understood in (24) and (25). But this is not invariably the case. Some roads, for instance, have a lower speed limit. If we interpret *limit* in (28) as "upper speed limit", then John is guilty of excessive speed; but this is not the case if the limit is a lower speed limit. In other words, the presence or absence of the feature of "excess" depends on the way the context is understood.

Strictly speaking, the above argument does not conclusively establish that there are not two independent meanings of *over*. It is still possible that manipulating the context in (28) causes a different sense to be selected. Let us suppose that this is the case, and that the senses in question are (i) "more" and (ii) "more + excess". These two senses would be in a hyponymous relation, with (i) being the more general (i.e. the hyperonym) and (ii) the more specific (i.e. the hyponym). A parallel relationship exists between *a drink* ("an imbibed liquid") and *a drink* ("an alcoholic beverage"). In this case, the distinctness of the specific sense is demonstrated by the fact that it can be negated independently of the general sense:

- (29) A: Will John have a drink?
 B: No, he'll just have an orange juice.

B's answer is normal because although an orange juice is a drink in the general sense, it is not a drink in the specific sense. If the specific "more + excess" sense of *over* is truly distinct, we ought to be able to demonstrate this by constructing an exchange along the lines of (29). Suppose Mary has recently bought a milk jug:

- (30) A: I hear Mary has just paid over a thousand pounds for a milk jug.
 B: ??No, it's a valuable antique.

It is entirely plausible that A thinks that Mary paid too much for the milk jug. If the "more + excess" reading of *over* were distinct, then it should be possible for B to deny it while not denying the "more" sense. But this seems not to be possible. The evidence therefore points to there being only one "more" sense of *over*.

16.3.1.4 The "control" sense

Tyler and Evans offer the following as examples of the "control" sense:

- (31) She has a strange power over me. (from Lakoff 1987)
- (32) Camilla has authority over purchasing.
- (33) The Prime Minister holds sway over all the important decisions.
- (34) Personality has more influence over who we marry than physical appearance.

Tyler and Evans point out, correctly, that the use of *over* in these sentences is distinct from the primary spatial sense. They derive this usage from situations in which physical control is associated with a higher position, as in the case of (35):

- (35) The fight ended with John standing over Mac, his fist raised.

Subsequently, the "control" feature becomes detached from the "higher than" feature and functions as a separate sense of *over*. Notice that *above* cannot be substituted for *over* in (31)–(34). Tyler and Evans attribute this to the functional element of the primary sense of *over* whereby TR and LM are "within one another's sphere of influence".

However, it is noteworthy that all the illustrative sentences given for the "control" sense contain a word denoting, or at least implying control: *power*, *authority*, *sway*, *influence*. In other words, the notion of control is clearly present in the context. Furthermore, in none of these sentences does *over* qualify as an independent semantic constituent, since it does not have contrastive value, let alone recurrent contrastive value (see Ch. 4.4.2.1). Hence, its status as a distinct sense is dubious; the most that can be claimed for it is the status like that of a 'semantic tag' (4.4.2.3), with only the phrases *power over*, *authority over*, *sway over*, and *influence over* being full semantic constituents. This, of course, still leaves the occurrence of the element *over* to be explained, and something on the lines of what Tyler and Evans suggest seems plausible.

16.3.2 *in*

16.3.2.1 The primary sense

The primary sense of *in*, for Tyler and Evans, like that of *over*, comprises a spatial relationship and a functional feature. The spatial relationship involves an LM which possesses an exterior, a boundary, and an interior where the TR is located:

- (36) The dog is in his kennel.
- (37) John is in the kitchen.
- (38) The key is in the box.

The functional feature is that of CONTAINMENT, which has already been mentioned. The possibilities for a contained TR of moving and/or staying still are controlled by its containing LM; access to the TR, including sensory access, from outside is constrained by the LM; the LM may afford protection to the TR, and so on. The functional feature can in some cases make a difference between two very similar spatial relationships in respect of the applicability of *in*. Vandeloise (1994: 172) gives the example of an electric light bulb and its socket, on the one hand, and a bottle and its screw cap, on the other. It is normal to say that the bulb is in its socket, but not that the bottle is in its cap. This is presumably at least partly because the socket constrains the movement possibilities of the bulb, whereas in the other case, it is rather the bottle which controls the movement of the cap.

It is not necessary for the TR to be completely surrounded by the LM for *in* to be appropriate:

- (39) the girl in the miniskirt
- (40) the fruit in the bowl
- (41) the geranium in the pot
- (42) The key is in the lock.

Tyler and Evans suggest that the use of *in* is licensed in cases of partial inclusion provided the associated function is clearly present in some form. This is arguably the case in the above examples. In (40)–(42), the LM controls the movement possibilities of the TR, and although the miniskirt in (39) does not control the girl's movement, and although it undoubtedly reveals much, it still performs an important function of restricting visual access. However, there are cases where it is difficult to uphold the functional argument. The default interpretation of (43) is that only Billy's feet were in the water.

- (43) Billy was standing in a pool of water.

Notice, however, that if Billy was sitting next to the pool with just his feet in the water, *in* would not be appropriate:

- (44) Billy was sitting in a pool of water.

We understand (43) to mean that if the boundary of the pool were projected vertically, Billy would be completely surrounded by the resulting space. This should perhaps not be regarded as a case of partial inclusion.

Tyler and Evans understand the primary sense as including two-dimensional inclusion, as in (their examples):

- (45) London is the largest city in the United Kingdom.
- (46) China is in Asia.

and being enveloped by 'prevailing atmospheric conditions':

- (47) The flag flapped in the wind.
- (48) The child shivered in the cold.

We may note here that physical inclusion can be metaphorically extended to abstract inclusion:

- (49) the character in the story
- (50) Jeremy hasn't an idea in his head.

16.3.2.2 The "state" sense

This sense is illustrated by the following:

- (51) He is in love.
- (52) The economy is in crisis.
- (53) John is in trouble.
- (54) Mary is in shock.
- (55) The sudden storm put the crew in danger.

According to Tyler and Evans, the development of this sense is motivated by the fact 'that there is a tight correlation between being located in a bounded LM and a particular state which is conferred by virtue of being so located' (p. 188). They give *She is in prison* as an example of an association between a location and a state (the state of being judicially deprived of liberty). This correlation eventually leads to *in* developing an independent "state" meaning. Tyler and Evans say that *in* 'can be employed with certain states which are conceptualised as constraining the TR or posing difficulty in leaving'. This would be a carry-over from the CONTAINMENT functional feature of the primary sense. However, although frequent, this feature does not seem to be necessary:

- (56) Her face is very beautiful in repose.

Tyler and Evans reject the sort of alternative explanation of cases like (51)–(55), according to which states, typically emotional states, are metaphorically construed as ambient fluids in which the TR is immersed, on the basis of literal usages like *in the water*, or *in the fresh air*. Yet another approach (see, for example, Lakoff and Johnson (1980: ch. 7) proposes that in cases like (51)–(55) states are metaphorically construed as containers.

16.3.2.3 The "activity" sense

This sense is illustrated by the following:

- (57) Pierre is in the Civil Service.
- (58) Lisette is in property management.

For Tyler and Evans, the motivation for this sense is similar to that for the "state" sense, namely, the close correlation in experience between activities and the locations in which they are carried out, and the subsequent development of the independent "activity" sense for *in*.

16.3.2.4 The "means" sense

Tyler and Evans's examples of this sense are as follows:

- (59) She wrote in ink.
 (60) He spoke in Italian.

They suggest that the development of this sense depended on the prior establishment of the "activity" sense, and results from a close correlation between activities and the means by which they are accomplished.

16.3.2.5 The "shape as boundary" sense

This is the last of Tyler and Evans's proposed senses for *in* that we shall consider here (although it by no means exhausts the senses they recognize). It is illustrated by (61) and (62) (from Tyler and Evans):

- (61) OK, class, put your chairs in a circle.
 (62) If fire breaks out get in single file before leaving.

To quote Tyler and Evans:

We suggest that since a salient aspect of a bounded LM is its boundary, the use of *in* to relate a TR and a bounded LM thereby highlights a salient aspect of bounded LMs. Through pragmatic strengthening *in* has derived a Shape As Boundary Sense. (pp. 196-7)

There is another possible explanation for (61) and (62) which does not require a separate sense of *in*. It is true that (61), for example, is ambiguous, between "put your chairs to form a circle" and, say, "draw a circle and put your chairs in it" (this is not to deny that the former is the more frequent usage). This might seem to give support to the existence of an independent "shape as boundary" sense. However, the primary sense of *in* is not confined to three dimensions:

- (63) There is a break in the line John drew. (one dimension)
 (64) Draw a circle and then draw a pussy cat in it. (two dimensions)
 (65) Put the pencils in the box. (three dimensions)

This being so, the ambiguity of (61) can be explained without invoking different senses of *in*, but in terms of different senses of *circle*, as either (i) a one-dimensional line (the most frequent construal of (61)) or (ii) a two-dimensional area (the less frequent construal).

16.3.3 *to*

16.3.3.1 The primary sense

According to Tyler and Evans, in its primary sense, *to* denotes a spatial relationship in which a TR is directed towards a highlighted LM, either by virtue of its motion:

- (66) John is on his way to the supermarket.
 (67) The ball rolled to the fence.

or by virtue of its inherent orientation:

- (68) The Gormley statues on the beach at Crosby all face to the west.
 (69) The sign points to the cemetery.

When the TR is animate and in motion, the LM is typically interpreted with the associated function of "goal".

Tyler and Evans draw attention to a contrast between *to* and *for* in certain contexts:

- (70) He ran to the hills.
 (71) He ran for the hills.

They suggest that the contrast lies in the fact that in (70) the hills are presented as the 'primary goal' of the running, whereas in (71) they are presented as an 'oblique goal', that is to say:

... *for* appears to relate the TR to an ulterior purpose, contingent on reaching a particular LM. (p.146)

However, a number of points are worth mentioning. First, while an ulterior purpose may be more salient in (71) than in (70), it is not entirely absent from (70), and in the default interpretation of (72), say, it is just as salient as in (71):

- (72) He went to the supermarket.

Second, the contrast illustrated in (70) and (71) is of rather restricted occurrence:

- (73) He *walked/?cycled/?rode/?drove/*flew/*went for the hills.
 (74) He ran for ??the supermarket??for the other side of the road.

Finally, a more reliable contrast is that (70) implicates arrival, whereas (71) does not:

- (75) *He ran to the hills but failed to reach them.
 (76) He ran for the hills but failed to reach them.

16.3.3.2 The "locational" sense

This sense differs from the primary sense in that neither motion nor orientation is involved:

- (77) Bolton lies to the north of Manchester.
 (78) The boarders lived in the rooms to the back of the house. (from Tyler and Evans)

16.3.3.3 The "contact" sense

This sense is exemplified in the following (from Tyler and Evans):

- (79) The poster portrayed a young woman with her finger to her lips.
 (80) Apply the soap directly to the stain for the best results.

The essential feature of this sense is contact between the TR and the LM.

16.3.3.4 The "attachment" sense

Sentences (81) and (82) contain examples of this sense (from Tyler and Evans):

- (81) He added a fence to the garden.
 (82) Chris and Katherine are married to each other.

There are reasons to doubt whether the occurrences of *to* in 16.3.3.1–16.3.3.4 represent truly independent senses of *to*. First, in many of the above sentences, *to* is not an independent semantic constituent. This is true, for instance, of *to* in *apply X to Y* (80), *add X to Y* (81), and *be married to* (82). Second, in other cases, the default construal of *to* is predictable from a general sense—something like "TR is located with respect to LM", together with contextual information, including general knowledge. For instance, what could (77) possibly mean, other than that to get from Manchester to Bolton one must travel north? Tyler and Evans argue that a simple locational reading for *to* in (79) would not allow us to conclude that the woman's finger touched her lips, so the "contact" sense must be distinct. However, the gesture is a familiar conventional one (which to me does not require actual contact), which is enough for it to be the default interpretation of the sentence without requiring a separate sense.

16.3.3.5 The "comparison" sense

Tyler and Evans's examples of this sense are:

- (83) The design of this sweater is inferior to that one.
 (84) The motion was carried by 50 votes to 29.

Once again, the problem arises of whether *to* is an independent semantic constituent. For instance, in *X is inferior to Y*, *to* is not substitutable, therefore has no contrastive value. Of course, the historical question of why the particle is *to* rather than something else, is a valid one, but it does not necessarily have synchronic relevance. In the present instance, the semanticity of *to* would seem to be rather low, and describing it as a 'sense' is misleading.

16.3.4 through**16.3.4.1** The primary sense

The spatial relation described by *through*, according to Tyler and Evans, involves two elements, first, a bounded LM (that is, one with an inside, an outside, and a boundary), and second, an entry point, an exit point, and a continuous series of points connecting entry point and exit point. This evokes an associated functional feature of PATH. Sentences (85) and (86) are prototypical examples:

- (85) John crawled through the tunnel.
 (86) Mary drove a nail through the thick plank.

A remark on p. 220 makes it clear that they have in mind a three-dimensional LM, but (87) seems to be well-formed with only two dimensions:

(87) Draw a circle, then draw a line through the circle.

In some cases, *through* is used with LMs which are not bounded, and are not construed in terms of entry and exit points:

(88) We watched the huge fish gliding through the water.

(89) It's the motion of the aircraft through the air that provides the force that prevents it falling to the ground.

In other cases, the LM does not seem to be construed as having an interior, which makes the entry and exit points fall together:

(90) She poked the needle through the thin plastic film.

These facts suggest that Tyler and Evans's characterization of the primary sense of *through* can be usefully regarded as the prototype of a category of cases which also includes fewer central cases where one or more prototype features are absent (three dimensions in (87), a boundary in (88) and (89), and an interior in (90)).

16.3.4.2 The "extended action" sense

Tyler and Evans's example of this sense is (91):

(91) Mary worked through the pages of math exercises.

The evidence that this is a distinct sense is that the default interpretation of (91) contrasts with an (unlikely but possible) interpretation involving the primary sense, in which Mary somehow physically traverses the pages, perhaps through holes. (It is not in dispute that (91) is ambiguous in this way. However, strictly speaking, this is not conclusive evidence that the ambiguity is attributable to two senses of *through*. This is because the context does not remain constant across the two readings. For instance, the interpretation of *page* switches from the TEXT facet to the TOME facet (see Chapter 5.5.1), and two different readings of *worked* are involved.) Tyler and Evans explain the development of this sense in terms of the correlation in experience between motion along a path and purposeful activity, leading eventually to *through* signalling "purposeful activity" in the absence of "motion along a path". It is not clear from this explanation why only *through* should have acquired this sense, and none of the other prepositions whose primary sense has "path" as a strongly associated functional feature, such as *along*, *across*, or *past*. Tyler and Evans in general reject the metaphor approach to the development of additional senses, but surely the reason that *through* is favoured for this sense is that it is easier to metaphorically map a mass of material substance that has to be traversed onto a set of mental exercises to be completed.

16.3.4.3 The "other side of" sense

This sense is exemplified by (21), repeated here for convenience, and the remarks concerning the parallel sense of *over* apply equally here:

(21) The ticket office is through the tunnel.

16.3.4.4 The "means": sense

Tyler and Evans's illustrative examples of this sense are (92) and (93):

(92) The conference was funded through the miscellaneous budget.

(93) I get my coffee through an online retailer.

It is clear enough that *through* in (92) and (93) does not have its primary sense. Tyler and Evans explain the meaning as follows (p. 226):

In these sentences a particular outcome (i.e. conference funding, and obtaining coffee) is facilitated by a particular LM (the miscellaneous budget, and an on-line retailer). These LMs provide the means whereby the outcome is achieved.

They also point out that *via* can be substituted for *through* without a significant change of meaning. This meaning arises, according to Tyler and Evans, from the close association in experience between paths and means of achieving particular goals.

16.3.4.5 The "cause" sense

The following are cited by Tyler and Evans as examples of this sense (attributed to Hilferty (1999)):

(94) The accused murderer's wife was able to remain loyal through her conviction of his innocence.

(95) The milk went sour through a lack of proper refrigeration.

(96) Computer technology has evolved through constant research.

When *through* has the "cause" sense, it can be substituted by *because of*, but not by *via*; conversely, the "means" sense can be substituted by *via*, but not by *because of*:

(97) The accused murderer's wife was able to remain loyal because of/*via her conviction of his innocence.

(98) I get my coffee via/*because of an online retailer.

Not all occurrences of *because of* can be paraphrased by *through*:

(99) The fish died because of/*through pollution. (after Hilferty)

(100) We were unable to travel because of/*through the floods.

Tyler and Evans accept Hilferty's explanation for the impossibility of *through* in (99), namely, that it is:

... because pollution denotes the by-product of a particular contaminating activity, not the activity which directly affected the environment. (Tyler and Evans p. 227)

This is rather unconvincing. Firstly, although pollution is a by-product of some other activity, it is nonetheless the direct cause of the death of the fish. Secondly, the direct cause of the milk going sour in (95) is not the lack of refrigeration, but bacterial activity, yet *through* is acceptable. Thirdly, the explanation does not apply to (100). The constraint on the use of *through* in the "cause" sense therefore remains mysterious.

16.3.4.6 The "transmission" sense

Again following Hilferty, Tyler and Evans propose a "transmission" sense of *through*, exemplified in (101)–(104):

- (101) HIV can be transmitted through sexual intercourse.
- (102) He received a package through the mail.
- (103) The medium received a strange premonition through the ether.
- (104) Max gets his blue eyes through his mother.

What these examples have in common, according to Tyler and Evans, is that the LMs 'serve to transmit a particular entity' (p. 225). However, a critical examination casts doubt on the existence of a distinct "transmission" sense, at least as Tyler and Evans present it. Let us first eliminate (103) from the discussion, as it falls easily under the primary sense, with the premonition moving through the ether much as a fish moves through water. What needs to be established is that the "transmission" sense is distinct from the "means" sense. Two facts throw doubt on this claim. First, in (101), (102), and (104), *through* can be paraphrased by *via*, a test that Tyler and Evans used as evidence for the distinctness of the "means" and the "cause" sense. Second, (92) and (93) can be viewed as involving transmission. In (92), the funding presumably does not originate in the miscellaneous budget, but comes from somewhere else (the government, or an endowment, say), and is passed on via the miscellaneous budget. And in (93), the retailer is presumably not a coffee producer, but an intermediary, who transmits the coffee to the customer. There is also a possibility of interpreting (101) as an example of the "cause" sense, rather than a "transmission" sense. Notice that *through* in (101), but not in (102), can be paraphrased by *as a result of*:

- (105) HIV can be transmitted as a result of sexual intercourse.
- (106) *He received a package as a result of the mail.

These last three proposed senses of *through*—"transmission", "means", and "cause"—illustrate the difficulties analysts often face in establishing distinct senses of grammatical items. In this case, there is an equally plausible alternative grouping of the example sentences offered by Tyler and Evans, under just two headings:

A: "transmission route" (*through* is paraphrasable by *via*, but not by *as a result of* or *because of*:

(92), (93), (102), (104)

B: "cause"

(95), (96), (97), (99), (100), (105).

To these we might add (107):

(107) John developed his muscles through constant exercise.

There might be some grounds for distinguishing an "intended consequence" sense, which can be paraphrasable by *by means of*, and an "unintended consequence" sense which can be paraphrased by *as a result of*, because of the ambiguity of (108):

(108) John developed calluses on his finger tips through practising the classical guitar.

This might be taken as intentional on John's part, like (107), because one needs to have calluses on one's finger tips to play the classical guitar properly. On the other hand, (108) could be interpreted on the lines of (109), where the red mark has no function:

(109) Mary developed a red mark under her chin through playing the violin.

However, it is difficult to prove that the ambiguity in (108) is attributable to two senses of *through*, rather than to contextual factors.

16.4 Space and time

A large number of temporal uses of prepositions are clearly related to particular spatial construals of the same lexical form. With a few possible exceptions, it is generally accepted on historical and developmental grounds that in such cases the spatial uses are primary.

Most temporal uses of prepositions involve construing time as a line on which points can be located. The line usually has a direction, with the future ahead of the TR and the past behind. The passage of time is construed as motion towards the future of the TR relative to the LM, with either the TR construed as stationary and the LM moving (*The deadline is approaching*) or the reverse (*We are approaching the deadline*). The following illustrate this type of usage.

(110) The train leaves at three o'clock.

(cf. John is at the head of the queue.)

(111) You'll be glad that interview is behind you.

(cf. Look out, Cecil is just behind you.)

(112) She'll arrive some time between two o'clock and three.

(cf. Jane is sitting between Sam and Cheryl.)

- (113) He works from nine to five.
(cf. There's a crack in the wall running from the corner of the upstairs window to the middle of the door lintel.)
- (114) It's past bedtime for you, my lad.
(cf. The post office is on Belmont Street, just past the baker's.)
- (115) I can do it easily in an hour.
(cf. There's a gap in the fence: unidimensional use of 'in')

In some cases there is, strictly speaking, no precise spatial model, but there are sufficient points of resemblance to make the derivation intelligible. Take the case of (116):

- (116) The party went on all through the night.

There do not appear to be any one-dimensional LMs in spatial uses of *through*, but *the night* can be construed as a bounded LM with an exterior, entry and exit points, and an extended interior. Similarly, there are no one-dimensional spatial uses of *over*, but temporal co-extent can be related to the "covering" sense:

- (117) They stayed over the weekend.

The case of *before* is slightly different to the examples considered so far. Originally this was a spatial preposition, meaning "in front of". Used in this sense nowadays, it has a somewhat archaic flavour:

- (118) The merchant prostrated himself before the king.

In its temporal use it is of course perfectly normal:

- (119) Make sure you are home before midnight.

However, *before* has in addition a normal spatial use which is arguably based on the temporal use:

- (120) A: Can you tell me where the post office is?
B: Yes, it's about a mile down the road, just before the traffic lights.

In some cases, time is construed as a quantity, of which there can be more or less. This is the case in (120) and (121), where the interpretation of *over* and *under* are clearly related to their "more than" and "less than" senses, respectively:

- (121) It took me over two hours to get to work.
(122) I bet I can get there and back in under an hour.

This brings to a close our brief excursion into the semantics of prepositions. The discussion has centred on the cognitive linguistic approach, but even with this constraint, there is considerable room for differences of opinion. With further research, we can anticipate greater clarification of the field.

Discussion questions and exercises

How many distinct senses of *round* are exemplified in the following sentences? Which sense is the primary one? (NB: There is room for more than one opinion.) The list is not intended to be exhaustive of the possible senses of *round*.

1. We walked round the exhibition in the main hall.
2. We drove round the abandoned lorry.
3. He talked round the subject, but never really got to the point.
4. They were sitting round the table.
5. The tourists wandered round Trafalgar Square.
6. The toys were lying all round the room.
7. The demonstrators marched round Trafalgar Square.
8. John lives round the corner from Mary.
9. There's a fence round the garden.
10. The judges were stationed at strategic points round the race track.
11. The demonstrators marched round Nelson's Column.
12. We managed to get round their objections.
13. The chairs were arranged round the room.
14. We ran ten times round the race track.
15. Mary looked round the room.

Suggestions for further reading

The preposition *over* has attracted a good deal of attention. Readers interested in pursuing this topic further should read the account in Lakoff (1987: 416–61) alongside Tyler and Evans's account. See also Dewell (1994). Vandeloise (1994) provides an in-depth analysis of *in*. For more general treatments of spatial prepositions see Vandeloise (1991), Lindstromberg (1998), and O'Dowd (1998).

CHAPTER 18

Speech acts

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Speech acts

18.1 Locutionary, perlocutionary, and illocutionary acts

Communication is not just a matter of expressing propositions. A 'naked' proposition, as we saw in Chapter 1, cannot communicate anything at all. To communicate we must express propositions with a particular **illocutionary force**, and in so doing we perform particular kinds of action such as stating, promising, warning, and so on, which have come to be called **speech acts**. It is, however, important to distinguish between three sorts of things that one is doing in the course of producing an utterance. These are usually distinguished by the terms **locutionary acts**, **perlocutionary acts**, and **illocutionary acts**.

18.1.1 Locutionary acts

Speech acts were first studied by the philosopher J. L. Austin. **Locutionary acts** were explained by Austin (1962) as follows:

The utterance of certain noises, ... certain words in a certain construction, and the utterance of them with a certain sense and a certain reference.

Notice that this conflates a number of distinguishable 'acts'; Lyons (1977) sets these out as follows:

- (a) produce an utterance inscription
- (b) compose a sentence
- (c) contextualize

The first of these refers to the physical act of speaking, i.e. producing a certain type of noise (or, in the case of written language, a set of written symbols). In principle, a parrot could do this. The second refers to the act of composing a string of words conforming to the grammar of some language (more or less well). (Searle (1969) groups these two together as performing an **utterance act**.) The third itself has two components. First, many sentences contain either lexical or grammatical ambiguities. Normally only one of the possible readings is intended: the speaker's intention in this regard forms part of the specification of the locutionary act

being performed. The second component is that any definite referring expressions in an uttered sentence normally have extra-linguistic referents intended by the speaker. The assignment of referents to referring expressions also forms part of the locutionary act. It can be seen, therefore, that if the sentence uttered is declarative in form, then performing a locutionary act includes the expression of one or more propositions. (Searle refers to **propositional acts**.) As far as is at present known, parrots cannot perform (b) or (c).

18.1.2 Perlocutionary acts

Perlocutionary acts are acts performed by means of language, using language as a tool. The elements which define the act are external to the locutionary act. Take the act of persuading someone to do something, or getting them to believe that something is the case. In order to persuade someone to do something, one normally must speak to them. But the speaking, even accompanied by appropriate intentions and so on, does not of itself constitute the act of persuasion. A successful act of persuasion has not occurred until the person being persuaded has performed the act in question. The same is true of the act of cheering someone up: this may well be accomplished through language, in which case it is a perlocutionary act, but even then the act does not consist in saying certain things in a certain way, but in having a certain effect, which in principle could have been produced in some other way.

18.1.3 Illocutionary acts

Illocutionary acts are acts which are internal to the locutionary act, in the sense that, if the contextual conditions are appropriate (see below), once the locutionary act has been performed, so has the illocutionary act. Take the act of promising. If someone says to another *I promise to buy you a ring* they have, by simply saying these words, performed the act of promising. Notice that it makes sense to say: *I tried to persuade her to come, but I failed*, or: *I tried to cheer him up, but failed*, but it makes no sense to say: *I tried to promise to come, but I failed*, except in the sense that one failed to utter the words, i.e. to perform the locutionary act.

The same illocutionary act can be performed via different locutionary acts: for instance *I saw Jane today* and *I saw your wife today* (on the assumption, of course, that the addressee's wife is called Jane). Furthermore, the same locutionary act can realize different illocutionary acts: for instance, *I'll be there* as a promise, prediction, or warning, and so on. It is also the case that a locutionary act can be performed without an illocutionary act thereby being performed (although Searle, for instance, denies this). For instance, in classes in elementary logic, propositions such as *All men are mortal* are often 'entertained' without anything being expressed beyond the bare proposition. The focus of the present chapter is on illocutionary acts.

18.2 The nature of illocutionary acts

18.2.1 Implicit and explicit illocutionary force

The illocutionary act aimed at by producing an utterance is known as the **illocutionary force** of the utterance. There is no communication without illocutionary force. How does a speaker convey, or a hearer understand, the illocutionary force of an utterance? We can first of all distinguish between **explicit** and **implicit** illocutionary force. In the former case, there is a specific linguistic signal whose function is to encode illocutionary force. We can distinguish two types, lexical and grammatical. The lexical type are illustrated by the following:

I promise you I will leave in 5 minutes.
 I warn you I shall leave in 5 minutes.
 I beg you not to leave so soon.
 I thank you for staying.

The verbs *promise*, *warn*, *beg*, *thank*, are known as **performative verbs**: they function specifically to encode illocutionary force. The grammatical type is illustrated by the following:

You wrote the article.
 Did you write the article?
 Write the article!

In these cases it is the grammatical form which encodes the illocutionary force.

According to what has just been said, it would appear that illocutionary force is always explicit. In the sense that every utterance encodes some indication of illocutionary force, this is probably true. However, the illocutionary force of an utterance is not always fully specified linguistically: what is not so specified is implicit. There are two main ways in which the effective force of an utterance may deviate from the overtly expressed force. First of all, it may differ in strength. For instance, the difference between a statement and an emphatic assertion is one of strength. A declarative sentence simply encodes the force of a statement: where it functions as an emphatic assertion, the difference may well be implicit, and must be recovered on the basis of context. The effective force of an utterance may also deviate from the overtly expressed force in respect of specificity. For instance, a number of more specific speech acts, such as promises, threats, warnings, and predictions, share the underlying feature of stating a fact. A declarative sentence simply encodes the force of a statement: where it functions as, say, a promise (in the absence of a performative verb), the difference must be construed on the basis of context. The second way in which the effective force of an utterance may differ from the overtly expressed force is when it performs a different illocutionary act. For instance, *You will leave immediately* has declarative form, i.e. it encodes the

force of a statement; but it could well be used to issue a command. In the latter type of case, it is common to speak of **indirect speech acts**.

18.2.2 Explicit performativity

18.2.2.1 Performative verbs

Performative verbs, that is, those verbs one of whose functions is to signal specific speech acts, have certain peculiar properties which set them apart from non-performative verbs. First of all, they can generally be recognized by the fact that they can occur normally with *hereby*. (We are talking here about semantic normality, i.e. lack of anomaly. The result may well be somewhat stilted.)

- (1) I hereby undertake to carry out faithfully the duties of Royal Egg-Sexer.
- (2) I hereby declare the bridge open.
- (3) I hereby command you to surrender.

This use of *hereby* is not possible with non-performative verbs of speaking:

- (4) *I hereby persuade you to accompany me.
- (5) *I hereby recount the history of my family.
- (6) *I hereby tell the truth.

Performative verbs can be used either performatively or descriptively; in the latter use they are no different from non-performative verbs:

- (7) John is always promising to do things, but he never does them.
- (8) He ordered them to leave the premises.
- (9) Who is going to christen the baby?
- (10) He went round congratulating everyone.

Notice that in such descriptive uses of performative verbs, *hereby* is ruled out:

- (11) *John is always hereby promising to do things.
- (12) *He hereby ordered them to leave the premises.

The performative use of performative verbs is extremely restricted grammatically. They must be in the simple present tense. They may be active or passive; if active, then they must also be in the first person. Consider, first, active uses. Notice the following contrasts:

- (13) I (hereby) promise to pay you next week.
I (*hereby) promised to pay him the following week.
- (14) I hereby declare John Smith the duly elected Member for this constituency.
I have (*hereby) declared John Smith the duly elected Member for this constituency.
- (15) I hereby warn you that legal action will be taken.
I am (?hereby) warning you that legal action will be taken.

Similar contrasts are possible with passive uses:

- (16) Passengers are (hereby) requested not to smoke.
 Passengers were (*hereby) requested not to smoke.
- (17) You are (hereby) warned to leave immediately.
 They will be (*hereby) warned to leave immediately.
 They are at this moment being (*hereby) warned to leave.

Notice that there is no grammatical restriction on descriptive use, that is to say, the use of a performative verb in, say, present simple first person active form is not necessarily a performative use:

- (18) A: Are you clear about what you have to do?
 B: Yes, I (*hereby) christen the baby Jonathan, then I (*hereby) congratulate the parents and then I (*hereby) confess that I am the baby's father and (*hereby) promise never to reveal the fact.

The same is true of passive uses:

- (19) Passengers are (*hereby) regularly requested not to smoke.

Performative verbs are thus ambiguous in certain of their forms, and context is needed to disambiguate them. (Unresolved ambiguities are vanishingly rare.)

Performative verbs used performatively are often held to be non-truth-conditional. It is true that if someone says *I warn you to stay away from her* it doesn't make much sense to reply *That's not true*. (Notice that in reply to *I warned you to stay away from her*, a reply of *That's not true* would be perfectly normal and would deny that there had been a warning.) Similarly with *I congratulate you on your promotion*. However, there are also many performative utterances to which *That's not true* would provide a normal response:

- (20) A: I confess that I took the money.
 B: That's not true.
- (21) A: I predict that the world will end tomorrow.
 B: That's not true.

Such cases, however, do not prove that performative utterances are truth-conditional, at least in respect of their performativity. In (20), for instance, it can be plausibly claimed that it is not the veracity of the fact that a confession is being made that is being called into question, but the truth of the proposition that forms the content of the confession. Likewise, in (21), it can be claimed that B is not challenging the fact that A is making a prediction, but is denying the truth of what he is predicting.

It is, however, still possible to argue that performative utterances are truth-conditional, in spite of the oddness of cases like (22) and (23):

- (22) A: I warn you to stay away from her.
 B: *That's not true.

(23) A: I congratulate you on your promotion.

B: *That's not true.

One might argue that the reason for the oddness of B's answer in (22) and (23) is not because A's performative is non-truth-conditional, but because it is necessarily true, like *Bachelors are unmarried*. The speech acts of warning or congratulating are performed by saying the words *I warn...* and *I congratulate...*, respectively, and therefore cannot be denied. However, this argument is weakened by the fact that unlike *Bachelors are unmarried*, confirmation is just as odd as denial:

(24) A: Bachelors are unmarried.

B: That's true.

(25) A: I congratulate you on your promotion.

B: *That's true.

The position taken here is that the arguments for the non-truth-conditional nature of performativity are the more convincing.

It was implied above that if a performative utterance overtly expressed a proposition, then a denial of its truth is not anomalous (as, for instance, in (20) and (21)). However, the presence of an embedded proposition does not guarantee normality:

(26) A: I warn you the roads are slippery.

B: That's not true, the ice has melted.

(27) A: I bet you £500 that I can get Mary to go to bed with me.

B: ?That's not true.

A's utterances in both (26) and (27) express a commitment of sorts to the truth of an incorporate proposition, but B's reply in (27) is less normal. It seems that if an utterance expresses a proposition whose truth is contingent rather than necessary, the normality of saying *That's not true* depends on the relative salience of the performative part of the meaning and the propositional part. For instance, in the case of *I warn you the roads are slippery*, the important part of the meaning (for most hearers) is that the roads are slippery, not that the speaker is delivering a warning. On the other hand, in *I bet you £500 that I can get Mary to go to bed with me*, the nature of the performative act is crucial. It is therefore a matter of salience, and graded normality.

18.2.2.2 Grammatical performativity

Most languages have grammatical ways of indicating the illocutionary force of an utterance. Four sentential forms (sometimes called sentential moods) are commonly recognized:

DECLARATIVE: *John is brave.*

INTERROGATIVE: *Is John brave?*

IMPERATIVE: *Be brave, John!*

EXCLAMATIVE: *How brave John is!*

These grammatical forms perform the same sort of function that performative verbs do. Thus, the first three sentences above have an obvious relation to the following:

- (28) I (hereby) state that John is brave.
 (29) I (hereby) inquire whether John is brave.
 (30) I (hereby) urge John to be brave.

(Interestingly, the fourth has no performative verb equivalent: *??I hereby exclaim...* This point will be further elaborated below.) However, the range of choice of forms is much more limited than is the case with performative verbs, and hence the meanings are much less specific. It is therefore not possible, in general, to paraphrase the grammatical forms precisely in terms of explicit performative verbs. Let us examine more closely the four types illustrated.

Declaratives. It is obvious that sentences in **declarative** form can exhibit a wide range of illocutionary force. Something like *He's leaving* can function to inform someone of the fact, to ask whether it is true (normally with appropriate intonation), as a promise, or a threat, or a command, or even a congratulation. Because of this wide range, doubts have been expressed as to whether declarative form encodes any sort of speech act at all (in fact the doubts in some quarters extend to interrogatives and imperatives). Austin's original treatment drew a distinction between what he called **performative sentences** and **constatives**, and declaratives fell into the latter category. Later he decided that declaratives, too, were performatives, and that there was no difference in principle between *John is brave* and *I (hereby) state that John is brave*, except that in the latter case, the performative verb was explicit. It is also worth remembering that declarative sentence form has often been regarded as in some sense the 'basic' sentence form, and it is easy to go from this to regarding it as a 'neutral' form, from which all others are 'derived'. It is therefore not surprising that it has a wide range of applicability. This notion of basicness has a parallel in lexical meanings. Compare the colour name *red* with, say, *orange*. *Red* has a wide range of 'extended' uses, as in *red hair*, *red earth*, *red wine*, many of which are not objectively red at all. *Orange*, on the other hand, cannot be used so freely: something described as *orange* must have a colour much closer to the prototype. However, *red* also has a clear prototype. This phenomenon is quite widespread. Take *circle* and *pentagon*. If someone says: *The mourners stood in a circle around the grave*, the circle may be very approximate indeed. But if someone says: *The mourners stood in a pentagon round the grave*, the disposition of the mourners is much more constrained. It is in this sense, perhaps, that the declarative sentence form can be viewed as basic. Being 'basic', it can be extended in ways that other forms cannot. But it nonetheless has a much more restricted, non-extended range of interpretations. And in its prototypical manifestations, it commits the speaker to the truth of the expressed proposition, and thus belongs to the same family of illocutionary meanings as *assert*, *state*, *declare*, *claim*, etc. The various performative verbs mentioned can be regarded as specifications of the

meaning of the straight declarative prototype. (The use of a performative verb also has the effect of highlighting the performative aspect of the sentence: with all grammatical performatives, the performative meaning is relatively backgrounded, but this is especially the case with declaratives.) It would be a mistake, however, to believe that every declarative, to be understood, must be 'translated' into a sentence containing one of the overt performatives. (This is no more true than a claim that, for instance, *It's red* cannot be understood unless the precise named shade of red, e.g. *scarlet*, *crimson*, *maroon*, *brick red*, can be recovered.) An alternative view is that the declarative form does nothing but express the proposition, and that any performative force arises in the form of implicatures. This approach, however, ignores the fact that the prototypical function of the declarative form of sentences is to assert a fact.

Interrogatives. Prototypically, **interrogatives** are used to ask questions, that is, they express ignorance on some point, and aim at eliciting a response from a hearer which will remove the ignorance. There are two sorts of question. The first sort effectively specify a proposition and express ignorance as to its truth: these are the so-called **Yes/No questions**, because they can be satisfactorily answered with a simple *Yes* or *No*. So, for instance, *Is John brave?* presents the proposition "John is brave" and is intended to elicit a response which indicates whether that proposition is true or not. The other sort, known as **Wh-questions**, present an incomplete proposition, and aim at eliciting a response which completes the skeleton proposition in such a way that the resulting proposition is true. So, for instance, the question *What time is it?* presents the skeleton proposition "The time is X", and has the function of eliciting a response that provides a value for X which makes the complete proposition true. Interrogatives (of both types), like declaratives, have a range of non-prototypical uses; but in their prototypical uses they fall into the same sort of semantic area as performative expressions such as *ask*, *enquire*, or *demand to know*.

Interrogatives are sometimes held to be a type of imperative. Thus, the meaning of *Is John brave?* might be paraphrased "Say *Yes* if the proposition 'John is brave' is true and *No* if it is false." Likewise, the meaning of *What is the time?* can be paraphrased "Give me a value for X such that the proposition 'the time is x' is true." These paraphrases are obviously imperative in nature, and equally clearly capture directly at least some of the meaning of the corresponding interrogatives. This analysis gives a good account of examination questions. These have the function of instructing candidates to produce a quantity of linguistic output under certain semantic (and secondarily syntactic, etc.) constraints. Notice the absolute equivalence between *What are the reasons for.....?* and *State the reasons for.....* in an exam context. Notice also that a form such as *State the reasons for.....* will still be regarded as an examination **question**. Another interesting observation is the parallelism between *Open the door, please* and *What is the time, please?*

However, the imperative analysis deals less successfully with cases like *Now where did I leave my wallet?*, said when one is alone. It might be argued that the speaker in such a case is addressing the question to an imaginary hearer, and ordering them to give an answer. But this does not seem intuitively correct: such questions are not usually accompanied by such images. Lyons suggests that in such cases one is not **asking** a question, but merely **posing** it, and that posing a question is expressing doubt or ignorance. Lyons also points to the fact that if someone says *No!* in answer to a command, one is refusing to carry out the desired action, but if one says *No* in answer to *Is John here?*, one is not refusing to answer the question, but is actually answering the question.

It is necessary to make a distinction between saying that questions are a type of imperative, and saying that questions have an imperative-type component to their meaning. There is also a distinction between saying this and saying that questions prototypically have an imperative-like component. (The latter is what will be claimed here.) Notice that the strong imperative analysis omits any mention of an expression of ignorance. Such analyses rely on this being supplied inferentially in the contexts in which it occurs; likewise with the expression of a desire for the ignorance to be removed.

An alternative analysis on the lines of the imperative analysis is to say that what a question really means is an expression of ignorance, leaving the imperative component to be supplied inferentially in the contexts which call for it. This analysis handles the *Where did I put my wallet?* case, but deals less well with the examination case.

It is argued here that none of these reductive analyses accounts satisfactorily for the overwhelming strong intuition that the *real* meaning of a question, its prototype, includes at least the imperative component, the desire for the removal of ignorance, and the expression of ignorance. With this complex as central, it is easy to see other, non-prototypical readings clustering round it, forming a family resemblance structure with varying degrees of resemblance. In this way we can portray INTERROGATIVE as a conceptual category of the familiar prototypic sort.

However, this perhaps does not cover all uses of the interrogative form. Consider (31):

(31) Boy, have I got news for you!

Arguably, this is not a peripheral sort of question. It is not a question at all—more of an exclamation (the exclamation mark fits quite happily). There are therefore grounds for regarding the interrogative form as at least two ways ambiguous.

Imperatives. The prototypical use of an **imperative** is to direct or urge the addressee to do something:

(32) Shut that door!

The prototypical meaning of the grammatical imperative lies in the same semantic area as that of a set of explicit performatives, such as *order*, *command*, *enjoin*,

beg, *beseech*, *request*, and so on, but as usual, is not synonymous with any of them.

Some analyses of imperatives (for instance, Palmer (1986: 29–30)) argue that the strong directive force observable in, say, a military command, is not a property of the imperative as such, but arises from the recognized authority of the speaker. Palmer points to the fact that *Come in!* in response to a knock on the door is not strongly directive, but is in fact a granting of permission. He suggests that the basic meaning of the imperative is the expression of a generally favourable attitude to the action indicated (if a higher-ranking military person expresses a favourable attitude to some action, a lower-ranking addressee will infer that s/he had jolly well better do it!). However, this is not entirely convincing. If someone says *Peel those potatoes!*, the directive force is not at all dependent on the authority of the speaker (although the felicity of the command is). The directive force is, however, dependent on whether the action is more likely to benefit the speaker or the hearer (see the discussion of the 'cost-benefit' scale in Chapter 20). It is arguable that the prototypical use of the imperative is both directive, and aims to elicit actions which are beneficial to the speaker. Hence cases like *Come in!* in answer to a knock on the door, which are only weakly directive, or *Have a nice holiday!*, where the concern is for the benefit of the addressee, on this view would not be prototypical uses.

However, as with interrogatives, there are uses which do not fall under the prototypic concept. Consider (33):

(33) Take another step, and I'll shoot.

The negative force of this use of the imperative shows up in the (relative) normality of the use of *either* in (34):

(34) Take another step and I'll shoot. And don't move your hand, either.

Another example is *Now get out of that!*, said to someone one who has just been lured into a trap. These are not peripheral instances of getting someone to do something, and must be regarded as distinct readings of the imperative form.

Exclamations. Curiously, **exclamations** cannot be performed by any performative verbs, although there are verbs with meanings describing such actions:

(35) What a lovely day it is!

*I hereby exclaim what a lovely day it is.

(I exclaimed what a lovely day it was.)

It seems that one does not exclaim by saying the word *exclaim*: one exclaims by calling something out in a loud voice:

(36) ?How boring it all is, exclaimed John in a barely perceptible whisper.

The word *exclaim* therefore does not encode an illocutionary act. It is too loaded with manner meaning, like *whisper*:

(37) ?I hereby whisper that you mustn't do that in the presence of the Queen.

What, then, *is* one doing with the exclamative form? Is it a speech act? Notice that it is truth-conditional and can be contradicted:

(38) A: What a lovely day it is!

B: Is it hell!

But it is not the primary purpose of an exclamation to inform:

(39) A: Tell me about your day.

B: *What a lovely day I've had!

The encapsulated information seems to be presupposed, although one can enter the house after a day at the beach and say *What a lovely day I've had!* as a way of informing the occupants of the fact that one has had a lovely day. (However, presuppositions can often be used to inform. Take the exchange in (40). B's reply presupposes that John's wife has died, and yet is quite normal even if A does not know this:

(40) A: Why does John live like a hermit?

B: He never got over his wife's death.)

An exclamation expresses a psychological attitude to a fact. Intuitively, it is not performativizable, at least in English, but it is not clear why not.

18.2.3 The 'performative hypothesis'

There are certain types of utterance whose properties seem to suggest that even implicit performatives have a 'hidden' or underlying explicit performative verb. This is the essence of the **performative hypothesis**, according to which every implicit performative has a 'deep' structure something like:

I (hereby) V_p you (that) *S*

where V_p is a performative verb, and *I* (hereby) V_p you (that) is optionally deletable without change of meaning. The claimed advantages of this proposal are that certain otherwise puzzling phenomena receive a natural explanation.

18.2.3.1 Reflexives

(41) The letter was addressed to John and myself.

(42) People like yourself should be given every assistance.

(43) ?The letter was addressed to herself.

On the face of it, there is no antecedent for the reflexive pronoun in (41) and (42) (notice, too, the ungrammaticality of (43)), but if there is an underlying performative verb with a first person subject and second person indirect object, then the mystery is explained.

18.2.3.2 Adverbs

(44) Frankly, I couldn't care less.

(45) What's the time, because I don't want to miss my train?

At first sight, it is not clear what *frankly* in (44) and the *because*-clause in (45) modify; however, the natural interpretation of these suggests that it is the performative verb in each case: "I tell you frankly that I couldn't care less"; "I ask you what the time is, because I don't want to miss my train."

Attractive though it might seem, this analysis runs into serious difficulties, and is now out of favour. Two of the problems may be mentioned. Consider sentences (46) and (47):

(46) I hereby state that I am innocent.

(47) I am innocent.

By the Performative Hypothesis, these should mean the same and therefore should have identical truth conditions. But even if we admit that (46) has truth conditions (which is denied by many) it is true irrespective of whether the speaker is innocent or not; this cannot be the case with (47).

More problems occur with adverbs. For instance, there seems no reason, under the Performative Hypothesis, why *hereby* is allowed with explicit performatives (48), but not with implicit performatives (49):

(48) I hereby ask you what the time is.

(49) *Hereby what is the time?! *Hereby it is three o'clock.

Also the interpretation of many adverbs seem to require the (underlying) presence of verbs not proposed in the Performative Hypothesis:

(50) Honestly, who do you think will win?

This does not mean "I ask you honestly...", but "Tell me honestly...".

18.3 Classifying speech acts

18.3.1 Assertives

These commit the speaker to the truth of the expressed proposition:

state, suggest, boast, complain, claim, report, warn (that)

Notice that *boast* and *complain* also express an attitude to the proposition expressed other than a belief in its truth.

18.3.2 Directives

These have the intention of eliciting some sort of action on the part of the hearer:

order, command, request, beg, beseech, advise (to), warn (to), recommend, ask, ask (to)

18.3.3 Commissives

These commit the speaker to some future action:

promise, vow, offer, undertake, contract, threaten

18.3.4 Expressives

These make known the speaker's psychological attitude to a presupposed state of affairs:

thank, congratulate, condole, praise, blame, forgive, pardon

What seems to distinguish these from *boast* and *complain* is that the attitude expressed by the latter is primarily an attitude towards the state of affairs (or the proposition). In the case of Searle's expressives, the attitude is more towards the persons involved. These do form an intuitively satisfying set, and *boast* and *complain* intuitively do not belong here.

18.3.5 Declaratives

(Declarative speech acts are distinct from the declarative sentence form discussed above.) These are said to bring about a change in reality: that is to say, the world is in some way no longer the same after they have been said. Now in an obvious sense, this is true of all the performative verbs: after someone has congratulated someone, for instance, a new world comes into being in which that congratulation has taken place. What is special about declaratives? The point about these is, first, that they cause a change in the world over and above the fact that they have been carried out. This, however, is again true of all the other verbs, but notice that in the case, say, of *congratulate*, such effects would be perlocutionary, whereas in the case of declaratives they are illocutionary. The second point is that they standardly encode such changes. So, if someone says *I resign*, then thereafter they no longer hold the post they originally held, with all that that entails.

resign, dismiss, divorce (in Islam), christen, name, open (e.g. an exhibition), excommunicate, sentence (in court), consecrate, bid (at auction), declare (at cricket)

There is a finite number of explicit performative verbs in English (several hundred), but there is no reason to believe that there is a theoretically finite set of possible speech acts.

18.4 Conditions for successful performance of speech acts

There are normally contextual conditions which must be fulfilled before a speech act can be said to have been properly performed. These are usually called **happiness conditions** or **felicity conditions**. Some of these are of course conditions on any sort of linguistic communication, such as the fact that speaker and hearer understand one another (usually speak the same language), can hear one another, and so on. The following conditions are more germane to the present chapter and are worth spelling out (after Searle).

18.4.1 Preparatory conditions

Preparatory conditions do not define the speech act, but are necessary in the sense that if they do not hold, the act has not been carried out (it is said to have **misfired**). In the case of declarative speech acts, the person performing the act must have authority to do it, and must do it in appropriate circumstances and with appropriate actions. For instance, it is not enough for someone to break a bottle of champagne on the bows of a ship, and say *I name this ship Venus*, for the ship either to acquire an official name, or to change its name. A proper ceremony must be enacted, with officially recognized participants. The same is true of christening a baby. Even in the case of resigning from a job or position, just saying the words *I resign*, at breakfast, say, does not constitute a resignation: there are proper ways of resigning and channels for communicating such a decision. In the case of a promise, the hearer must prefer the promised action's accomplishment to its non-accomplishment, and the speaker must have reason to believe that the eventuality promised will not happen in the normal course of events. For a command, the speaker must be in authority over the hearer, must believe that the desired action has not already been carried out, and that it is possible for the hearer to carry it out. And so on.

18.4.2 Sincerity conditions

For **sincerity conditions** to be fulfilled, the person performing the act must have appropriate beliefs or feelings. For instance, in performing an act of asserting, the speaker must believe the proposition he is expressing; when thanking someone, one ought to have feelings of gratitude, when making a promise, one should sincerely intend to carry it out, and so on.

If the sincerity conditions are not met, the act is actually performed, but there is said to be an **abuse**.

18.4.3 Essential conditions

Essential conditions basically define the act being carried out. Thus for a promise, the speaker must intend his utterance to put him under an obligation to carry out

the act which corresponds to its propositional content. For a request, the speaker must intend that the utterance count as an attempt to get the hearer to do what is requested; for a statement, the hearer must intend that the utterance count as a guarantee of the truth of the statement; for a question, the hearer must intend that the utterance count as an attempt to elicit the appropriate answer from the hearer, and so on. If the essential conditions are not met, the act has not really been carried out.

18.4.4 Other conditions

Prototypically, the hearer should recognize the speaker's intention to perform the illocutionary act in question in uttering the words in question. This is called **uptake**. Uptake must be distinguished from **acceptance**: the fact that one refuses to accept say an apology or a resignation does not mean that the speaker's intention has not been recognized. Generally uptake does not seem to be a necessary condition for speech acts, but there are doubtful cases. Take the case of boasting. Does someone boast if nobody who hears the utterance thinks its a boast? There are indications that it *is* still a boast. First, it is anomalous to say: *?John tried to boast, but everyone thought he was just stating the facts*. Secondly, one can hear a statement and subsequently find out that someone was boasting: *He told me he had just lost £10,000—I didn't realize at the time that he was boasting*.

Ideally, the speaker's actions subsequent to the utterance should be consistent with the purport of the speech act carried out. Thus, someone who makes a promise should carry out the promised action, someone who orders someone else to do something should not be angry if they subsequently do it, after asking a question, one should give time for an answer to be given, someone who names a ship should not thereafter refer to it by a different name, etc. These inappropriate actions do not destroy the validity of the speech act, but they nonetheless indicate that something is amiss. They may be termed **breaches of commitment**.

Discussion questions and exercises

1. Performative verbs

Which of the following verbs are performatives?

bet (consider both meanings)

pray (in the religious sense)

admire

interrogate

deplore

regret

celebrate

2. Searle's classification of speech acts

Which of the following performative verbs can be classified under more than one of Searle's headings?

complain warn confess bemoan

3. Locutionary, illocutionary, and perlocutionary acts

Thinking of locutionary, illocutionary, and perlocutionary acts (and their components), consider which of them (a) a parrot, and (b) a computer could reasonably be expected to be able to perform.

Suggestions for further reading

For the 'Austin-Searle' version of speech act theory see Austin (1962) and Searle (1969). A good survey of various approaches to speech acts (but not including Leech or Relevance Theory) is Levinson (1983: ch. 5). The views of Leech (who rejects the Austin-Searle position) can be found in Leech (1983). The outlines of a relevance-theoretical account are given in Blakemore (1992: ch. 6).

CHAPTER 19

Reference and deixis

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Reference and deixis

19.1 Reference

The topic of reference has been the cause of an outflow of gallons of recondite ink: some of the subtlest philosophical minds have grappled with it, and the debates have been contentious and inconclusive. What is put forward in this chapter is necessarily somewhat simple-minded.

Under the heading of reference we encounter one of the most fundamental and vital aspects of language and language use, namely, the relations between language as a medium of communication between human beings, and the world about which we communicate. One of the most basic things that we do when we communicate through language is to pick out entities in the world and ascribe properties to them, or indicate relations between them. Reference is concerned with designating entities in the world by linguistic means.

Right at the start we encounter deep controversies. One of these concerns the basic nature of reference. Let us take it for the moment as uncontroversial (it isn't) that one of the terms in an instance of the relation of reference is something in the world. What is the other term? The obvious choices are a linguistic expression, such as *Tom*, or *the man*, and the person speaking. It is commonplace in discussions of linguistic matters to say things like: *Barack Obama* (in, say, *Barack Obama is to visit Ireland in May*) refers to the current president of the United States. Here we are putting forward an expression and a person as the terms of the relation of reference. However, there is no privileged one-to-one relationship between the expression *Barack Obama* and the Barack Obama who is President of the USA. There may well be numbers of Barack Obamas in the world. *Barack Obama* refers to the current president of the USA only when some speaker intends to use the expression for that purpose on some particular occasion. Here we have a unique one-to-one relation, namely, that between the speaker's intention to refer and the president of the USA. We shall therefore adopt Searle's position, and say that reference is not an inherent property of expressions, but is a speech act. This is not to say, of course, that the speech act of reference is unconstrained by the

linguistic expressions used; on the contrary, certain expressions are specially adapted for this function, as we shall see.

Two further uses of the word *reference* should be signalled, one of which will be occasionally adopted here, the other not. It is common to speak of the reference of a linguistic expression, meaning the things it has been used on some specific occasion to refer to. So, for instance, in a newspaper headline: *Barack Obama to visit Ireland in May*, the reference (in this sense) of *Barack Obama* is the present president of the USA. This seems to be harmless, and does not lead to confusion. (If there is any danger of confusion we shall use *referent(s)*.) Another common usage is to say that, for instance, *dog* refers to the class of dogs, and that the reference of *dog* is the class of dogs. This is contrary to our usage, and it will not be adopted. We shall follow Lyons (1968), and say that *dog* **denotes** the class of dogs, and that the class of dogs constitutes the **denotation** of *dog*. (There is of course a relation between what an expression denotes and what acts of reference it can be used in the performance of: the former constrains the latter.)

We have so far assumed that the distal term of the relation of reference is something in the world. But this, too, is rife with controversy, and goes even deeper than the controversy just mentioned. Are there, indeed, any such things as 'things in the world'? Are things not mental constructs? In which case we should specify that reference is to do with things in the experienced world, not in the objective world. Of course, we assume there is some connection between these two worlds, but the relation between referrers and the objective world is indirect. This position is compellingly argued by Jackendoff (1983), and will be assumed here to be correct, although we shall continue to speak merely of things in the world.

19.1.1 Definite reference

There are various types and modes of reference. We shall concentrate on three: **definite reference**, **indefinite reference**, and **generic reference**. There is no doubt that it is definite reference which is the most crucial for the functioning of language. (In the philosophical literature it is usually called 'singular definite reference'; for our purposes, however, there are no particular problems in moving from singular to plural.)

To open the discussion of definite reference, consider the two sentences below:

- (1) The man gave it to her.
- (2) A man gave it to her.

How does the meaning of sentence (1) differ from the meaning of sentence (2)? Obviously both indicate an act of giving by some adult male person (we shall ignore the rest of the sentence). The features which distinguish (1) from (2) can be set out as follows:

- (a) The intended referential target is necessarily a particular entity (believed by the speaker to fall into the category MAN, but notice that the speaker can be

mistaken about this and still, on some particular occasion, successfully refer), who can in principle be uniquely identified by the speaker.

This means that the speaker should be able, on demand, to give information that for him distinguishes the (man) in question from all other men. The speaker may not be able to name the man, or even give any descriptive information: for instance, what makes the man unique may be only that he occasioned an auditory experience on the part of the speaker at a particular time and place.

- (b) The speaker intends that the referential target should come to be uniquely identified for the hearer, too.

This is, in fact, the main point of the act of reference. Once again, the information which enables the hearer to uniquely identify the intended referent may be minimal.

- (c) The act of reference brings with it to the hearer an implicit assurance that they have enough information to uniquely identify the referent, taking into account the semantic content of the referring expression (or other properties of the expression which limit the search space), and information available from context, whether situational (i.e. currently perceivable), linguistic, or mental (i.e. memory and knowledge).

Searle makes a quaint distinction between a 'successful' act of reference, which requires only (a) to hold, and a 'fully consummated' act of reference, which requires also (b). (The act of reference is thus rather like having an orgasm: one can do it on one's own, but to be fully consummated we need a partner.) We can follow Searle, and add the following features/conditions for a fully successful act of referring (not necessarily distinctive for referring):

- (d) Normal input and output conditions hold.

This just means that, for instance, speaker and hearer speak the same language, that the utterance is both audible and comprehensible to hearer, and so on.

- (e) The act of reference is embedded in a more inclusive speech act.

An act of reference cannot stand on its own as a communication: *the man* communicates nothing, except when embedded in a sentence like *I saw the man*, or as an answer to a question such as *What can you see?*

- (f) The speaker intends that the hearer should recognize his intention to refer by virtue of his having produced the utterance in question.
 (g) Prototypically, the part of the utterance the production of which is intended to signal the intention to refer, should have a form which conventionally performs this function.

In general, the identification of the referents of definite referring expressions is necessary so that the hearer can reconstruct the proposition(s) being expressed by the speaker, as these specify the arguments of such propositions.

19.1.2 Indefinite reference

Sentence (2) above is an example of indefinite reference. The essence of indefinite reference is that the identity of the referent is not germane to the message: that is, nothing hinges on the individual features of the referent, only the class features indicated are presented as relevant. Notice that this has nothing to do with whether or not either speaker or hearer are in fact able to effect a unique identification of the referent. Suppose someone complains of extreme boredom, and in response I pick up a book and offer it to him, saying either (i) *Here, read a book*, or (ii) *Here, read this book*. What is the difference? In both cases the identity of the book is clear to both participants. The difference is that in (i), the identity of the book is not germane, just the fact that it is a book, whereas in (ii), the identity of the book is presented as (a) important to the message (e.g. *You're bound to find this particular one interesting*), and (b) accessible to the hearer.

We have so far only considered the indefinite article as a signal of indefiniteness. However, all the following sentences contain indefinite expressions:

Come up and see me sometime.

I expect he's hiding somewhere.

You'll manage somehow.

Are you looking for something/somebody?

She met this sailor.

Some man gave it to him.

To make the spell work, you have to say certain words.

Consider now the following sentence:

(3) To get the automatic door to open you have to say a word.

This can be interpreted in two ways: either it is the case that any word will open the door, or a specific one is necessary. This is the classic **specific/non-specific** distinction in indefinites, which has given rise to much discussion. It is usually claimed that the distinction is operative only in certain modal contexts, e.g. with *want*, *must*, *have to*, and so on (the standard example is *Mary wants to marry a Norwegian banker*). It is true that there are circumstances where the difference is hard to intuit (e.g. *Mary married a banker*), but this may simply be because it is difficult to construct a context where the distinction would be relevant. It would be difficult to extend the idea of 'modality' to cover the following cases, where the distinction can easily be felt:

(4) A: How did he get the door to open?

B: He said a word.

(5) A: Why was Mary angry?

B: Because John bought a book.

The specific readings of *a word* in (4) and *a book* in (5) are very close to "a certain word" and "a certain book", respectively. (I am referring here to what I assume

are central uses of *a certain X*; there are (presumably) marginal cases where the use represents the deliberate avoidance of a proper name for (presumably) non-semantic reasons (i.e. the proper name, would, other things being equal, have been appropriate):

(6) I spoke to a certain person about you know what.

The 'specific indefinite' readings in (4) and (5) share with the meaning of a corresponding definite expression (*the word* and *the book*) that the identity of the referent, as opposed to merely the class of the referent, is relevant to the situation described; what distinguishes these readings from definites is that the speaker does not signal to the hearer that the identification of the referent is essential to the message being conveyed. Notice that *this* can also function as a specific indefinite:

(7) We met this man in the pub.

This usage seems to signal that the man in question has been introduced as a topic about which more will be said; *a certain man* does not function in this way.

There has been some controversy about whether sentences like (3) are genuinely ambiguous between the two readings, or whether the specific reading is merely a contextual enrichment of the non-specific reading. This is somewhat difficult to decide. One can point to the fact that in some languages, the distinction is made grammatically:

(8) Marie cherche un homme qui **peut** lui faire l'amour douze fois par jour.

(9) Marie cherche un homme qui **puisse** lui faire l'amour douze fois par jour.

("Marie is looking for a man who can make love to her twelve times a day.")

In (8), Marie knows exactly who(m) she is looking for; in (9) she is simply overly optimistic. The difference is signalled by indicative vs subjunctive mood in the verb.

In Turkish, a difference of this kind can be signalled by the presence or absence of the direct object marker on the noun:

(10) Bir **kelime** söyledi. ("S/he said a word"; non-specific)

(11) Bir **kelimeyi** söyledi. ("S/he said a word"; specific)

But such observations are not conclusive as far as ambiguity is concerned. If we take it that the specific indefinite is more specific than the non-specific indefinite in the same, or a similar sense in which *dog* is more specific than *animal*, then we can apply the independent truth-condition test. Recall examples like the following:

(12) A: Does John drink?

B: No, he'll just have an orange juice.

This shows that the specific reading of *drink* (= "drink alcohol") has independence. The specific reading of *child* (= "girl") on the other hand, does not pass this test:

(13) A: Was it a child who answered the door?

B: *No, it was a boy.

We can now apply the same test to indefinites. First notice the normality of the following:

- (14) A: Do you have to say a certain word?
B: No, any word will do.

If a word is ambiguous, with "a certain word" as one of its readings, the following ought to be normal:

- (15) A: Do you have to say a word?
B: No, any word will do.

Clearly, this is not normal, and this is evidence for the lack of distinctness of the specific reading.

At least one analysis of indefinites (Hawkins 1978) claims that the use of an indefinite implies that reference is being made to one item out of a set of similar items. Suppose A says *I can't see to read in my bedroom* and B replies *Take a lamp from the dining room*. This seems to implicate that there is more than one lamp in the dining room, otherwise B would have said *Take the lamp from the dining room*. However, this is not quite true: the facts are more complex. Suppose B does not know how many lamps there are in the dining room. In that case, B will still say *Take a lamp*. . . . That is to say, the true implicature of *a lamp*, out of context, is that a plurality of (qualifying) lamps is not excluded. Speaker A will take an implicature that there is more than one lamp only if s/he knows (or assumes) that B knows how many lamps there are. The claim Hawkins should have made, therefore, is that the use of an indefinite implicates that reference is not knowingly being made to an item uniquely defined by the linguistic expression used. If the referent is known by the speaker to be thus uniquely defined, but the particular identity is not specially relevant, then some other construction must be used, for instance, *There's a lamp in the dining room you could use*.

19.1.3 Generic reference

Now consider the following sentences:

- (16) The tiger is a friendly beast.
(17) A tiger is a friendly beast.
(18) Tigers are friendly beasts.

Sentence (16) is ambiguous, with a reading which is irrelevant to our current concerns, but all three have readings which involve what is called **generic reference**, that is, reference to a class of referents. All of the above predicate friendliness as a general characteristic of the members of the class of tigers. None of them is inconsistent with minor exceptions, but all of them are inconsistent with the existence of a significant subclass of unfriendly tigers:

- (19) The tiger, with few exceptions, is a friendly beast.

- (20) ?The tiger is a friendly beast, although there are many that are not friendly.
 (21) A tiger is a friendly beast, although there is the occasional exception.
 (22) ?A tiger is a friendly beast, although many of them aren't.
 (23) Tigers, with few exceptions, are friendly beasts.
 (24) ?Tigers are friendly beasts, although many of them aren't.

None of the above is synonymous with *All tigers are friendly beasts* or *Every tiger is a friendly beast*:

- (25) *All tigers are friendly beasts, although there are a few exceptions.

There are two sorts of proposition involving generic reference as argument: either something is predicated of the whole class referred to, or something is predicated of each member of the class. These two readings available under the heading of generic reference are known as the **collective reading** and the **distributed reading**, respectively. The forms in (16), (17), and (18) have different affinities for these two uses. The form *the X* strongly prefers the collective reading:

- (26) The tiger is extinct.
 (27) The tiger is a widely distributed species.
 (28) *I like watching the tiger.

(Sentence (28) is of course normal if *the tiger* is understood as definite.) Sentence (29) may appear to require a distributed reading, since the possession of a long tail is a characteristic of each individual tiger. However, it is nonetheless arguably a statement about the class of tigers (in contrast to, say, (32) and (37)):

- (29) The tiger has a long tail.

The form *a(n) X* will accept only distributive uses:

- (30) *A tiger is extinct.
 (31) *A tiger is widely distributed.
 (32) A tiger has a long tail.
 (33) I like watching a tiger.

The form *Xs* will accept either use:

- (34) Tigers are extinct.
 (35) Tigers are widely distributed.
 (36) I like watching tigers.
 (37) Tigers have long tails.

19.1.4 Non-referential uses of referring expressions

It is as well to note that although the expression *a tiger* in many of its uses can be used in the act of indefinite reference, it is not always so used, as for instance, in (38):

- (38) This animal is a tiger.

Most analysts agree that this sentence does not state that there is a tiger that this animal is identical with. For instance, it does not make sense to ask *Which tiger is it?* It seems clear that *a tiger* here stands for a set of properties which are being predicated of *this animal*. This enables us to give a satisfying account of (one) reading of *John is a complete politician*, namely, that John has all the properties which are characteristic of (prototypical) politicians.

19.1.5 Reference and information structure

The topic of this section is to some extent a digression; however, it is important and does not crop up anywhere else in the book. It concerns one aspect of how acts of reference function in discourse. The focus here will be on what is called **information structure**, in particular, on the notions of **topic** and **focus**. The presentation of the basic concepts of information structure in this section draws heavily on the much more detailed account in Lambrecht (1994). As a first introduction to information structure, consider the following sentences (stressed items are in bold italic):

- (39) John gave Bill *the book*.
- (40) Bill was given *the book* by *John*.
- (41) The book was given to Bill by *John*.
- (42) It was *John* who gave Bill the book.
- (43) It was *the book* that John gave to Bill.
- (44) *The book*, John gave to *Bill*.
- (45) *Bill* was the one John gave the book to.

All of these, in some sense, say the same thing, namely, let us say, that there was a transfer of ownership of a specific book from John to Bill. They all share the same truth conditions, and hence have the same propositional content. (We might say that they all express the same proposition, but this is not uncontroversial.) In what respect, then, do they differ? The answer is that they differ in respect of information structure. At this point, it will suffice to draw attention to two aspects of this difference. Firstly, there are differences to be observed in the above sentences in the topic, that is to say, in what the sentences are about, and consequently, in what is said about the topic. For instance, in an easily accessible reading of (39), the topic is John, and what is said about him is that he gave Bill the book. In (44), on the other hand, the topic is the book, and what is said about it is that John gave it to Bill; in (43), these roles are reversed: the topic is "what John gave to Bill" and the comment is that it was the book.

The second aspect of difference in information structure is that the above sentences differ in their discourse relations, that is to say, in the sorts of discourse context in which they are normal and coherent. The following are illustrative (the position of the sentence stress is important):

- (46) A: What did John do?
 B: (i) John gave Bill *the book*.
 (ii) **The book*, John gave to *Bill*.
 (iii) *Bill was given the book by *John*.
- (47) A: Did Bill get anything?
 B: (i) Bill was given *the book* by *John*.
 (ii) *It was *John* who gave Bill the book.
 (iii) *It was *the book* that John gave to Bill.
- (48) A: What happened to the book and the picture?
 B: (i) *The book*, John gave to *Bill*.
 (ii) **Bill* was the one John gave the book to.
 (iii) *It was *John* who gave Bill the book.

Information structure, then, is not concerned with the semantic content of utterances as such, but with how a given piece of information can be differently 'packaged' linguistically, and how particular ways of packaging are appropriate in different discourse contexts.

19.1.5.1 Topic

The topic of a proposition is the referent that the proposition is about. In Lambrecht's system, it often corresponds with the subject of the sentence expressing the proposition, but not necessarily, and it often corresponds with the first element in the sentence, but again, not necessarily. For Lambrecht, the notion of topic is a pragmatic one, in the sense that the topic of a proposition cannot be characterized without taking context into account.

The independence of topics from syntactic structure is shown by the following three sentences (from Lambrecht), which all contain the same grammatical structure *The children went to school* (and express the same proposition), but which differ in respect of topic in different contexts:

- (49) (i) (What did the children do next?) The children went to *school*.
 (ii) (Who went to school?) The *children* went to school.
 (iii) (What happened?) The *children* went to *school!*

In 49(i), the referent of the NP *the children* is what the sentence is about. The children in question are already established as a current focus of interest. The VP *went to school* provides information about the children which the speaker judges will add to the addressee's knowledge. Lambrecht calls sentences of this type, in which the grammatical subject expresses the topic, **topic-comment sentences**. They are characterized by a low-pitch accent on the head noun in the subject NP, and a focus (i.e. high-pitch) accent on one of the elements of the VP.

In contrast, the sentence in 49(ii) does not have the function of giving information about the children. The speaker here presupposes that some person or persons went to school, and identifies these for the addressee as the children. Lambrecht

calls this type of sentence an **identificational sentence**. Other structures in English have a similar identificational function:

WH-cleft: The ones who went to school are the *children*.

It-cleft: It was *the children* who went to school.

Lambrecht argues against assigning a topic for sentences like 49(ii). He rejects the suggestion that the topic might be the open proposition "X went to school" (which has a missing constituent) on the grounds that, because of its incompleteness, it cannot have a referent. It is not clear, however, why the topic cannot be the proposition "Someone went to school".

The topic in 49(iii) is once again not the subject of the sentence, although, as Lambrecht admits, the sentence does in some sense convey information about the children. The primary function of the proposition expressed in 49(iii) is to report an event, and the topic, established by the preceding question, is the presupposition that some event occurred. Lambrecht calls this type of sentence **event-reporting**. The following are further examples of this category:

(50) It's *raining*.

(51) There's a *fly* in my soup.

(52) Mum, my *bum's* itchy.

Sentences (50) and (51) are often said to have **dummy subjects**: they do not refer to anything, and hence cannot express topics. The subject in (52) certainly refers to something, but this has not been previously established as a topic, and the real function of the sentence is to report a new state of affairs (remember that for current purposes, 'event' includes 'state of affairs').

Two ways of assessing the topic status of a constituent are the 'as-for test' and the 'about test'. Consider the following as paraphrases of 49(i):

(53) As for the children, they went to school.

(54) He said about the children that they went to school.

These are both satisfactory paraphrases of 49(i), showing that *the children* expresses the topic. But they are not satisfactory paraphrases of 49(ii) or 49(iii). For 49(ii), the nearest we can get to a paraphrase is something like (55) or (56) (a degree of unnaturalness is unavoidable here):

(55) As for those who went to school, they were the children.

(56) He said about those who went to school that they were the children.

There is no equivalent version of either test for 49(iii), which is not surprising, since it does not have a topic.

19.1.5.2 Focus

The notion of focus is usually applied to declarative sentences. It is the part of the sentence which is crucial to the ability of the sentence to convey a piece of

information to the hearer, that is to say, a piece of new knowledge, which in the speaker's judgement the hearer does not already possess. Lambrecht proposes three main types of focus structure: predicate focus, argument focus, and sentence focus.

Predicate-focus structures. This type is exemplified by B's reply in (57):

- (57) A: Why is Bill in prison?
B: He stole some *jewels*.

In this sentence, the topic, *Bill*, is expressed by the unstressed pronoun *he*, and the predicate *stole some jewels*, expresses a property which when predicated of Bill conveys new information to the hearer. This property constitutes the focus of the proposition expressed by the sentence.

Argument-focus structures. This type is exemplified by B's reply in (58):

- (58) A: Who stole the jewels?
B: *The new janitor* stole the jewels.

In this case, the NP *The new janitor* expresses the focus. The presupposition evoked by A's question is the incomplete proposition "x stole the jewels", and B's reply indicates that replacing *x* by *The new janitor* creates a proposition that expresses new information. Notice that it is not correct to say that *The new janitor* expresses new information, because only a proposition can carry information. Lambrecht introduces a distinction between the semantic subject and predicate of a proposition and the pragmatic subject and predicate. B's reply in (58) encodes the proposition "The new janitor stole the jewels", which has "the new janitor" as semantic subject, and "stole the jewels" as semantic predicate. But at the same time, the above sentence encodes a different, pragmatic structuring of the proposition, in which the pragmatic subject is "the x that stole the jewels", and the pragmatic predicate is "is the new janitor". In the predicate-focus structures, the semantic and pragmatic subjects and predicates coincide, whereas in argument-focus structures they do not. Argument-focus structures are sometimes described as 'contrastive'.

Sentence-focus structures. This type is exemplified by (59):

- (59) Your *trousers* are on fire.

This evokes no presupposition and has no topic. The focus domain is the whole sentence: what is asserted is the whole proposition. (Notice that in English this accentual pattern is ambiguous with regard to information structure: (59) could equally be interpreted as having argument focus. The choice of interpretations is influenced by context, general likelihood, and so on.)

19.2 Definite referring expressions

We shall henceforward concentrate on definite reference, which is arguably the prototypical type of reference.

19.2.1 Types of definite referring expression

The following types of expression are definite referring expressions in English:

- (i) NP with definite determiners: *the book, this book, that book, my book, your book, his book, her book, our book, their book*
- (ii) personal pronouns: *I, you, he, she, it, us, they*
- (iii) proper names: *John, Mary, Paris, Gone with the Wind, Middlemarch, Notre Dame, Parsifal, Guernica*
- (iv) certain locative adverbs: *here, there, yonder*
- (v) certain temporal adverbs: *now, then, yesterday, next Xmas, (certain verb tenses)*

Definiteness can also be argued to be present in some unexpected places. For instance, definiteness is a property of 'latent' elements as these were defined in Chapter 14.3.1.2, an example of which is the 'missing' direct object of the verb in (60):

(60) Mary's watching.

The use of a relative adjective like *tall* can be argued to involve covert reference to a reference value for underlying variable property. Thus, *Mary is tall* means something like "Mary's height is greater than X to a noteworthy extent", where X is the reference value for height. Lastly, the use of an ambiguous word such as *bank* likewise involves a kind of definiteness: in, for instance, *We finally reached the bank*, the speaker intends one specific sense out of the possibilities to be operative, and intends that the hearer be able to identify the same sense, its identity being crucial to the message.

Except in the case of latency, it is not possible to convey pure definiteness, and even in such cases, the search space for the intended referent is heavily constrained by selectional restrictions and so on; that is to say, it is virtually always the case that some sort of extra help is given to the hearer in selecting the intended referent(s), and this is typically overtly encoded. So, for instance, *the book* indicates that the intended referent falls within the denotation of *book* (i.e. is an instance of the concept BOOK), *he* indicates that the referent is singular, human, male, and neither speaker nor hearer in the current speech situation, *John* constrains the search to those who bear that name, and so on. The types of help that speakers give to hearers can be roughly grouped under three headings: **describing** (e.g. "human, male", "book", etc.); **pointing** (e.g. *that book* is relatively distant from speaker), and **naming**. These are not, of course, mutually exclusive; a given expression may

incorporate more than one of these. We shall now examine separately and in greater detail, three central types of definite referring expression: noun phrases with the definite article, proper names, and deictic expressions.

19.2.2 Definite descriptions (NPs with definite article)

It has been sometimes claimed that the way definite descriptions work is to provide sufficient information to distinguish the referent from all other possible referents, that is, to render it unique (presumably in the universe). This is not of course ruled out: if someone refers to *the boil on my nose*, and there is clearly only one boil on the speaker's nose, then that illustrious object has been distinguished from all other objects in the universe. But this cannot be a general truth about definite descriptions. Consider the following three instances:

(61) A: Have you seen *Pride and Prejudice*?

B: No, but I've read *the book*.

The emphasized NP refers successfully, but the only descriptive information offered is that the referent belongs to the class of books, and there are millions of these in existence.

(62) A: (in restaurant) I didn't want custard on my pie.

B: You should have told *the waitress*.

(63) A: (at breakfast in hotel on holiday in Durham) What shall we do today?

B: I think we should go and see *the cathedral*.

In none of these cases is enough information given overtly within the definite NP to uniquely distinguish the intended referent, yet they all refer successfully. How is this possible? Of course, in each of the above cases, the hearer ends up in possession of enough information to characterize the referent uniquely. The question is really: what principles govern the amount of information the speaker has to provide explicitly? Sometimes, this may be quite a lot:

(64) Could you send me the small blue book near the right-hand end of the second shelf from the bottom of the bookshelves in my bedroom?

In (61), (62), and (63), the amount of information is quite limited (even so, it is perhaps more than strictly necessary in some cases: for instance, in (61), *I've read it* would probably do), but at least in some cases it is necessary. So, for instance, *the building* would probably not suffice for (63). What we shall say, is that the job of the speaker is to give enough information to uniquely specify the referent within some limited domain. Then, provided that the hearer can identify the relevant domain, the information given will suffice. So, for instance, in (61), the hearer merely needs to identify a book pertaining to something that has just been mentioned; in (62), there are thousands of waitresses in the world, but only one relevant to the current immediate situation that A and B find themselves in; a similar explanation is valid for (63), except that the situation is a broader and less

immediate one. This is all very well, but merely pushes the problem back one stage: how does the hearer identify the relevant domain within which the description offered uniquely characterizes the referent? The process goes something like this. The hearer makes an ordered search through possible domains, roughly in the order: (i) immediately preceding discourse (more strictly, within short-term memory), (ii) immediate situation (currently available to senses), (iii) broader situation, (iv) memory/general knowledge. We need to assume that these are in decreasing order of accessibility (in terms of amount of cognitive work needed to activate them). So, if a qualifying referent is found in the first domain, then that is taken as the intended referent (if there is more than one qualifying referent in the first domain, then the speaker has failed to refer successfully). If there is no qualifying referent in the first domain, the hearer then searches the next most accessible domain, and so on, until he finds a suitable potential referent. This account (adapted from Cruse (1980)) is broadly compatible with a relevance-theoretical account (see Chapter 20).

19.2.3 Proper names

Proper names, too, have given rise to a great deal of discussion, especially within the philosophy of language. There are two diametrically opposed extreme positions with regard to proper names. One of these says that proper names have no meaning whatsoever: this is usually expressed by saying that they have extension, but no intension. That is to say, they are unlike, for instance, *the dog*, which can be used to refer to canines in the extralinguistic world by virtue of the intension, that is, the semantic content, of *dog*. Whereas a proper name like *John* can be used to refer to an individual referent, it does not do so by virtue of its semantic content, but by virtue of some other property, namely, that it is borne by the referent as a name. Imagine we have a batch of identical boxes which we may want to designate individually at some time. The most convenient way would be to stick a numbered label on each of them: we could then talk about *Box 235* and so on. It is clear that the numbers do not constitute in any way descriptions of the boxes, and have no essential connection with their respective boxes. On the view of proper names currently under examination, proper names are no more meaningful than the numbers on the boxes. They function to individuate members of large sets of similar entities, for which distinguishing them by means of descriptions would be either cumbersome, if sufficient details were known, or impossible, if they are not known. Hence, we find proper names used particularly for people and places.

The opposite view of proper names from the above is that proper names function as abbreviated descriptions, that is, they stand for the sum of the properties that distinguish the bearer from all other referents, or, to put it another way, they get their meaning by association, not with generic concepts, in the way that common nouns like *dog* do, but with individual concepts. Thus, just as we say *It's a dog* entails *It's an animal*, and this is ultimately a consequence of the properties of the concepts *DOG* and *ANIMAL*, in reference to the present writer, we would also say

It's Alan entails *It's a man*, because of the relation between the individual concept ALAN CRUSE and the generic concept MAN. It might be objected here that there are many individuals who bear the name *Alan*, and hence the entailment does not hold. However, there is more than one concept DOG (viz. the part of an old-fashioned fireplace where vessels are placed), and hence, by this argument, the former entailment does not hold, either. But there is no reason why ambiguity should invalidate entailment, as long as a determinate sense is intended on the occasion of use. On this view, the only difference between the *dog* case and the *Alan* case is the greater degree of homonymy in the latter. (Notice that in a use such as *There were three Alans in the room*, the word *Alan* is not being used as a proper noun, that is to say, there is no activation of associated individual concepts; *Alan* functions in such cases as a common noun meaning "person bearing the name *Alan*".)

Here we have two apparently irreconcilable views. In fact, it will be argued here that both are (partially) correct. Let us first look at objections to each of the views. A standard argument against the second view, that proper names are abbreviated descriptions, is that the continuing use of proper names for reference is immune to changing conceptions of the nature of the referent: proper names have stable referential properties. We may, for instance, discover that someone we have come to think of as a gypsy princess called Toni turns out to be a Welshman: we can on such a discovery, say, without a hint of contradiction, *My friend Toni isn't a gypsy princess, but a Welsh ex-miner* (notice we don't say *He's not Toni after all* nor *Toni doesn't exist any more* nor even *Toni has changed*). How is this possible, if proper nouns stand for an individual concept? We shall return to this in a moment.

There are also arguments against the proposal that proper names are devoid of meaning. One is that there must be an associated set of properties of some kind, which are in some way defining, or at least distinctive, otherwise one would never be able to say *No, that's not John, that's Bill*. (Notice, that even after the traumatic discovery of the previous paragraph, one would still not be in a position to say *That's not Toni*: it is, on the other hand, inconceivable that the name would persist if *every* property changed.) Another argument, or at least pertinent observation is that many common nouns, have a similar property of denotational stability in the face of modifications in the concept. These are the so-called **natural kind** terms, like *water*, *gold*, *tiger*, and so forth. We shall at some point have to integrate these into our picture. A different line of argument is to point out that, for instance, it would be odd to christen a girl *John*, or *The Old Mill*, or even *Littlehampton*, nor would we expect a boy to be called *Daffodil*, or a country to be called *Mary*. We also say things like: *He doesn't look at all like a Cecil*. Why do we do this if (a) names have no semantic properties and (b) we expect to be understood?

We seem to be faced with a welter of apparently contradictory facts. Yet a satisfying account of proper-name-hood should accommodate them all without strain. Let us consider in more detail how proper names work, and inquire why languages all seem to have them, and what distinctive function they serve. The question can first be considered in the light of the three ways a speaker aids a

hearer in selecting the appropriate referent. It will be remembered that three main ways were postulated: describing, naming, and pointing. How does naming help the hearer? The case of naming is not fundamentally different from the case of describing, where a speaker gives enough descriptive information to render the referent unique in some relevant domain. Something similar is true of the use of proper names: the speaker uses a proper name when only one referent within the most relevant domain bears it; in other words, the name renders the referent unique within the domain. In a definite description, it is the descriptive information which performs the act of selection. Searle makes a point of declaring that "bears the name *John*" is not an adequate paraphrase of the meaning of *John*. And in many important ways this is true. However, it is by means of this aspect of its meaning that a proper name refers/selects its referent. It is clear that in most circumstances, referring by means of a proper name is much more economical than by means of description. In most everyday domains, there is only one John: another way of referring, however, would be necessary at a congress of Johns. It is probably an advantage, too, that proper names are, as it were, re-usable. Speakers normally have a limited inventory of possible proper names (at least for people). It would be uneconomical to have a different name for everyone one knows.

Searle also stresses the importance of the fact that a proper name must be associated with a set of properties—with an individual concept of some sort, in our terms. Otherwise it would not be possible to use a proper name consistently, i.e. by referring to the same individual on each occasion of use: we must have some way of recognizing that individual. The importance of the associated individual concept, however, goes even beyond that: in the act of expressing a proposition using a proper name in argument position, it is the individual concept which forms the true argument of which something is predicated. Notice, too, that a sentence like *Even John thinks that the story must be true* relies on the association of certain properties with *John*. It is also true, however, that we must not lose sight of the fact that changing an individual concept does not entail a change of name: the concepts associated with proper names are, in a sense, always 'interim', and liable to modification at any time. Again, this is unlike descriptions. Searle puts this forward as another functional virtue that proper names possess: their flexibility. It is useful to have ways of referring that are not tied to particular constant conceptual properties. It enables us to refer successfully to entities about which we know very little. A similar functional virtue attaches to natural kind terms. It might be proposed that these are particularly adapted to entities whose essences are mysterious. (It is a moot point whether, for instance, *STALLION* and *HORSE* are different sorts of concept, or whether they are basically the same sort of concept, but they are attached to the words *stallion* and *horse* in different ways.

19.2.4 Discourse referents and their mental representations

This section is based mainly on chapter 3 of Lambrecht (1994).

19.2.4.1 Discourse referents

Discourse referents are things that can be referred to in the course of a discourse, say, a conversation. These are either entities, such as things, people, places, times, quantities, and so on, or they are propositions. In terms of syntax, they are expressed by categories that function as arguments, that is to say, NPs, pronouns, certain types of subordinate clause. Expressions which function as predicates, such as adjectives and finite VPs do not refer to anything, but attribute properties to referents, or designate relations between referents. So, for instance, *is tall* in *John is tall* does not refer to anything, but attributes the property of tallness to John; *am surprised* in *I am surprised that John refused the offer* expresses a relation between the speaker and the proposition "John refused the offer".

Discourse referents are in a sense out in the world (bearing in mind that the world contains, as well as people and objects, language and the minds of speakers) and are in principle distinct from mental representations of referents. There are two significant parameters of variation concerning discourse referents and their representations which determine the use of definitive expressions: the identifiability of referents, and the degree of activation of their representations.

19.2.4.2 The identifiability of referents

The notion of identifiability is closely linked to the use of definite expressions. Briefly, the use of a definite expression such as, for example, an NP with a definite article or possessive pronoun, or a proper name, evokes a presupposition on the part of the speaker that the hearer is able to identify the referent. Being able to identify a referent, for current purposes, does not require familiarity with or knowledge of the referent. But it does require that the hearer have a mental representation of the referent which can function as a locus for attaching new information. Consider the following:

(65) A man came to the door this morning. He claimed to be collecting for charity.

The use of the indefinite *a man* in the first sentence carries a presupposition on the part of the speaker that the referent is not identifiable to the hearer, and functions as an instruction to the hearer to construct a suitable representation. The pronoun *he* in the second sentence carries a presupposition on the part of the speaker that the addressee already possesses a mental representation of the referent. But the only knowledge that the addressee has about this referent is that it was a man who went to the speaker's door that morning. However, the referent is identifiable in the sense that the hearer knows that the information expressed by *claimed to be collecting for charity* is to be applied to the individual who came to the door that morning.

19.2.4.3 The activation status of the mental representations of referents

By definition, if a hearer has a mental representation of a referent, then that referent counts as 'identifiable'. However, the mental representation of an

identifiable referent may not be currently present to consciousness. (Each of us has a vast store of knowledge which can be pressed into service as the occasion demands, but most of it is 'out of mind' at any given moment.) A representation which is 'on-stage' at a given moment is described as **active**. However, there are degrees of being 'not on-stage', depending on how easy it is to bring the representation on-stage. Lambrecht distinguishes two degrees of not-activeness: **accessible** and **inactive**.

An accessible representation is one which is in one's peripheral consciousness or background awareness. An inactive representation is one which is neither on-stage, nor, as it were, in the wings, but is perhaps not in the theatre at all (one must not push this metaphor too far). In psychological terms, we might say, as a rough generalization, that active representations are in short-term memory, and inactive ones in long-term memory. From this perspective it is not clear where accessible representations fit in—in any case, Lambrecht is in favour of a graded scale of activity, rather than discrete divisions.

In terms of the information structure of sentences, there are clear formal characteristics of (expressions of) active and inactive representations, with the intermediate type behaving sometimes like actives and sometimes like inactives. These points will be illustrated using English examples, but the general principles are widely applicable.

Active representations. The clearest signals that a speaker presupposes that a representation is active in the hearer's mind are (i) the use of pronouns, and (ii) unstressed pronunciation, i.e. the lack of a pitch accent (these are not mutually exclusive).

Inactive representations. Marking of an inactive representation is (i) by means of a pitch accent on the referring phrase, and (ii) by full lexical coding. Consider the exchange in (66):

- (66) John: Hello, Mary.
 Mary: (i) Hi. Oh, before I forget, **Tom** phoned me this morning, quite out of the blue.
 (ii) Hi. *Oh, before I forget, he phoned me this morning, quite out of the blue.

Mary's first reply shows that she presupposes that "Tom" is inactive in John's mind (he is referred to by means of a stressed lexical NP) and that he is identifiable by John (proper names are definite). Mary's second reply is anomalous because it expresses a presupposition that "Tom" is active in John's mind, an assumption that does not fit with the context. Mary's reply might have continued as follows:

- (67) (i) ...Tom phoned me this morning, quite out of the blue. He said he's resigned from his job.
 (ii) *...Tom phoned me this morning, quite out of the blue. **Tom** said he's resigned from his job.

In (i), the unstressed pronoun is used in the second sentence because the speaker can presuppose that a representation of "Tom" is active in the hearer's mind, having been evoked in the previous sentence. For the same reason, the stressed full lexical NP *Tom* is inappropriate.

Generally speaking, we can say that the use of an unstressed referring element in an utterance evokes a presupposition on the part of the speaker that a representation of the referent is active in the hearer's mind. However, the state of being active does not entail the use of an unstressed referring element—a presumed active representation may be coded by means of a stressed referring element, whether a pronoun or lexical item. In (68) (from Lambrecht), active referents are coded by stressed pronouns:

(68) I saw *Mary* and *John* yesterday. *She* says *hello*, but *he*'s still *angry* with you.

In (69), a stressed lexical item codes an active referent:

(69) A: Do you think I should plant the *rhododendron*, or the *lilac* in this corner?

B: I would put the *lilac* there.

In both cases, the stress serves to highlight one of two active referents, rather than to indicate a degree of activation. It follows from this that the use of a stressed referring expression does not necessarily indicate a presupposition of an inactive referent; however, an inactive referent does call for a stressed referring expression.

Accessible representations. The intermediate degree of activation of representations of referents, accessible, unlike active and inactive, does not have such clear linguistic correlates, but it is important in connection with topics, because the topic of a sentence must be active or accessible. Lambrecht recognizes three types of accessibility: textually accessible, inferentially accessible, and situationally accessible.

Textual accessibility. A referent is textually accessible if it has been mentioned in previous talk, but is not fully active, typically because some other referent or referents have displaced it from short-term memory, and is not completely inactive, either, and is easily recovered. Consider (70), said in a non-academic context:

(70) The lecturer arrived ten minutes late for the lecture, which was supposed to be on histology. But it had to be cancelled, because the projector wouldn't work. ?He/The lecturer just walked out, without even an apology.

There is some hesitation about using *he*, because one cannot be sure that the representation of the referent is still fully active in the mind of the hearer.

Inferential accessibility. A referent is inferentially accessible if it has not previously been mentioned, but its potential current relevance can be inferred from a currently active referent. One way this might happen is when a referent evokes a conventional scenario, or Fillmorean semantic frame, which contains associated

referents. For instance, mention of a restaurant can invoke referents such as waiter, menu, table, wine, fork, and so on.

Situational accessibility. A referent is situationally accessible if it is present in the immediate context of the discourse, but has not so far been mentioned, nor is it inferable from what has been said. Lambrecht gives the following example (p. 99):

For example, sitting in an office room with a friend I might say 'Those pictures sure are ugly' with reference to some photographs on the wall which I assume my addressee is not presently aware of but which I take to be easily accessible to him.

19.2.5 Indirect reference

Indirect reference is reference to something by means of a linguistic expression whose default use is to refer to something else. We have already encountered two species of indirect reference, namely, metaphor and metonymy (Chapter 12). But the phenomenon goes beyond these, and includes cases which would not normally be considered to fall under either. A typical sort of case involves characters in plays and films and the actors who play them. Imagine a situation where John and his wife Mary both act in a play. John plays a character called Ralph, and Mary a character called Elizabeth. In the play, Ralph and Elizabeth are lovers; the character Ralph is poisoned in the third act by Elizabeth's mother Joan (played by Mary's sister Alice), who hates him and doesn't want him to marry her daughter. In this situation, all the following sentences (and many more like them) have interpretations under which they make true statements:

- (71) John is married to Mary.
- (72) John and Mary are lovers.
- (73) Ralph and Elizabeth are lovers.
- (74) Ralph is married to Elizabeth.
- (75) John is poisoned in the third act.
- (76) Elizabeth and Joan are sisters.
- (77) Joan is Elizabeth's mother.

To account for this and similar cases, the cognitive linguist Gilles Fauconnier (1994) proposes an **identification principle**:

If two objects (in the most general sense), a and b , are linked by a pragmatic function $F(bF(a))$, a description d_a of a , may be used to identify its counterpart b .

In the above case, there is a pragmatic function, which we can label 'dramatic portrayal', which links John to Ralph, Mary to Elizabeth, and Alice to Joan. By virtue of this we can refer to actors by the names of the characters they portray, and vice versa. Notice that each of the sentences (71)–(77) has two distinct readings, one true and one false, without being, in the normal sense of the term, ambiguous (there is neither grammatical nor lexical ambiguity). Another pragmatic function that licenses indirect reference is 'pictorial representation':

(78) (looking at an old picture) You can't see Jane clearly because of the stain.

A pragmatic function of 'constancy of identity over time' allows us to refer to persons at an earlier stage of their life by their present functions, even though those functions did not apply at the time:

(79) My mother was only two years old when war broke out.

Fauconnier accounts for these sorts of case in terms of **mental spaces**. These are mental constructs in which alternative representations of states of affairs are held. The pragmatic functions underlie correspondences that are rather like Lakoff's metaphorical correspondences between domains, in that they connect entities across spaces. For instance, in the theatrical example mentioned above, there is a 'reality space' and a 'play space', each depicting a state of affairs, and there are correspondences which link individuals in one space with individuals in the other space. Example (79) requires a 'present-time' space and a 'past-time' space, the correspondence being based on the persistence of personal identity through time. The description *my mother* is obviously valid only in the present-time space, but can be used to refer to the same individual in the past-time space. Mental spaces have been put to a variety of uses which it is not possible to explore here.

19.3 Deixis

Deixis means different things to different people. For Bühler, any expression which located a referent in space or time was a deictic expression. Thus, for him, *The cat sat on the mat* contained a deictic locative expression, namely, *on the mat* (the sentence also contains a tense-marker, which is usually considered to be deictic). Later scholars have mostly restricted the term deixis to cases where the referent is located using the current speech event or one or more of its participants as reference points. In the sentence *The cat sat on the mat*, the cat is located with respect to the mat: the mat is thus the reference point, and the speech event plays no role. In the sentence *That cat sat on the mat*, however, the cat is located not only with respect to the mat, but also with respect to the speaker, *that* indicating (probably) that the cat was relatively distant from the speaker. A point of disagreement concerns the deictic status of the definite article. Some scholars consider it to be deictic, because the current context of situation is involved in referent identification. Others exclude the definite article, because it does not locate the referent on any specific parameter. We shall, at least at first, include all expressions which truly locate a referent with respect to (some aspect of) the current speech situation. We therefore include personal pronouns, but exclude the definite article. We shall use as a guideline as to whether to include some expression type the feature of whether a change in the speech-situation parameters would entail a change of expression for a given referent. Thus, someone referring to a book held by another person would say *that book*, but the holder of the book, referring to the same book, would

say *this book*; referring to 8 July on 7 July, one would say *tomorrow*, but referring to the same day on 9 July, one would say *yesterday*; a speaker refers to himself as *I*, but his hearer, referring to the same person, would say *you*. We shall initially recognize five main types of deixis: **person deixis**, **spatial deixis**, **temporal deixis**, **social deixis**, and **discourse deixis**.

19.3.1 Person deixis

Person deixis involves basically the speaker, known as the **first person**, the addressee, known as the **second person**, and other significant participants in the speech situation, neither speaker nor hearer, are known as **third person**. All of these, at least in English, come in singular and plural form and several are marked for case:

	Singular	Plural
1st person	<i>I/me</i>	<i>We/us</i>
2nd person	<i>you</i>	<i>you</i>
3rd person	<i>he/him, she/her it</i>	<i>they/them</i>

In many languages, pronoun usage encodes social deixis (see below). Notice that the third person singular forms also encode gender. It is important to realize that the occurrence of gender in these forms is not deictic, that is to say, it is not sensitive to aspects of the speech situation. In other words, not all the meaning of a **deictic expression** is deictic in nature.

A couple of remarks are worth making on the subject of plural forms of personal pronouns. First of all, there is a kind of dominance relation holding among the terms: first person dominates second and third, and second person dominates third. This manifests itself in the following way. If the group designated includes the first person, then a first person plural pronoun must be used, even if there is only one first person and thousands of second and/or third persons. Similarly, if there is no first person in the group designated, but at least one second person, then a second person pronoun is needed. Only if neither first person nor second person is present can plural forms of third person pronouns be used.

The second point concerns the **representative** vs **true** use of the plural pronouns. The word *we* is rarely spoken by a plurality of persons: there is normally a single speaker. This speaker represents the group to which he refers. On the other hand, *they* usually designates a plurality of present referents. Representative use is possible, but is more uncommon (e.g. in pointing to a single person and saying *They are going to Greece for their holidays*). In the second person, the two possibilities, of representative and true use, are more or less equally likely.

Some languages have a different first person plural form according to whether the represented group includes both the speaker and the addressee ('inclusive' form) or the speaker and others, but not the addressee ('exclusive' form). In Pidgin, for instance, the inclusive form is *yumi*, (in origin *you-me*) and the exclusive form is *mifella* (in origin *me-fellow*).

19.3.2 Spatial deixis

Spatial deixis manifests itself principally in the form of locative adverbs such as *here* and *there*, and demonstrative/determiners such as *this* and *that*. English has a relatively impoverished spatial deictic system, with only two terms, usually labelled **proximal** and **distal**. Many languages have three or more terms. The most common types of three-term system subdivide the distal category. There are two main ways of doing this. The first involves a **distal/remote** distinction. (English at one time had such a system, with three terms *here*, *there*, and *yonder*.) Spanish has such a system. The other type of three-term system does not strictly depend on distance, but is closely related to the person system, that is to say, the terms can be glossed "near to me" (= *here*), "near to you", and "not near to either you or me" (= third person). Older analyses of Turkish proposed this analysis. It is nowadays not considered correct, however. One suggestion as to the true nature of the Turkish spatial deictics is that within the distal category there is a **gestural/symbolic** distinction (see below). Spatial deictic systems with more than three terms incorporate such notions as 'visible'/'invisible', 'below the line of sight'/'above the line of sight', and so on.

Let us return now to English (although many of the observations will be more generally valid). The proximal term *here* means something like "region relatively close to the speaker", and *there* means "relatively distant from the speaker". It is important to realize, however, that 'relative closeness' is contextually determined. *Here* may represent an area less than the square metre on which the speaker is standing, or it could be something much vaster, such as *Here in our local galaxy cluster*. This is another species of definiteness: *here* is meaningless unless the hearer can locate the dividing line (in terms of distance) between *here* and *there*. (Paradoxically, there is no limit to how far away *here* can extend.)

The spatial deictics show a similar sort of dominance relation to the personal pronouns. We can illustrate this with *this* and *that*. The point is that the combination of *this book* and *that book* must be collectively referred to as *these books*, not *those books*. This encourages us to think of *this* as a **first person deictic**. (There is a small amount of evidence that *that* is ambiguous between second person and third person, in that *those* prefers to be either one or the other. I can refer to (i) *those books that you have* and (ii) *those books that John has*. If I subsequently say *Those books are very valuable*, there is a strong preference for interpreting this as either (i) or (ii), but not both together, unless you and John can be united in a joint second person reference.)

19.3.3 Temporal deixis

Temporal deictics function to locate points or intervals on the time axis, using (ultimately) the moment of utterance as a reference point. There are thus three major divisions of the time axis: (i) before the moment of utterance, (ii) at the time of utterance, (iii) after the time of utterance. The most basic temporal deictics in

English are *now* and *then*. *Now* is in some ways a kind of temporal *here*, and displays the same capacity for indefinite extension; that is, it can refer to a precise instant: *Press the button—NOW!*; or it can accommodate a wide swathe of time: *The solar system is now in a relatively stable phase* (notice, however, that the phenomenon of dominance is absent from temporal deictics, as is the association with first person). *Then* points away from the present, but is indifferent as to direction, which is normally indicated contextually (*We were happy then/OK, I'll see you then*).

Temporal deictics depend heavily on calendric notions, if we understand that term to subsume both clock and calendar. For instance, *today*, *yesterday*, and *tomorrow*, designate, respectively, "the period of 24 hours beginning at 12 o'clock midnight which includes the time of utterance", "the period of 24 hours beginning at 12 o'clock midnight which precedes the one including the time of utterance", and "the period of 24 hours beginning at 12 o'clock midnight which follows the one including the time of utterance". Notice that these terms' meanings include both deictic information (past, present or future) and non-deictic information ("period of 24 hours beginning . . .", etc.). In English, with the exception of *tonight*, only the 24-hour period has lexicalized deictics. For parallel references to other periods, we must use compound expressions containing the terms *this*, *last*, and *next*, or *tomorrow* and *yesterday*. With the former set, there are complications (and uncertainties) according to whether the time period is referred to by means of a proper name or not. Consider, first, cases where a proper name is not used. Expressions such as *this week*, *last week*, and *next week*, *this month*, *last month*, and *next month*, *this year*, *last year*, and *next year* are all interpreted calendrically, that is to say, to take the example of *week*, *last week* means "the period of seven days beginning on Sunday (or Monday) preceding the corresponding period which includes the time of utterance" (a non-calendric interpretation would be "the period of seven days preceding the time of utterance"). Notice that *Mary is here for a week/month/year* is not normally interpreted calendrically; *Mary is here for the next week/month/year*, according to my intuitions, can be either calendric or not.

If the proper name of a period of time is used, additional restrictions come into play. Take the names of days, first. The lexical items *today*, *yesterday*, and *tomorrow* have priority, so that, for instance, *this Wednesday* cannot be uttered on Tuesday, Wednesday, or Thursday. *Last Wednesday* cannot be uttered on Thursday to refer to the previous day, but may be used to refer to the Wednesday of the preceding week. Speakers disagree as to whether a reference to, say, Monday, said on the Wednesday of the same week, should be *this Monday* or *last Monday*; a parallel disagreement applies to a reference, said on the same day, to the following Saturday—some would say *this Saturday*, others *next Saturday*. In referring to months, *this July* means "the July falling within the calendric year which includes the time of utterance", with the exception that one does not normally say (with exceptions to be noted in a moment) *this July* if one is speaking

in July. With months, there is a similar uncertainty concerning the meanings of *last* and *next* as with named days.

It is, of course possible, and quite normal, to say, for instance, *This July is the hottest I have ever known*, when one is still within the period designated by *this July*. However, it is important to realize that the *this* in this usage is not a temporal *this*, that is to say, it does not belong to the contrast set which includes *last* and *next*. In fact, it is an extended use of the spatial *this*, and contrasts with *That July was the hottest I have ever known*. It is therefore not a specifically temporal deictic.

It has already been mentioned that verb tense represents a type of deixis. This will not be dealt with here, but in Chapter 16.

19.3.4 Social deixis

Social deixis is exemplified by certain uses of the so-called TV (*tu/vous*) pronouns in many languages. It will be illustrated here using examples from French. Arguments will be presented that not all the usages of TV pronouns fall properly under the heading of deixis. One which incontrovertibly does is where relative social status of speaker and hearer is signalled. There are three basic possibilities involving two communicants A and B: (i) A addresses B with *tu*, B addresses A with *vous*; (ii) A addresses B with *vous*, B addresses A with *tu*; (iii) A and B both use the same form (either *tu* or *vous*). The basic parameter here is social status: *tu* points downwards along the scale of social status with the speaker's position as reference point, *vous* points upwards, while symmetrical use signals social equality.

Turning now to instances of symmetrical usage of TV pronouns, let us inquire briefly into the factors which determine whether *tu* or *vous* is used, and whether such usage can properly be regarded as deixis. One factor is usually described by some such term as 'social distance': *tu* indicates intimacy, *vous* indicates lack of intimacy, or distance. It is tempting to draw a parallel here with the proximal and distal terms in spatial deixis, and say that *tu* is proximal and *vous* distal. I shall suggest two reasons why such a parallel should not be drawn. The first is that there is no validity in an argument from reverse metaphor. That is, just because the [+intimate/-intimate] distinction would make a satisfying metaphorical extension from the [proximal/distal] distinction of spatial deixis, it does not follow that that is what it is, especially if the forms used give no support to the derivation. In the present case, there is no spatial content in literal uses of *tu* and *vous* to support such a derivation. The second reason is that the dominance relations between [+intimate] and [-intimate] are the wrong way round. Recall that *here* dominates *there*: in the case of TV pronouns used to signal intimacy (or lack of it), V dominates T. It is hard to demonstrate this in French, because there is no distinct intimate plural form as there is in, for instance, German. But it can be shown. Imagine a group of people appointing one of their number as a spokesperson to address some individual. Suppose that the person chosen would naturally say *tu* to the person being addressed. Suppose further that the group contains individuals

who would naturally say *vous* to the person being addressed. What form does the spokesperson choose? French native intuitions unhesitatingly opt for *vous*.

As a clue to another factor affecting the choice between T and V consider the following situation. A husband and wife jointly front a news programme on TV. When they are on the air, they address one another as *vous*; off camera, of course, they use *tu*. Clearly neither relative social status nor intimacy can explain this. The deciding factor seems to be the formality or informality of the situation. In some languages, sensitivity to situation extends also to first and/or third person pronouns; there may also be a greater than two-way choice of forms (as in Thai). It is at least arguable that this parameter of variation cannot be laid at the door of deixis at all.

19.3.5 Discourse deixis

Discourse deixis refers to such matters as the use of *this* to point to future discourse elements, i.e. things which are about to be said, as in *Listen to this, it will kill you!*, and *that* to point to past discourse elements, as in *That was not a very nice thing to say*. In a similar spirit, the *hereby* of an explicit performative sentence could be said to point to current discourse: *Notice is hereby served that if payment is further delayed, appropriate legal action will be taken*. It is sometimes claimed that certain sentence adverbs, such as *therefore* and *furthermore*, include an element of discourse deixis in their meaning, as they require the recovery of a piece of previous discourse to be understood. *Therefore* and *furthermore* could be glossed: "It follows from that" and "In addition to that", respectively (where *that* is a discourse deictic). A distinction can be made between discourse deixis and anaphora, although the two are obviously related. Anaphora picks up a previous reference to an extralinguistic entity and repeats it. In *John entered the room. He looked tired*, the pronoun *he* refers to the same person that *John* refers to, but it does not strictly refer to the word *John* itself. This contrasts with *one* in *John saw a fox yesterday. Bill saw one, too*, which picks up a word in previous discourse, but not (necessarily) its referent. It must be admitted that in reference to a case like *therefore* the distinction between discourse deixis and anaphora becomes somewhat blurred.

19.3.6 Psychological use of spatial deixis

It may be presumed that spatial deixis is the prototypical variety, and is certainly the source for much metaphoric generalization. A relatively simple extension is into what Langacker calls 'abstract space'. This is exemplified by such usages as: *Here the argument runs into difficulties, What do you think of this idea of mine?/ that idea of George's?* Ideas and arguments do not literally occupy space, but it is easy to think of them as if they did. This use of deixis sometimes seems to invalidate the generalization just given above regarding discourse deixis, namely, that *this* points forwards in discourse: $2+2=4$. *The truth of this proposition is guaranteed by mathematical logic*. We would have to say, here, that *this* is not discourse-deictic (otherwise we would be obliged to use *that*), but means something like "the proposition we have in the forefront of our minds".

Another extended use of spatial deixis is to signal emotive distancing or closeness:

- (80) A: Here comes Jane.
 B: I can't stand that woman.
 (81) This beautiful city of ours.

19.3.7 Gestural and symbolic deixis

Some uses of deictics require for their interpretation continuous monitoring of relevant aspects of the speech situation: in the clearest cases, the hearer has to be able to see the speaker and their gestures:

- (82) Put one over there and the other one here.
 (83) This is the finger that hurts, not that one.
 (84) Press the button when I give the word—NOW!
 (85) I want three volunteers: You, you, and you.

These are examples of **gestural deixis**. In other cases, such minute monitoring of the speech situation is not necessary, and in general, the relevant parameters for the deictic interpretation are established over relatively long periods of a conversation/discourse. This is called **symbolic deixis**:

- (86) (people at an exhibition) Isn't it interesting!
 (87) Isn't this weather gorgeous?
 (88) I've lived in this town for twenty years.
 (89) Those foreigners are always whingeing.

In general, the difference between these would seem to be a matter of degree. However, there is one significant consequence of the distinction, and that is that it is only in the case of gestural use that the place denoted by *here* need not include the location of the speaker (e.g. *Will you please sign here, sir?*).

Discussion questions and exercises

1. Latency and implicit reference points

Identify instances of implicit definite reference points, latent elements, etc. in the following:

- (a) I would recommend the other route.
- (b) Mary will ring up and see if there's still time.
- (c) Turn left at the next traffic lights.
- (d) That's rather a lot, isn't it?
- (e) The last sit-in was much better.

2. Types of deixis

Point out all the instances of deixis in the following, indicating what type is involved:

- (a) I understood that there would be an opportunity to meet her there later that week, and that I would be responsible for bringing the documents. At least, that's what John said.
- (b) Come out from behind there at once, Smith!
- (c) I met *this* chap at the concert, and we got talking. He said that this Xmas had been the worst he had ever spent. I'm meeting him again tomorrow.

3. *Bring* and *take*

Decide which of the following sentences have normal interpretations, and which have none. For those that have, specify any necessary conditions (e.g. the relative location of participants). On the basis of these data, give a concise specification of the deictic properties of *bring* and *take*.

- (a) Take it here.
- (b) Bring it there.
- (c) I will bring it to you.
- (d) I will take it to you.
- (e) I will bring it to John.
- (f) I will take it to John.
- (g) You will take it to me.
- (h) You will bring it to me.
- (i) You will bring it to John.
- (j) You will take it to John.
- (k) John will bring it to you.
- (l) John will take it to you.
- (m) John will bring it to Mary.
- (n) John will take it to Mary.
- (o) John told me he would bring it to you.
- (p) John told me he would take it to you.
- (q) Did John tell you he would bring it to me?
- (r) Did John tell you he would take it to me?
- (s) John told me he would bring it to Mary.
- (t) John told me he would take it to Mary.

4. Non-prototypical uses of deictics

Comment on the use of the italicized items in the following:

- (a) The visitors will arrive at Edinburgh Waverley Station at 3.00 pm. *Here* they will be met by our representative. (Assume the message originated in London.)
- (b) Jackson rubbed his hands with satisfaction: he was *now* in possession of all the facts.
- (c) I have been informed about your insubordination this morning. *This* is the third such incident this week.
- (d) What's all *this* about you leaving next week?

Suggestions for further reading

For illuminating discussions of reference and its varieties, and definite reference in particular, see Searle (1969), Hawkins (1978), Givón (1984), Chesterman (1991).

A thorough account of information structure is to be found in Lambrecht (1994). See also Chafe (1974, 1976) and Halliday (1967, 1970a, 1970b).

Further reading on deixis could usefully begin with Levinson (1983: ch. 2). See also Anderson and Keenan (1985).

CHAPTER 20

Conversational implicatures

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Conversational implicatures

20.1 Grice's theory of implicature

We shall begin the discussion of conversational implicatures by outlining the pragmatic theory proposed by the philosopher H. P. Grice. In Grice's system, implicatures in general stand in opposition to 'what is said', as components of a more inclusive 'what is meant'. All these notions are sophisticated and controversial; the account given here is necessarily of an introductory nature. We shall take 'what is meant' to be equivalent to utterance meaning as defined in Chapter 2—that is, roughly, everything the speaker means to convey by standard linguistic means.

20.1.1 Implicatures and 'what is said'

We can get a grip on the distinction between implicatures and 'what is said' in terms of the normal use of expressions like *X said P/X did not say P*, and the idea of contradictability. Briefly, what is said (in the relevant sense) can be contradicted, agreed or disagreed with, and so on, whereas what is implicated cannot. Consider (1) (already encountered in Chapter 2), and the possible comments by a third person C in (2):

- (1) A: Has John cleared the table and washed the dishes?
 B: He has cleared the table.
- (2) C: (i) That's not true.
 (ii) ?That's not true, he has washed the dishes.
 (iii) You're right.
 (iv) ?You're right, he hasn't washed the dishes.

C would normally feel entitled to conclude from B's reply to A in (1) that B intended to indicate that John had not washed the dishes. However, that piece of information is not available for contradiction or confirmation. C's comment (i) can only mean that C believes that John has not cleared the table; comment (iii) agrees with the statement that John has cleared the table. Comments (ii) and (iv), which focus explicitly on whether John has washed the dishes, are incoherent. Notice, too, that C would not be able to make the claim in (3):

(3) B said that John hadn't washed the dishes.

In other words, in terms of what is said and what is implicated, B in (1) says that John has cleared the table and implicates that he has not washed the dishes.

It is important to point out, however, that some parts of what is said may not have counterparts in the physical utterance. Parts of utterances left unexpressed can be part of what is said:

(4) A: What time does the train for London leave?

B: 2.30.

Suppose that B consults the timetable and finds that the train leaves at 3.30. Both (5) and (6) are then possible retorts:

(5) No, it doesn't. It leaves at 3.30.

(6) You said it left at 2.30.

In other words, what B says (in the relevant sense) in (4) is (7):

(7) The train for London leaves at 2.30.

By the above criteria, certain other aspects of what is meant fall outside the bounds of what is said, and thus are to be considered implicatures. This is true, for instance, of expressive meaning. Somebody uttering (8) undoubtedly expresses anger, but does not *say* that they are angry:

(8) Shut that flaming door!

And (9) and (10) would not be intelligible responses (as they would be to *I'm very angry*):

(9) You have every right to be.

(10) No you're not—you're only pretending.

We must therefore conclude that the expression of anger in (8) is an implicature.

The status of presuppositions is more controversial, but there are some grounds for saying that the speaker of, for instance, (11) is not *saying* that someone stole the mangoes:

(11) It wasn't John that stole the mangoes.

20.1.2 Conversational implicatures

We now have a rough way of separating what is said from what is implicated. We now need to draw a distinction between two types of implicature, **conversational implicatures** and **conventional implicatures**. It is the former type that has overwhelmingly claimed the attention of pragmatic theorists, and we shall follow this trend. The following are amongst the criteria which have been proposed to diagnose conversational implicatures, not only from conventional implicatures, but also from entailments.

20.1.2.1 Context-dependence

An expression can give rise to different conversational implicatures in different contexts, without a change in what is said:

- (12) A: Have you cleared the table and washed the dishes?
 B: I've cleared the table.
 (Implicature: 'I haven't washed the dishes.')
- (13) A: Am I in time for supper?
 B: I've cleared the table.
 (Implicature: 'You're too late for supper.')

In principle, the number of possible conversational implicatures of a proposition is unlimited. The criterion of context dependence is intended to distinguish conversational implicatures from both entailments and conventional implicatures. Take entailments first. There is no context in which (14) does not entail (15):

- (14) John killed the wasp.
 (15) The wasp died.

According to the criterion of context dependence, therefore, (15) is not a conversational implicature of (14). Grice regarded entailments as part of what is said.

Context dependence also serves to distinguish conversational implicatures from conventional implicatures. Conventional implicatures are non-truth-conditional aspects of meaning which are conventionally attached to particular linguistic forms. For instance, the meaning which distinguishes *but* from *and* is of this nature, as is also the difference between *I haven't cleared the table* and *I haven't cleared the table yet*, and between *John killed the wasp* and *It was John who killed the wasp*. These differences are part of the meaning of certain linguistic forms, whether lexical, grammatical, or prosodic, and hence are not context-dependent, and if these forms are used without the intention of carrying their conventional meaning, then they are being misused. Context dependence is not a sufficient criterion on its own, because certain aspects of what is said are also dependent on context (consider, for instance, example (4) above).

20.1.2.2 Defeasibility/cancellability

Conversational implicatures are said to be **defeasible** or **cancellable**; that is, they can be nullified by additional material without any resultant contradiction or anomaly:

- (16) A: Did the Minister attend the meeting and sign the agreement?
 B(i): The Minister attended the meeting.
 B(ii): The Minister attended the meeting; a statement will be issued later with regard to the agreement.

B's first answer as it stands creates quite a strong presumption that the Minister did not sign the agreement. However, the additional material in B(ii) suppresses the

implicature: we are no longer entitled, or invited, to conclude that the agreement was not signed. In the case of a conventional implicature, (17), or entailment, (18), subsequent inconsistent material simply gives rise to anomaly:

(17) ?John hasn't arrived yet: I know for a fact he's not coming.

(18) *John killed the wasp, but it didn't die.

Although defeasibility is one of the standard criteria for conversational implicature, it is nonetheless questionable. The reason is that adding material changes the context: there is no way of suppressing the implicature without doing this. In other words, this criterion arguably adds nothing that is not already covered by the criterion of context dependence.

It is sometimes claimed that the criterion of defeasibility does not reliably discriminate between what is said and conversational implicatures because aspects of what is said can also be cancelled without oddness. Consider (19):

(19) I'm hoping to finish the book by Christmas.

The speaker of (19) will normally be understood to be expressing the proposition more exactly expressed in (20):

(20) I'm hoping to finish the book by Christmas this year.

However, the additional material in (21) appears to cancel the meaning "this year" without anomaly:

(21) I'm hoping to finish the book by Christmas, but not Christmas this year, of course.

I find this unconvincing. The expression *by Christmas* is definite, and designates some specific Christmas. Which Christmas is intended has to be inferred from the context. The default reading is "by Christmas this year", but any Christmas may be intended provided a suitable context is given. This is not a case of cancellation, but of selection:

(22) I'm going to start writing the book in January next year, and I'm hoping to finish it by Christmas.

(I find (21) slightly odd unless the speaker feels that not quite enough context has been given to allow identification of the Christmas intended.)

20.1.2.3 Non-detachability

The same propositional content in the same context will always give rise to the same conversational implicature, in whatever form it is expressed (that is to say, the implicature is tied to meaning, and not to form):

(23) A: Have you cleared the table and washed the dishes?

B: I've taken all the things off the table.

This is not the case with conventional implicatures. In the following, (24) implicates (25), but (26), which is usually considered to be propositionally identical with (24), does not implicate (25). In other words, the implicature (25) is tied to the lexical item *manage*:

- (24) John didn't manage to walk as far as the crossroads.
- (25) John attempted to walk as far as the crossroads.
- (26) John didn't walk as far as the crossroads.

20.1.2.4 Calculability

A conversational implicature must be calculable, using storable general principles, on the basis of conventional meaning together with contextual information. The nature of the calculation will be discussed below. This criterion serves to distinguish conversational implicatures from special arrangements whereby, for instance, two people agree (arbitrarily) that whenever one of them says X, they actually mean Y. For instance, a husband and wife, on their way to a party, might fix it between them that if one of them says *Have you seen anything of Clive recently?* it will mean "Let's leave in fifteen minutes". This will not be calculable, by general principles, from the conventional meaning of the utterance together with contextual information.

20.1.3 The Cooperative Principle

One of the most influential accounts of implicature is that of Grice. Grice framed his account as an account of conversations; it can be extended in obvious ways to other communicative situations, but we shall confine ourselves for the sake of economy to conversations. Let us think in terms of a prototypical conversation. Such a conversation is not a random succession of unrelated utterances produced alternately by participants: a prototypical conversation has something in the nature of a general purpose or direction, and the contributions of the participants are intelligibly related both to one another and to the overall aim of the conversation. By participating in a conversation, a speaker implicitly signals that s/he agrees to cooperate in the joint activity, to abide by the rules, as it were. Grice's version of what a conversationalist implicitly endorses (by accepting to take part in the conversation) runs as follows:

The Cooperative Principle: Make your conversational contribution such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged.

This principle is elaborated by means of a set of maxims, which spell out what it means to cooperate in a conversational way.

20.1.3.1 The Maxim of Quality

This maxim is concerned with truth-telling, and has two parts:

- (i) Do not say what you believe to be false.
- (ii) Do not say that for which you lack adequate evidence.

One could argue that the second sub-maxim entails the first: there will obviously not be adequate evidence for a false statement. We can paraphrase this maxim as *Do not make unsupported statements*.

It may strike some that in real life, this maxim is honoured more in the breach than the observance. However, a moment's reflection should convince anyone that without a default truth-telling presumption of some sort—that is, unless we can count on at least a tendency for utterances to correspond to states of affairs—language would be unlearnable and unworkable. This does not necessarily mean that Grice's formulation is the optimum one. We shall return to this point in due course.

20.1.3.2 The Maxim of Quantity

This maxim is concerned with the amount of information (taken in its broadest sense) an utterance conveys.

- (i) Make your contribution as informative as is required for the current purposes of the exchange in which you are engaged.
- (ii) Do not make your contribution more informative than is required.

Imagine a conversation between Mother and Daughter:

- (27) M: What did you have for lunch today?
- (28) D: Baked beans on toast.
- (29) D: ?Food.
- (30) D: ?I had 87 warmed-up baked beans (although 8 of them were slightly crushed) served on a slice of toast 12.7 cm by 10.3 cm which had been unevenly toasted

(28) is a 'normal' answer; (29) gives too little information; (30) gives too much.

20.1.3.3 The Maxim of Relation

This maxim is very simple:

Be relevant.

The point of this maxim is that it is not sufficient for a statement to be true for it to constitute an acceptable conversational contribution:

- (31) A: Have you seen Mary today?
- B: ?I'm breathing.

Notice that this maxim is implicated in the Maxim of Quantity, which could easily be reformulated as *Make your contribution as informative as is relevant . . .* The

close relationships among these three maxims have led some scholars to combine them into a single maxim. Levinson (1983: 106, fn), for instance, has:

[Make] the strongest statement that can be relevantly made, justifiable by your evidence.

Here, *the strongest relevant claim* is not materially different from *as much information as is required; justifiable by your evidence* corresponds to the Maxim of Quality. The relative 'strength' of two statements can be judged by the entailment relations between them: the stronger of the two entails the weaker. Hence, *John captured a badger* is stronger than *Somebody caught an animal*.

The Maxim of Relation can be understood on the everyday interpretation of the notion of relevance. But so much hinges on it, that it really ought to more explicitly defined. Leech's (1983) version will suffice for the time being:

An utterance U is relevant to a speech situation to the extent that U can be interpreted as contributing to the conversational goals of S or H.

Relevance theorists have their own version, which will be outlined below.

20.1.3.4 The Maxim of Manner

This maxim has four components:

- i. Avoid obscurity.
- ii. Avoid ambiguity.
- iii. Avoid unnecessary prolixity.
- iv. Be orderly.

It is generally regarded as being less important than the others. It is largely self-explanatory, except that

- (i) *Ambiguity*, of course, means "ambiguity in context": it is virtually impossible to avoid potential ambiguity.
- (ii) Not everybody knows what *prolixity* means! The *Concise Oxford Dictionary* has "lengthy, tediously wordy".
- (iii) The type of orderliness Grice had in mind was recounting events in the order that they occurred (if temporal relations are not explicitly signalled). A well-known infringement of this sub-maxim is:

(32) The lone ranger rode off into the sunset and jumped on his horse.

(Of course, there is nothing wrong with: *The lone ranger rode off into the sunset after jumping on his horse*—well, not *much* wrong with it.)

20.1.3.5 The nature of the maxims

A number of points need to be made about the nature of the maxims. The first is that they are not rules, after the fashion of grammatical rules. They are much more flexible, more like guidelines. Infringing a rule of grammar leads to an ill-formed

utterance; the maxims can be creatively infringed, frequently conflict with one another, and are to be followed by and large, to the best of one's ability.

Grice is at pains to emphasize that the maxims are not culture-bound conventions like table manners: they are rationally based, and would hence be expected to be observable in any human society. In fact, Grice claims that similar maxims govern any co-operative activity. So, for instance, if workman A asks fellow-workman B to pass him a chisel, B does not hand over a saw (Maxim of Quality), give two chisels (Maxim of Quantity), hand over a saw when none has been requested or seems necessary (Maxim of Relation), nor does he indicate the location of the saw by means of a riddle (Maxim of Manner). This does not entail, however, that there are no cultural differences to be observed. One way in which cultures can differ is in the relative importance allotted to the maxims. For instance, a strict adherence to the Maxim of Quality may lead to no information at all being given. In some cultures, this may come across as rudeness, and to avoid this result, it may be preferable to provide fictitious information in order to make up a seemly response.

20.1.4 How implicatures arise

It is now time to consider the question of how implicatures arise. In Grice's system, there are two main mechanisms. The first, which gives rise to what are sometimes called **standard implicatures**, requires the assumption that the speaker is doing their best to follow the Cooperative Principle (CP), even though the result may not be optimum from the point of view of the hearer. The second mechanism involves a deliberate **flouting** of the maxims, which is intended to be perceived as deliberate by the hearer, but at the same time as nonetheless intending a sincere communication, that is to say, without abandonment of the CP. Let us look first of all at the first type.

20.1.4.1 Standard implicatures

In some cases, a single maxim seems sufficient to explain an implicature. Examples of this are easiest to find with the Maxim of Relation. One such is Grice's own example:

- (33) A: (Stranded motorist) I've run out of petrol.
 B: (Passer-by) There's a garage just round the corner.

On the assumption that the speaker is obeying the Relation Maxim, B's reply in (33) implicates that the garage both sells petrol and is open, to the best of the speaker's knowledge; if neither of these were the case, the utterance would not be relevant in this context. Another example might be the implicatures of questions in various contexts. Let us assume that the conventional force of an interrogative is to induce the hearer to produce an utterance with certain aspects of its content specified (as we saw in the previous chapter, this is not the only possible interpretation of interrogatives). A likely implicature of *What's the time?*, on the

assumption that the speaker is observing the maxim, would be that the speaker did not know what the time was. However, in the context of an exam, it is not a plausible implicature of *What are the reasons for the decline of the Roman Empire?* that the utterer does not know the answer. A more likely implicature is that the utterer wishes to assess the quality of the hearer's answer.

In most cases (probably), more than one maxim is involved. A number of implicature types can be attributed to Levinson's conflated maxim (repeated for convenience):

[Make] the strongest statement that can be relevantly made.

Consider the following:

(34) A: Where's the corkscrew?

B: It's either in the top drawer in the kitchen or it's fallen behind the piano.

The information given here is not really enough to satisfy the questioner, but if we suppose that B is doing his best to follow the Cooperative Principle, then we must conclude that something is preventing him from giving more. A likely possibility is that he doesn't actually know any more than he says, and to say more would violate the second sub-maxim of the Quality Maxim.

Another related type of implicature goes under the generic heading of **scalar implicature**. For instance:

(35) A: Have you read any of Hardy's novels?

B: I've read some of them.

B's reply implicates that he has not read all of them. If he had, in fact, read all of them, in the context of the question this would have been (a) relevant information, and (b) stronger than what was said, and the maxim would require it to have been given. Since the stronger statement was not made, there is an implicature that something prevents it. In this case, the most likely possibility is that it would not be true. In the following case, B would be seriously misleading the police officer (although perhaps not actually telling a lie) if he had in addition drunk five double whiskies:

(36) A: (Police officer) How much have you had to drink, sir?

B: (Motorist) A half pint of lager, officer.

The implicature is that no relevant, true, stronger statement could be made—that is, B's alcohol intake was limited to half a pint of lager.

Yet another type of case explicable (partly) by Levinson's maxim is the following:

(37) A: What do you think of Mr X's candidacy for the post of Professor of Brain Surgery?

B: Well, he's an excellent golfer, and a damn nice chap.

The implicature here is that surgical skill and experience do not figure amongst Mr X's qualities, otherwise they would be mentioned. However, to explicitly point out their lack would be insulting. It could be argued that the CP cannot wholly account for this, and a Politeness Principle is needed. This will be taken up below.

An example involving the maxims of Relation and Manner is the following:

- (38) In order to obtain a ticket, take up a position with the feet no more than 50 cm from the base of the machine, bending slightly from the waist towards the machine. Take a 20p coin, holding it vertically between thumb and forefinger. Insert the coin carefully into the slot indicated, and release it when inserted more than halfway. The ticket will appear in the lower left-hand slot of the machine.
- (39) To obtain a ticket, insert a 20p coin into the machine.

Under normal circumstances, (38) is far more detailed than is required ((39) would be enough), and thus apparently infringes the 'avoid unnecessary prolixity' injunction. However, assuming the speaker is obeying the CP, and is not given to verbosity, a possible reason for going against the Relation Maxim is that the at first sight redundant information is, in fact, relevant, and hence a likely implicature is that the situation is not normal, and the instructions must be followed to the letter, otherwise unpleasant consequences (or some such) may ensue.

20.1.4.2 Flouting the maxims

The other way in which implicatures arise is through deliberate flouting of the maxims in circumstances in which (a) it is obvious to the hearer that the maxims are being flouted, (b) it is obvious to the hearer that the speaker intends the hearer to be aware that the maxims are being flouted, and (c) there are no signs that the speaker is opting out of the CP. The hearer is thus given a signal that the utterances are not to be taken at face value, and that some sort of extra processing is called for. A weakness of these proposals is that no explanation or motivation is provided with respect to the exact nature of the extra processing. Any of the maxims may be violated in this benign way.

The Maxim of Quality

- (40) The mushroom omelette wants his coffee with.
 (41) I married a rat.
 (42) It'll cost the earth, but what the hell!

In their most likely contexts of use, none of the above sentences is likely to be literally true, but equally, none of them is likely to mislead a hearer. In each case some additional interpretive process will be brought into play. In the first example, the interpretive process will be a metonymic one, and the understood message will be that the person who ordered a mushroom omelette wants his coffee served with the omelette, rather than afterwards. In the second example, the interpretive process will be a metaphoric one. In the third example, the implicatures are not

so obvious, but hyperbole of this kind can implicate a relaxed, informal relationship with interlocutors.

The Maxim of Quantity:

(43) Boys will be boys.

At first pass this gives no information at all. At second pass, we interpret the first *boys* in a subtly different way from the second *boys*. The first includes all boys, even those we thought had been tamed and could be relied on for good behaviour. The second is predicative, and presents certain stereotypic properties of boys as being innate and unavoidable.

(44) It must be somewhere.

Of course it must be somewhere. Completely pointless? Not quite: it implicates that a more determined search will be likely to result in success.

(45) Mother: What did you do?

Daughter: (with exaggerated patience, elaborates a long list of totally uninteresting details)

This represents the inverse of the two previous examples, in that here, too much information is given. The implicature is that the mother is too damn curious, and over-worried about her daughter's doings.

The Maxim of Relation

(46) A: I say, did you hear about Mary's...

B: Yes, well, it rained nearly the whole time we were there.

This is an obviously irrelevant comment. Assume that A and B are having a conversation about a colleague, Mary. Mary approaches them, seen by B but not by A. The implicature is: *Watch out! Here comes Mary!*

The Maxim of Manner

(47) A: I'll look after Samantha for you, don't worry. We'll have a lovely time. Won't we, Sam?

B: Great, but if you don't mind, don't offer her any post-prandial concoctions involving super-cooled oxide of hydrogen. It usually gives rise to convulsive nausea.

The implicature arising from this unnecessary prolixity is obviously that B does not want Samantha to know what she is saying.

20.1.4.3 Particularized vs generalized conversational implicatures

Grice introduced a distinction between conversational implicatures which are highly dependent on precise details of context and those which, while being defeasible, show a relative robustness in the face of contextual variation. He

labelled the former **particularized conversational implicatures** (henceforth **PCIs**) and the latter **generalized conversational implicatures** (henceforth **GCI**s). Levinson (2000: 16) gives the following informal characterization:

- a. An implicature *i* from utterance *U* is *particularised* iff *U* implicates *i* only by virtue of specific contextual assumptions that would not invariably or even normally obtain.
 b. An implicature *i* is *generalised* iff *U* implicates *i* unless there are unusual specific contextual assumptions that defeat it.

Levinson illustrates the difference between PCIs and GCIs with an example of an utterance in two different contexts:

- (48) A: What time is it?
 B: Some of the guests are already leaving.
 PCI: It must be late.
 GCI: Not all of the guests are already leaving.
- (49) A: Where's John?
 B: Some of the guests are already leaving.
 PCI: Perhaps John has already left.
 GCI: Not all of the guests are already leaving.

Notice that the PCIs are tied to their contexts, but the GCI is insensitive to this particular change of context. In fact, the GCI "Not all *Xs* are *Y*" is so closely bound to utterances of the form *Some Xs are Y* that most speakers will probably feel that "not all" is part of the meaning of *some*. However, the non-pleonastic nature of *Some, but not all Xs are Y* (compared with **John killed the wasp, but it died*), and the non-contradictory nature of *Some Xs are Y—in fact they all are* (compared with **John killed the wasp—in fact it didn't die*), show that "not all", though regularly associated with *some*, does not have the status of an entailment. This weaker status is taken by most pragmaticists as evidence that it is, in fact, an implicature.

Levinson (2000), building on Grice's work, suggests a division of GCIs into three types, which we shall call **Q-implicatures**, **I-implicatures**, and **M-implicatures**.

Q-implicatures

Q-implicatures are derived from the principle: 'What you do not say is not the case'. Taken generally, this is obviously not true: it is intended to be applied to a salient, or relevant set of alternatives, which generally differ in informativeness, newsworthiness, or strength. Choosing a weaker member of such a set implicates that the stronger members do not apply. The scalar implicatures mentioned above fall under this general heading. The following are further examples of Q-implicatures:

- (50) He owns three cars.
 contrast set: *one, two, three, four, five ...*
 implicature: "not four", "not five" ...

- (51) If he's free he'll let us know.
contrast set: *since P, then Q; if P, then Q*
implicature: "It's not certain that he is free."
- (52) It made her ill.
contrast set: *become ill; die*
implicature: "she did not die"
- (53) The gunman's target was the Prime Minister.
contrast set: *have a target; hit a target*
implicature: "The gunman did not hit the Prime Minister."

I-implicatures

I-implicatures are essentially enrichments of what is said. Levinson expresses the underlying principle thus: 'What is simply expressed is stereotypically exemplified.' (He subsequently attempts to broaden this principle in order to cover a wider variety of cases, but we shall stay with the simpler version.) The basic idea is that if a hearer will normally expect something to be the case, there is no need to spell it out. The following are examples:

- (54) Daddy brought me a kitten home for my birthday.
implicature: "The kitten was alive."
- (55) We went to that new restaurant yesterday.
implicature: "We had a meal."
- (56) John is going out with a nurse.
implicature: "The nurse is female." (NB: This is a 'normal' inference, but not, of course, in the judgemental sense.)
- (57) If you want to come, I'll get you a ticket.
implicature: "If you don't want to come, I won't get you a ticket."

M-implicatures

The principle underlying M-implicatures is, as it were, the other side of the coin from the I-principle, and can be expressed thus: 'Marked expressions call for marked interpretations.' In other words, there is usually a good reason for a departure from the normal way of saying something. Example (34), viewed as a departure from the more normal (35), illustrates this principle. The following are further examples (the sentences are from Levinson):

- (58) Bill caused the car to stop.
default expression for normal event: *Bill stopped the car*
implicature: "Bill did not stop the car in the normal way."
- (59) The corners of Sue's lips turned slightly upwards.
default expression for normal event: *Sue smiled.*
implicature: "Sue's facial expression was not a normal smile."

All three types of implicature can be related to Grice's original maxims. This reworking is intended to elucidate the principles specific to GCIs.

20.2 Politeness: principles and maxims

20.2.1 The Politeness Principle

There is no doubt that the Cooperative Principle can go some way towards explaining the generation of implicatures. But one class of implicature which receives no account under this heading concerns implicatures of politeness. For this, Leech has proposed an independent pragmatic principle, to function alongside the Cooperative Principle, which he calls the **Politeness Principle**. There are other approaches to politeness (see "Suggestions for further reading" at the end of this chapter). Leech's version has been chosen because it meshes easily with the preceding discussion of Grice.

Before discussing this principle and its maxims, some discussion of politeness is in order. Politeness is, first and foremost, a matter of what is said, and not a matter of what is thought or believed. Leech expresses the Politeness Principle thus:

(I) Minimize the expression of impolite beliefs.

This is not an ideal formulation, as politeness does not essentially concern beliefs. However, it does have the merit of throwing the weight onto *expression*. Let us rephrase the principle as follows:

(II) Choose expressions which minimally belittle the hearer's status.

The sorts of thing which may be thought to belittle the hearer's status (or, alternatively expressed, cause the minimum loss of face to hearer) are:

- (i) Treating him/her as subservient to one's will, by desiring him/her to do something which will cost effort, or restrict freedom, etc.
- (ii) Say bad things about him/her or people or things related to him/her.
- (iii) Express pleasure at his/her misfortunes.
- (iv) Disagree with him/her, thus denigrating his/her thoughts.
- (v) Praise oneself, or dwell on one's good fortune, or superiority.

The purpose of politeness is the maintenance of harmonious and smooth social relations in the face of the necessity to convey belittling messages. Of course, the nature of reality, social, psychological, and physical, constrains the scope for politeness: if our world is to 'work', we must respect this reality. We can think of the Cooperative Principle and the Politeness Principle as mutually restraining influences.

It is worthwhile distinguishing between **positive** and **negative politeness**. Negative politeness mitigates the effect of belittling expressions:

(60) Help me to move this piano.

(61) You couldn't possibly give me a hand with this piano, could you?

Positive politeness emphasizes hearer's positive status:

(62) Thank you, that was extremely helpful.

Generally speaking, we are more concerned, as social beings, with negative politeness, as breakdowns in social harmony are much more likely as a result of the expression of belittling thoughts. Another dichotomy in politeness phenomena is between speaker-related and hearer-related effects. Generally, speaker-oriented politeness involves self-belittlement, as any aggrandizement of self implies a relative belittling of the hearer. As a general rule, hearer-oriented politeness is more salient and more crucial.

Certain language expressions are specialized for polite use, such as *please* and *thank you*. These involve conventional implicatures, because the politeness is conventionally associated with the linguistic expressions. But the greater part of politeness comes across in the form of implicatures, although these are arguably not propositional in nature. The overall mechanism Leech proposes for the generation of implicatures via the Politeness Principle is similar to that proposed by Grice for the Cooperative Principle, in that it is accompanied by a set of more specific maxims.

20.2.1.1 The Tact Maxim

The Tact Maxim is oriented towards the hearer and has positive and negative sub-maxims:

- (i) Minimize cost to the hearer
- (ii) Maximize benefit to the hearer

The operation of this maxim can be clearly seen in the context of **impositives**, that is, utterances which have the function of getting the hearer to do something (the term *impositive* includes commands, requests, beseechments, etc.). We can roughly order impositives in terms of the cost to the hearer, greatest cost first:

Lend me your wife.

Wash the dishes.

Pass the salt.

Say *Ah!*

Have another sandwich.

Have a nice weekend.

We can think of this as a continuous (**cost-benefit**) scale, although, of course, there is a switch-over, somewhere in the middle of the list, from cost to benefit. How does the Tact Maxim work? Well, it is obvious that the linguistic form of the impositive is not going to affect the real cost or benefit to the hearer: what the maxim means is that in order to get a hearer to do something which involves a cost, a polite speaker will cast his utterance in a form which softens the effect of the

impositive. Conversely, to get the hearer to do something to his benefit, a polite speaker will strengthen the impositive. What is meant by softening or weakening an impositive is, essentially, making it easier for the hearer to refuse. This can be done by increasing optionality or by increasing indirectness. These two factors cannot necessarily be clearly separated. For instance, (63) is more polite than (64), and (65) is politer still:

(63) Could you wash the dishes?

(64) Wash the dishes!

(65) I was wondering if you could possibly wash the dishes.

Sentence (63) does not directly encode an imposition; its literal force is to inquire about the hearer's ability to perform the task, and leaves the impositive force to implicature. It is therefore more indirect than (64). Implicatures are inherently weaker than explicatures, so the impositive force is weaker, and a refusal by the hearer would be less impolite. Sentence (65) is even more indirect, as it does not, literally, even ask a question, but merely voices the speaker's internal musings.

Looking at impositives which correspond to a benefit to the hearer, we may first note that (66) is definitely not more polite than (67):

(66) I was wondering if you could possibly enjoy your holiday.

(67) Enjoy your holiday!

For hearer-beneficial impositives, the situation is reversed, and the stronger impositives are the more polite. (66) is actually rather rude: it suggests that the hearer is a habitually gloomy, complaining type.

Notice that the politeness in the cases discussed does not inhere in the linguistic forms: there is nothing inherently polite in *I was wondering if you could possibly V*. Politeness is an implicature arising from a three-way interaction between explicature, context, and the Politeness Principle.

20.2.1.2 The Generosity Maxim

The **Generosity Maxim** is a sister to the Tact Maxim, but is oriented towards costs and benefits to the speaker, rather than to the hearer. It has the following two sub-maxims:

(i) Minimize benefit to self.

(ii) Maximize cost to self.

This maxim works in a way parallel to that of the Tact Maxim, except that the effects are reversed. So, for instance, offers to do something which involves benefit to the hearer but cost to the speaker must be made as directly as possible, for politeness. Hence, (68) is more polite than (69):

(68) Let me wash the dishes.

(69) I was wondering if I could possibly wash the dishes.

On the other hand, politeness requires that requests for benefit to the speaker be weakened:

- (70) I want to borrow your car.
 (71) Could I possibly borrow your car?

20.2.1.3 The Praise Maxim

The Maxims of Praise and Modesty form another natural duo, concerned, in this case, with the expression of positive or negative opinions about the speaker or the hearer. The **Praise Maxim** is oriented towards the hearer, and goes as follows:

- (i) Minimize dispraise of the hearer
- (ii) Maximize praise of the hearer

As usual, negative politeness is the more crucial, hence the first sub-maxim is the most likely to be brought into play. The effect is to tone down any criticism or unfavourable comment:

- (72) A: Do you like my new dress?
 B: *Impolite*: No.
 Polite: Well, yes, but it's not my favourite.
 (73) A: Oh! I've been so thoughtless.
 B: *Impolite*: Yes, haven't you?
 Polite: Not at all—think nothing of it.

The effect of the second sub-maxim is to exaggerate praise:

- (74) Thank you *so* much for inviting us. We had an absolutely *wonderful* time!

20.2.1.4 The Modesty Maxim

This maxim is the natural partner of the previous one, being oriented towards the speaker, with the relevant 'values' reversed:

- (i) Minimize praise of oneself
- (ii) Maximize dispraise of oneself

Praising oneself is inherently impolite, so negative politeness here is a matter of toning down self-congratulation:

- (75) A: You did brilliantly!
 B: *Impolite*: Yes, didn't I?
 Polite: Well, I thought I didn't do too badly.

Positive politeness under this heading, i.e. exaggerating protestations of worthlessness, tends in the direction of grovelling:

- (76) Your Majesty, I am a mere worm, a disgusting toad, a dog's turd, and I deserve no forgiveness! I throw myself at Your Majesty's feet!

It is perhaps worth pointing out here the paradoxical fact that implicatures of politeness only arise when it is clear to the hearer that the speaker's utterance is not completely sincere. If someone does something very well and one tells him so, although such praise is, in a sense, inherently polite, and is enjoined by the maxim, it does not seem satisfactory to say that politeness in such a case is an implicature. True implicatures of politeness are paradoxical because they indicate that the speaker's opinion is in reality less complementary, or more critical, as the case may be, and this is, of course, less polite. In other words, the message "I am being polite" is itself impolite, although indirectly and therefore weakly. This kind of paradox runs through all politeness phenomena (see Leech for more detailed exemplification and discussion).

20.2.1.5 The Agreement Maxim

The final two maxims do not form a pair. This is not, as Leech claims, because they do not involve bipolar scales (at least one of them does), but because they are inherently relational in a way that the others are not. That is to say, agreement is a relation between the opinions of the speaker and those of the hearer. One cannot contrast an orientation towards the speaker with an orientation towards the hearer, as with praise, and benefit/cost. It does not matter whether agreement forms a bipolar scale or not (there are grounds for saying that it does, with "have no opinion" as the mid-point and "agreement" and "disagreement" as polar extremes). But sympathy/antipathy (see next maxim) definitely is bipolar, with a central "indifference" representing zero between the two extremes). This maxim is simply:

- (i) Minimize disagreement with the hearer
- (ii) Maximize agreement with the hearer

The sub-maxims are not clearly distinct. A typical strategy is to begin with partial agreement before expressing disagreement:

(77) A: She should be sacked immediately. We can't tolerate unpunctuality.

B: *Impolite*: I disagree.

Polite: I agree with the general principle, but in this case there are mitigating circumstances.

20.2.1.6 The Sympathy Maxim

Sympathy is again a matter of a relation between the speaker and the hearer, and cannot, therefore, be differentially speaker- or hearer-oriented:

- (i) Maximize sympathy (expression of positive feelings) towards the hearer
- (ii) Minimize antipathy (expression of negative feelings) towards the hearer

As Leech points out, this maxim means that congratulations and commiserations/condolences are inherently polite acts. However, once again, it seems we can speak

of implicatures of politeness only if a discrepancy can be intuited between what the speaker says and what he or she feels.

20.2.1.7 The Consideration Maxim

Leech presents this as a separate principle (the **Pollyanna Principle**), with, in my opinion, very little justification, as it works just like the other maxims:

- (i) Minimize the hearer's discomfort/displeasure
- (ii) Maximize the hearer's comfort/pleasure

Negative politeness under this maxim involves the softening, by various devices, of references to painful, distressing, embarrassing, or shocking events, facts, or things, etc. For instance, if someone's husband has recently died, it is more polite to say *I was sorry to hear about your husband* than *I was sorry to hear about your husband's death*, as the latter highlights the distressing event to a greater degree. Another typical manifestation of this sub-maxim is euphemism, where indirectness of various kinds is employed to avoid mention of words likely to cause offence. The following examples use a de-specifying strategy:

- (78) *Polite:* She has a lovely figure.
Impolite: She has beautiful breasts.
- (79) *Polite:* He exposed his parts.
Impolite: He exposed his penis.

The following example uses a kind of frozen metonymy (at one time one had to put a penny in the door of a public toilet to get in):

- (80) *Polite:* Hang on a minute, I need to spend a penny.
Impolite: Hang on a minute, I need to piss.

The converse sub-maxim, concerned with positive politeness, requires one, for instance, to be more specific when referring to things the thought of which is likely to give the hearer pleasure. Thus, if the hearer's daughter, Jennifer, has just won an Oscar, then (81) is more polite than (82)

- (81) That was great news about Jennifer's Oscar.
 (82) That was great news about Jennifer.

20.2.2 Miscellaneous principles

Leech proposes two more principles, independent of both the Politeness Principle and the Cooperative Principle. We shall not propose additional principles, but follow the Gricean example and speak instead of deliberate flouting of the Principle of Politeness. There are two basic possibilities here; one can be superficially polite, but patently insincere, leading to rudeness by implicature, or one can be superficially rude, but patently insincere, leading to politeness by implicature. The insincerity must be indeed patent for the trick to work, and the

strategy carries a certain risk that one might be taken at one's word. Leech groups the following sort of example under what he calls the **Irony Principle**:

- (83) You're a fine friend! (with appropriate intonation)
 (84) Do help yourself! (to someone who helps himself unjustifiably, without invitation)
 (85) Well, thank you very much! (someone parks his car in front of your drive, so you can't get out)

The opposite sort of case comes under Leech's **Banter Principle** (actually both involve a type of irony):

- (86) Look what the cat's just brought in.
 (87) You stupid bitch! (to a close friend who's just done something daft)

The implicature here is that the relationship is so solid that politeness is not necessary, and this is, of course, a polite implicature.

20.2.3 General discussion

Like the Cooperative Principle, the Politeness Principle is intended to be universal, i.e. not culture-dependent, in its application. However, probably even more than the maxims of conversation, the politeness maxims are given different relative weightings in different cultures, with the result that politeness phenomena in speech can have a very different superficial appearance, and a knowledge of the maxims is no guarantee that one can avoid solecisms. The relative weighting of cooperative as against politeness maxims also varies. For instance, a British hostess will probably take a compliment on her cooking something like this:

- (88) Guest: Oh, Jane, that was a delicious meal.
 Jane: Thank you. I'm glad you enjoyed it.

However, a Japanese hostess in a similar situation (so it is reported) is obliged by politeness rules to deny any merit whatsoever in her efforts to entertain, so that quite long 'arguments' can ensue, with the guest praising the meal and the hostess denigrating it. This can be explained by the high weighting given to the Modesty Maxim in Japanese culture (and the relatively low weighting to the Quality Maxim, since it is unlikely that the Japanese hostess actually believes her meal to have been worthless). (The rules have, I understand, been different at an earlier period in certain sections of British society, where the guest's comment in (84) would have been taken as an insult. The reason is that it would have been understood as the expression of a newsworthy proposition, i.e. something unexpected! This presumably has something to do with the status of the Maxim of Relevance.)

20.3 Relevance Theory

We have so far been discussing implicatures on the assumption that human linguistic communication is governed by a set of more-or-less independent maxims, and we have looked at two more-or-less self-consistent sets, each set subsumable under a very general principle. Let us concentrate on the Gricean maxims for a while (Leech's maxims have an important, but rather different job to do; let us say they are less to do with content than with manner). At several points in the discussion of the Gricean maxims it was noted that the Maxim of Relation had to be implicated in the interpretation of a particular maxim. For instance, the Maxim of Quantity boiled down to something like *maximize relevant information*, and the *avoid prolixity* sub-maxim of the Maxim of Manner needed to be interpreted as *don't be irrelevantly verbose*. In fact, it can be argued that all the maxims can be disregarded, provided some relevant message can be inferred. This suggests that perhaps some reduction in the complexity of the system is possible: perhaps the only maxim that really matters, the only one that cannot be broken, is the Maxim of Relation. In other words, it looks as though the only requirement for bona fide communicative utterances might be that they should be maximally relevant on all salient parameters. This is the basis of Relevance Theory, a comprehensive pragmatic theory developed originally by the French anthropologist Dan Sperber and the British linguist Deirdre Wilson. The notion of implicature (which in a relevance-theoretical context refers only to conversational implicature) is a crucial concept of the theory. The following brief account is based mainly on Sperber and Wilson (1986), but also draws on the work of Diane Blakemore and Robyn Carston.

Relevance theorists make the following criticisms of the Gricean approach:

- (i) Implicatures are derived by combining explicature and context, but it is assumed that context is unproblematic and 'given'. But how do hearers select the relevant features of context?
- (ii) No definition of relevance is offered.
- (iii) The methods of deriving implicatures are inexplicit and ad hoc.
- (iv) The notion of 'flouting the maxims' is paradoxical, when in every case a relevant message ensues. If relevance is the key, perhaps the notion of flouting can be dispensed with.

20.3.1 The principle of relevance

In Relevance Theory, the Cooperative Principle is replaced by the Principle of Relevance, and this in turn is claimed to make the separate maxims redundant. According to Carston (2002), the Principle of Relevance comprises two sub-principles, the Cognitive Principle and the Communicative Principle.

The Cognitive Principle of Relevance

(III) Human cognition is geared towards the maximization of relevance (that is, to the achievement of as many contextual (cognitive) effects as possible for as little processing effort as possible.

The degree of relevance of a communicated fact is governed by two factors:

- (i) Contextual effects: the more of these there are, the greater the relevance of a particular fact. Contextual effects are such things as:
 - (a) adding new information
 - (b) strengthening old information
 - (c) weakening old information
 - (d) cancelling old information

A new fact which is totally unconnected with anything already known is probably not worth processing. A new fact which, taken together with old information, allows many new inferences, is probably worth processing.

- (ii) Processing effort: the less effort it takes to recover a fact, the greater the relevance of the fact. In particular, the following general points can be noted:
 - (a) More salient facts take less effort to access than less salient facts.
 - (b) Direct inferences take less effort than indirect inferences.

The Communicative Principle of Relevance (slightly modified)

(IV) Every bona fide act of linguistic communication automatically carries with it, by the mere fact of its being executed, the utterer's belief in its optimal relevance.

In other words, by saying something (in the normal course of human interaction) one is telling the hearer(s) not only that one thinks that what one says is worth the time and effort it will take to process it, but also that no more easily processed utterance would give the same result.

The procedure to be followed by a hearer in interpreting an utterance is summarized by Carston (2002: 45) as follows:

Check interpretive hypotheses in order of their accessibility, that is, follow the path of least effort, until an interpretation which satisfies the expectation of relevance is found; then stop.

20.3.2 The problem of context

The proper context for the interpretation of an utterance is not given in advance; it is chosen by the hearer. The correct context is the set of assumptions which yields adequate contextual effects compared with effort required when combined with new information contained in the utterance.

The speaker has the prime responsibility in communication: the speaker assumes certain facts about the hearer's knowledge and its organization, in particular, the relative accessibility of facts. The speaker produces an utterance which will enable

the hearer to make the correct inferences with minimum expenditure of cognitive effort.

The hearer's role is more passive. The hearer tries possible contexts in order of accessibility, and the first one to yield relevant inferences commensurate with the effort expended up to that point is the one intended by the speaker.

20.3.3 Explicature

The **explicature** of an utterance corresponds in many ways to the notion of 'what is said' that was presented earlier. It consists of all the propositions that are explicitly communicated by the speaker through that utterance. The explicature of an utterance is closely tied to what is explicitly encoded in the linguistic form uttered, but is not identical to it. An explicature must be logically complete. For instance, if it is a statement, it must embody at least one proposition with a truth value. It was pointed out in Chapter 2 that most sentences do not encode propositions. Carston goes further than this and claims that none of them do. Hence, to get from what is encoded in an utterance to its explicature, a process of elaboration is necessary. This process of elaboration is driven by the principles of relevance. We shall illustrate four aspects of explicature where recourse to inference, guided by relevance, is required.

20.3.3.1 Disambiguation

Normal language is full of potential ambiguities, but these are only rarely noticed, because they are disambiguated by context. This disambiguation process is relevance-driven. Each of the following sentences contains at least one ambiguous word, but none of them is intuitively ambiguous, even out of context:

- (89) She has a mole on her left cheek.
- (90) They managed to place a mole in the rival organization.
- (91) I can't see you now, I've got to go to the bank.

In (89) and (90), the disambiguating information is at least partially given in the sentence, although relevance plays a part in both cases. In (89), the presence of *cheek* in the sentence predisposes us to select the reading "small dark spot on the skin" for *mole*, largely because the cognitive effort involved in creating a plausible scenario in which that particular proposition played a part is significantly less than that required to construct a scenario in which a furry animal or an industrial spy was involved. Less effort entails greater relevance, hence that is the reading selected. In (90), the "small dark spot" reading of *mole* is ruled out as anomalous, but the relative difficulty of scenario-construction for "furry animal" as compared with "industrial spy" ensures that the latter is selected. Sentence (91) contains nothing specific to bias the interpretation towards a financial bank, but it is nonetheless the case that it is easier to envisage a scene where a financial bank is involved, than one where the bank of a river is involved. This is because our

memories contain records of frequently encountered scenarios which can relatively easily be retrieved.

20.3.3.2 Reference assignment

A second important role for inference in the construction of an explicature is in the identification of the referents of definite referring expressions. Obviously, context is crucial here. As an illustration, consider (92) (slightly adapted from Blakemore):

- (92) A: I'll make the salad dressing.
 B: The oil's on the top shelf.
 A: I can't see it.

We shall ignore the problem of identifying the referent for *the salad dressing* and move to the question of the referent of *the oil*. No oil has been mentioned up to that point, so which oil are we talking about? Relevance requires us to maximize contextual effects, and one way of doing this is to integrate an utterance with previous discourse. In the present instance, this can be done by retrieving an item of knowledge from memory to the effect that one of the ingredients of salad dressing is oil. This is known as **bridging** and is a common discourse-processing device. In this way, an integration is accomplished, with satisfactory inferential consequences, by identifying the referent of *oil* with the oil needed to make the salad dressing. This is possible without any more contextual information.

But suppose, now, that A and B are in B's garage at the time of the utterance, and A is about to do some work on B's car. This context raises the possibility of an alternative referent for *oil*, namely engine oil. But notice that the referent of *oil* most likely would not change in the new context as described: this suggests that making connections with previous discourse has some kind of priority over making connections with immediate context—one may surmise that this is because it is more easily accessed. But then think of what would happen if A was actually working on the car, had the bonnet lid up, and the oil filler cap off, and A was looking around, scratching his head. Surely then we would interpret *oil* as *engine oil*? There must therefore be some point at which the salience (ease of access) of "engine oil" overtakes that of "salad oil", i.e. when immediate situational context takes precedence over previous discourse. It seems that immediate context has to be very salient to suppress previous discourse. Clearly, too, previous discourse becomes less accessible the further back in time it is relative to the production of the definite referring expression, and presumably the easier it is for situational context to prevail.

What happens if there is no referent either in previous discourse or in immediate context (and none can be inferred by bridging)? In such a case it is possible to use general knowledge, as in (93):

(93) (Tourists A and B are having breakfast in a London hotel; the hotel has no tower, none has been mentioned, none is visible from where they are sitting.)

A: What shall we do today?

B: Let's visit the Tower. (NB: speech has no capital letters!)

From the above considerations it seems we can state an order of preference for domains wherein a referent might be found, and this is probably the order in which they are searched:

previous discourse > immediate situation > stored knowledge

Clearly the processes of referent identification are complex and subtle, and the above discussion has no more than scratched the surface of the problem.

20.3.3.3 Enrichment

An important part of the process of constructing the explicature of an utterance is the recovery of missing components of the expressed propositions by **enrichment**. This involves fleshing out skeletal propositions, but not radically changing them (this notion is not entirely clear). Two varieties of enrichment can be distinguished: recovering ellipted elements and resolving semantic incompleteness. The first of these is straightforward enough:

(94) A: When you've finished the dishes will you post these letters?

B: I will.

Obviously, what B 'really means' is *I will post those letters when I've finished the dishes*. Any assessment of the truth value of B's utterance will take this as read. The missing portion can be reconstructed by grammatical rules.

The resolution of semantic incompleteness is less straightforward, at least in some cases, but the general idea is convincing enough. Usually, the missing information cannot be grammatically specified. The following are relatively clear examples:

(95) That one is too big.

Here we need to recover the standard against which size is being assessed: too big for what? Without this, the statement is virtually meaningless. Such examples are legion. Take (96) compared with (97):

(96) The petrol tank exploded some time after the impact.

(97) Her first suicide attempt occurred some time after her divorce.

Even if we take *some* to mean "relatively great", it seems likely to be interpreted in quite different terms in the two sentences: probably in (96) it is to be taken as referring to minutes or even seconds, and in (97) as years. Sentence (98) is presumably to be taken as meaning that the speaker has brushed his teeth on the day of speaking, and not, for instance, at some point in his or her life; in (99), on the other hand, the latter interpretation could well be the speaker's intention.

(98) I've brushed my teeth.

(99) I've seen the Northern Lights.

Notice that if the last time the speaker of (98) had brushed his teeth was the day before, then *No, you haven't* would be a perfectly reasonable retort. Finally, in this connection, consider (100):

(100) The plate was hot and he dropped it.

According to Blakemore's account, the explicature here will contain information to the effect that the hotness of the plate was the cause of its being dropped. This is supported by the normality of *That's not the reason—he was drunk* as a subsequent comment.

20.3.3.4 Higher-order explicatures

According to relevance theorists there are two kinds of speech acts which are not explicitly encoded in an utterance, **communicated speech acts** and **non-communicated speech acts**. The former are regarded as part of the explicature of an utterance, the latter are considered to be implicatures.

Communicated speech acts

Some speech acts are institutional and could not function without the existence of appropriate constitutive rules and social structures. These are communicated speech acts. They must be recognized for what they are in order to be properly comprehended, and what they are forms part of the explicature of utterances embodying them. Take the case of promising:

(101) Tomorrow I will mow the lawn.

Simply stating that you will do something does not in itself constitute a promise. If you do not subsequently do what you say you will do, the hearer will have no grounds for accusing you of evading an obligation. In uttering (101), you may have been making a prediction, or simply reading the tasks on your timetable. Only if the utterance is intended and understood as a promise does the obligation become operative. Similar considerations apply to (102) and (103) in relation to thanking and betting, respectively:

(102) You have been very kind.

(103) Jane will leave the party before John.

Non-communicated speech acts

These are acts which do not require the hearer to identify them as such in order to be successfully performed. Examples are:

asserting, hypothesizing, suggesting, claiming, denying, entreating, demanding, warning, threatening

Take the example of a warning:

(104) The path is slippery here.

To understand this fully, a hearer does not have to recover the meaning "I warn you that the path is slippery here." The speaker's intention is fully achieved if the hearer becomes aware that the path is slippery at the appropriate place and derives the implicature that it might be dangerous and that one should take extra care, and so on. There is no *institution* of warning: a declarative utterance qualifies as a warning in virtue of certain intended implicatures, but these implicatures arise along with others as a result of general pragmatic processes and do not form part of explicature.

20.3.4 Implicatures

The following is a sketch of the relevance-theoretical position; it adheres closely to Sperber and Wilson, and Blakemore. Consider the exchange in (105):

(105) A: Why wasn't I invited to the conference?

B: Your paper is too long.

Assume that (106) adequately represents the full form of what was intended by B in (105):

(106) The article the hearer has written is too long to fit into a standard time-slot for the conference.

Notice that the expression *your paper* has been disambiguated, and the reference length for *too long* has been supplied. Getting this additional information requires the use of inference based on contextual information (including general knowledge about the organization of conferences) together with the principle of relevance. Notice further that (106) has a close relationship with the linguistic form of (105B): it represents an enrichment. The information in (106) therefore counts as at least part of the explicature of (105B). Consider, now, the exchange in (107):

(107) A: Did I get invited to the conference?

B: Your paper was too long.

In this case, A will infer (108) from B's answer, after accessing stored knowledge such as (109):

(108) A did not get invited to the conference.

(109) If one's paper is too long for the conference one will not be invited.

The proposition expressed in (108), says Blakemore, cannot be regarded as an enrichment of B's utterance in (107), since there is no relationship between the linguistic form of B's utterance and (108). Hence (108) is not part of the explicature of (107B), but is an implicature.

Suppose, however, that someone were to ask why A does not infer (110):

(110) Nigel will not attend the conference.

Neither (110) nor (108) follows logically from (106); (108) follows only when taken together with (109), an item of knowledge presumably stored in A's memory. But maybe A also has access to (111):

(111) If your paper is too long for the conference, you will not be invited.

If you are not invited to the conference, there will be no papers on pragmatics.
If there are no papers on pragmatics at the conference, then Nigel will not attend.

Why should A assume that (109) is B's intended message, rather than (110)? The reasoning goes something like this:

- (i) The principle of relevance entitles the hearer to expect that s/he can obtain adequate contextual effects for a minimum cost in processing.
- (ii) The more items of knowledge that need to be recovered, either from memory or current situation, and the less accessible they are, the greater the processing effort.
- (iii) A was able to obtain adequate effects with one easily accessible item of knowledge, and is therefore entitled to conclude that no further cognitive work was required, and to accept this as the whole of B's intended message.

The question must then be asked why B did not simply say (112) in answer to A's question:

(112) No, you were not invited.

After all, (107B) requires more processing effort than (112) would have done. As Sperber & Wilson point out (1986: 197): '...it follows from the principle of relevance that the surplus of information given in an indirect answer must achieve some relevance in its own right.' That is to say, (107B) must produce more contextual effects than (112) would have done, and these must be sufficient to justify the extra effort that the speaker requires of the hearer. In this case, a reason is given for the refusal of the paper, and this could, for instance, forestall an anticipated follow-up question.

20.3.4.1 Implicated premises and implicated conclusions

Recall the following exchange:

- (113) A: Am I in time for supper?
B: I've cleared the table.

B's reply does not directly answer A's question, but it enables A to recover information about mealtime scenarios and B's willingness to be put to a lot of extra trouble, which presumably includes at least some of the items in (114):

- (114) When the table is cleared, there is no food, etc. on the table.
 For someone to have supper, food, etc. must be put on the table.
 Putting food on the table will require effort on someone's part.
 Someone who has just cleared the table will resent having to put it back.

B's reply in (113) taken together with (114) yield (115):

- (115) A is too late for supper.

The propositions in (114) are **implicated premises** of B's reply in (113); (115) is an **implicated conclusion**. All implicatures fall into one of these categories. Implicated premises are part of the context that the hearer must construct in order to recover the implicated conclusion which is the main point of the utterance. The items in (114) play the same role in the derivation of (115) that bridging implicatures play in identifying referents.

20.3.4.2 Strong implicatures and weak implicatures

In relevance theory, the implicatures of an utterance come in a range of strengths, according to how much responsibility the speaker takes for them, and how vital their contribution is to the relevance of the utterance. To quote Sperber and Wilson (1986: 199):

The strongest possible implicatures are those fully determinate premises or conclusions... which must actually be supplied if the interpretation is to be consistent with the principle of relevance, and for which the speaker takes full responsibility. Strong implicatures are those premises and conclusions... which the hearer is strongly encouraged but not actually forced to supply. The weaker the encouragement, and the wider the range of possibilities among which the hearer can choose, the weaker the implicatures. Eventually... a point is reached at which the hearer receives no encouragement at all to supply any particular premise and conclusion, and he takes the entire responsibility for supplying them himself.

One example from Sperber and Wilson goes as follows (1986: 194-8):

- (116) Peter: Would you drive a Mercedes?
 Mary: I wouldn't drive *any* expensive car.

What is explicitly conveyed in Mary's utterance does not directly answer Peter's question; however, Mary might reasonably assume that Peter can retrieve the information in (117) from his general knowledge:

- (117) A Mercedes is an expensive car.

and using this as context (implicit premise), will derive the implicature (118):

- (118) Mary wouldn't drive a Mercedes.

This would be a strong implicature—it is the main point of Mary's reply. But it cannot be everything that Mary wishes to convey, because it could have been more

simply conveyed with a simple *No*. Sperber and Wilson suggest that what Mary wishes to convey over and above a simple negative consists of weaker implicatures. For instance, Peter might add (119) to the context and derive (120):

- (119) People who refuse to drive expensive cars disapprove of displays of wealth.
 (120) Mary disapproves of displays of wealth.

What about (121)? Can Mary be sure that Peter would class a BMW as an expensive car and would derive (121) as an implicit conclusion?

- (121) Mary wouldn't drive a BMW.

Or, going further, would it be legitimate for Peter to use (122) to derive (123)?

- (122) People who would not drive an expensive car would not go on a cruise.
 (123) Mary would not go on a cruise.

Sentences (120), (121), and (123) seem to express progressively weaker implicatures.

20.3.4.3 Constraints on relevance

In Relevance Theory, there are no implicatures corresponding to Grice's conventional implicatures. Instead, these are analysed in terms of a distinction between **conceptual semantic information** and **procedural semantic information**. Some of the information coded in linguistic forms is not conceptual in nature, but functions to guide or limit the sorts of inferences the hearer is to draw. This notion of *constraints on relevance* was introduced by Blakemore (1987). Carston (2002) gives the following example (slightly altered):

- (124) Ann: Are you interested in seeing *Sense and Sensibility*?
 Bob: Hmmm.
 Ann: It should be good, after all, Emma Thompson is in it.

We are concerned here with the meaning of *after all*. According to Carston, *after all* 'indicates that the addressee is to process the following clause in such a way that it provides evidence or backing for some highly accessible assumption(s)'. In this case the highly accessible assumptions include the claim in the previous clause that the film should be good. The constraints operate on the clause *Emma Thompson is in it* as follows. The basic explicature of the clause is:

- (125) Emma Thompson is in *Sense and Sensibility*.

The implicated premises are:

- (126) If Emma Thompson is in a film, the film is likely to be good.
 (127) If the film is likely to be good, we should go to see it.

And the implicated conclusions are:

(I28) *Sense and Sensibility* is likely to be good.

(I29) We should go to see *Sense and Sensibility*.

On this analysis, *after all* can be said not to contribute any propositional meaning to the implicated message. Words like *but*, *moreover*, *however*, and *therefore* can be given similar explanations. Notice, however, that the constraint is expressed in propositional form: this approach does not give a revealing account of such non-propositional meaning as expressive meaning.

20.3.5 Conclusion

Providing an account of unencoded aspects of the meanings of utterances is arguably the central task of linguistic pragmatics. What has been presented in this chapter hopefully conveys some notion of the field, but it hardly scratches the surface either of the problem itself or of the solutions offered by linguistic pragmatists, many of which are accompanied by lively polemics.

Discussion questions and exercises

1. Conversational implicatures

By selecting suitable utterances for A, show how B's utterance can give rise to SIX different conversational implicatures:

A: ??

B: Her black dress cost £500.

2. Cooperative Principle and Politeness Principle

Each of the following conversational fragments is to some degree odd. To what extent can the oddness be explained by reference to Grice's Cooperative Principle and/or Leech's Politeness Principle?

- (a) A: Have you seen Peter today?
B: Well, if I didn't deny seeing him I wouldn't be telling a lie.
- (b) A: Are you there?
B: No, I'm here.
- (c) A: What did you do yesterday?
B: I had a swim, changed into my swimming trunks, and went to the beach.
- (d) A: Thank you for your help, you've been most kind.
B: Yes, I have.
- (e) A: Can you tell me where Mr Smith's office is?
B: Yes, not here.
- (f) A: We're off to Mallorca tomorrow.
B: I was wondering if you wouldn't mind enjoying your holiday.

- (g) A: Would you like some coffee?
B: Mary's a beautiful dancer.
- (h) A: Would you like some more dessert, or coffee, perhaps?
B: I'd like to go to the lavatory.
- (i) A: Thank you for a wonderful evening. The meal was delicious.
B: No, it wasn't.
A: Yes, really, we enjoyed it enormously.
B: It was disgusting, and I was pathetic.
- (j) A: Has the postman been?
B: He leant his bicycle against the fence, opened the gate, strode briskly down the path, stopped to stroke the cat, reached into his bag, pulled out a bundle of letters, and pushed them through our letter box.

3. Implicit propositions

Classify the propositions in brackets in each of the following as either (i) an entailment from the explicature, (ii) part of explicature by enrichment, (iii) a particularized conversational implicature, (iv) a generalized conversational implicature, or (v) only possible by an ad hoc agreement between A and B:

- (a) A: What happened to the rat?
B: John killed it.
("The rat is dead.")
- (b) A: Who was the last one to leave the office last night?
B: That would be either Jane or Sue.
("B doesn't know whether the last to leave the office was Jane or Sue.")
- (c) A: What's Bill's new house like?
B: The garden's beautiful.
("Bill's new house has a garden.")
- (d) A: Did you bring the photos?
B: I left them on the kitchen table.
("It's time to leave.")
- (e) A: Did you speak to John about the CD?
B: It wasn't John that borrowed it.
("Somebody borrowed the CD.")
- (f) A: Shall we go to your place?
B: My Dad's in.
("A and B can't go to B's place.")

Suggestions for further reading

The seminal work on the topic is Grice (1975). The commentary in Levinson (1983) provides amplification and discusses some of the trickier points. Grice's intellectual heirs are of two main sorts. The so-called 'Neo-Griceans' seek to refine his system and remedy perceived weak points. The main proponents of this approach are Horn and Levinson, and their views can be sampled in Horn (1984) and Levinson

(1989). Leech (1983) uses a Grice-like approach to explain implicatures of politeness, which he claims are overlooked by the standard Gricean account. A more radical challenge is provided by Relevance Theory. The source text for this is Sperber and Wilson (1986); a simpler introduction is Blakemore (1992). The most recent account, more advanced than Blakemore, is Carston (2002).

Epilogue

We have now completed our survey of the landscape of meaning in language. Having acquired a basic conceptual tool kit for semantic analysis, we have looked in some detail at the principal bearers of meaning in language, namely words, at their meanings, their interrelations, how they combine, how new meanings are created, in both the short term and the long term, and how grammar contributes to (indeed, is vital to) the assembling of complex meaning structures.

Of course language is not a self-sufficient, hermetically sealed system. It has to make contact with the world in which we live, one way or another. We have accordingly looked at principles and mechanisms of reference. We have also taken note of the fact that what people say typically encodes only part of their intended message, and we have looked at the principles which enable hearers to 'flesh out' the encoded meaning to yield a much richer message.

The survey has necessarily left many details and complications unexplored, but at least we have overflowed the entire terrain, and picked out the principal landmarks.

We started out by relating the notion of meaning in language to the wider one of communication. It is important to emphasize that all the complexities and richness we have observed in connection with meaning phenomena exist/have evolved because they are essential to a communication medium which is efficient, flexible, and has unlimited expressive power.

All systematic aspects of meaning contribute to efficiency in storage and use: recurrent sense relations, patterns of sense extension, compositional principles. Pragmatic principles which allow many message components to be inferred rather than being overtly encoded ensure economy in use by reducing the length of utterances.

Flexibility is ensured by the fact that new meanings can be created either in response to the fleeting demands of a particular situation (nonce readings), or permanently laid down for long-term use in response to large-scale changes in the physical, social, or conceptual environment.

A recursive syntax, together with principles of compositionality are essential to a communication medium which has universal expressive power. Probably few messages, if any, in the real world, are conveyed without any loss occurring

between the speaker's intention and the hearer's apprehension. However, the design of human language allows us to approach as nearly as is necessary any point or area in semantic space.

Is the study of meaning in language of any practical utility? Well, yes, at least potentially. For instance, everyone concerned with the teaching of language can benefit from, on the one hand, being made aware of aspects of meaning of which they formerly only had a subliminal knowledge, and on the other hand, by acquiring an arsenal of descriptive concepts and techniques which lend discipline and precision to thinking.

A field of endeavour where lexical semantics is of potential utility is the making of dictionaries. The theoretical concerns of lexical semantics impinge on the practical concerns of lexicography at a number of points. One is in establishing criteria for sense division—at present a somewhat hit-or-miss affair, as can be seen by comparing different dictionaries; another is in the ordering of material in articles so as to highlight relationships; others include: the structure of definitions, establishing criteria for deciding what collocational information to include, the discrimination of near-synonyms (something current dictionaries are rather bad at), and so on.

As a final example, mention might be made of a field whose promise is yet to be realized, and that is the electronic processing of language, whether for the purpose of machine translation, designing 'intelligent' robots capable of responding to ordinary language commands, and systems whereby humans can interrogate large databases in ordinary language and receive answers likewise. Progress is unlikely on any of these fronts without a deep knowledge of how meaning works in normal human interaction, even if, in the end, successful automated systems are not merely copies of human models.

The current state of knowledge about meaning phenomena is very patchy: some areas are relatively well charted compared with others. But in all domains, serious black holes of ignorance abound. Many of the fields of uncertainty involve very fundamental issues, for instance:

- How best to represent the semantic properties of a word? Should we aim for some sort of core meaning, from which variations in context can be predicted? (No one has yet come up with a satisfactory way of doing this, although as a programme it has its attractions.) Or should we accept that any such 'core' is merely an attempted distillation from a chaotic mass of memory traces of actual usage, which is never wholly successful?
- Are there such things as conceptual primitives, semantic atoms? If so, what are they like, and, indeed, what are they? Is the task like the human genome project—almost unimaginably complex, but in principle feasible, given time and money—or is it fundamentally flawed?
- Progress has undoubtedly been made in the understanding of metaphor and metonymy, yet the true secret of what makes a successful metaphor or metonymy seems still to elude the grasp of researchers.

- The constraints on the possible meanings of words seem to be only partially understood.
- I have no doubt that relevance is one of the key concepts of pragmatics, but in spite of the efforts of relevance theorists, for my money, the bird of relevance is still flying free in the bush.
- Finally, in this (somewhat selective) inventory of knowledge gaps, very little has been established regarding the most fundamental question of all: how does language connect up with the things and events in the world around us? How does the whole system work?

It sometimes seems that everyone has been as it were paddling at the edge of the ocean. However, this is perhaps overly pessimistic: progress has undoubtedly been made, and will continue to be made—and the enterprise is a worthwhile one.

Answers to questions

Chapter 2: Logic and meaning

1. Arguments and predicates

<i>yawn</i>	1-place
<i>steal</i>	3-place (<i>X stole Y from Z</i>)
<i>thank</i>	3-place (<i>X thanked Y for Z</i>)
<i>pay</i>	4-place (<i>A paid B C for D</i>)
<i>be tall</i>	1-place
<i>be taller than</i>	2-place
<i>meet</i>	2-place
<i>put</i>	3-place (<i>X put Y somewhere</i>)
<i>imagine</i>	2-place (one place may be occupied by a proposition, as in <i>A imagined X stealing Y from Z</i>)
<i>daydream</i>	1-place
<i>cost</i>	syntactically 3-place, but arguably 4-place semantically, like <i>buy, sell, pay, etc.</i>
<i>understand</i>	2-place
<i>explain</i>	3-place (in <i>John explained the problem</i> , there is an implicit audience for John's explanation)

2. Sentence, statement, utterance, and proposition:

<i>X was inaudible.</i>	utterance
<i>X was uninformative.</i>	statement, utterance (a proposition only becomes (potentially) informative when we know whether it is true or false: in itself, it tells us nothing; a statement comes with the 'epistemic commitment' of the speaker)
<i>X was false.</i>	statement, utterance, proposition
<i>X was in a foreign accent.</i>	utterance
<i>X was ungrammatical.</i>	sentence, statement, utterance
<i>X was insincere.</i>	statement, utterance

3. Propositional and non-propositional meaning

- (a) Non-propositional. The desired action is the same for both, but there is a difference in expressive meaning.
- (b) One answer is that these are propositionally identical, because the context of *cheaper* indicates that *get* is to be interpreted as "buy". However, it is not totally out of the question that *get* is used to mean "steal", and *cheaper* refers to the cost of getting to Greggs, in which case the difference would be propositional.
- (c) Intuitions differ here. For some, the only difference is in the attitude expressed, which is non-propositional. For others, there is no contradiction in saying *John's thin, but he's not skinny*, which suggests that *skinny* not only expresses an attitude, but also denotes a higher degree of thinness, in which case there are both propositional and non-propositional differences.
- (d) Propositional. Sentence (i) perhaps expresses disrespect for the writings, but passes no judgement; sentence (ii) passes a negative judgement, and can be contradicted with *It wasn't garbage*.
- (e) Propositional, even if both are interpreted to refer to time. The start of a race is a more precisely delimited time than the beginning, so (ii) could be true and (i) false.
- (f) Non-propositional. There is no conceivable circumstance in which one could be true and the other false. *Yet* expresses some sort of expectation, but non-propositionally.
- (g) Non-propositional. The difference is one of register.

4. Entailments

- (a) No entailment. A cat may lose a leg without ceasing to be a cat.
- (b) (i) entails (ii).
- (c) (i) entails (ii).
- (d) No entailment. On the assumption that *quadruped* denotes an animal which in its **well-formed state** has four legs, a cat which lost a leg would not thereby lose its status as a quadruped.
- (e) (i) entails (ii), but only if we take *animal* to mean "belongs to animal kingdom". In the more everyday sense of *animal* which contrasts with *fish, bird, insect*, etc., there is no entailment.
- (f) (i) entails (ii) (with the same proviso as in (e)).
- (g) Here we encounter two problems. The first concerns the status of 'cyberpets': are they pets? If the answer is 'yes', then presumably there is no entailment. But even if the answer is 'no', there is still the problem of dead pets. If *living* means "belongs to the realm of organic matter" (or some such—it is actually quite difficult to formulate), and we exclude cyberpets, then we can say that (i) entails (ii).
- (h) (i) entails (ii), but only if X belongs to the realm of entities of which "dead" and "alive" can properly be predicated. *The table is not dead* does not entail *The table is alive*.
- (i) First we have to decide whether (i) means that X has given up the habit, or has just put out a cigarette. There is a possibility of entailment only in the first case. But even that is arguable, because there are people who give up smoking several times during their life. Strictly speaking, all that is entailed is that there was at least one period when X did not smoke.

- (j) If Z is something like French, or Mathematics, then, alas, there is no entailment. But curiously, if Z is expressed as an infinitive, as in *John taught Bill to swim*, then according to my intuitions, there is entailment.
- (k) At first sight, (i) seems to entail (ii), but this ignores the possibility of resurrection. Strictly, all that is entailed is that there was a period when Y became not alive.
- (l) In normal use, *watch* presupposes a changing stimulus, so we *watch* a game, but *look at* a painting. However, the mere expectation of change is sufficient to license the use of *watch*, so there is no entailment.

5. Relations between propositions

- (a) Contradiction
- (b) Contrariety (John may be indifferent)
- (c) Contradiction, assuming that normal presuppositions are satisfied, e.g. that Mary understands the statement, and has an opinion about it; otherwise, contrariety.
- (d) These are converses (and are equivalent).
- (e) Contradiction (barring resurrection for wasps)
- (f) If we interpret *bachelor* as meaning "marriageable man who is not married" (thereby excluding three-year-old boys and the Pope), then there is no logical relation. If, on the other hand, *bachelor* simply means "unmarried male person", then a and b are equivalent.

6. Logical relations

<i>parent of</i>	intransitive; asymmetrical
<i>ancestor of</i>	transitive; asymmetrical
<i>brother of</i>	transitive; non-symmetrical (if A is B's brother, B might be A's sister)
<i>related to</i>	transitive (for blood relations; for relations by marriage things are not so clear—is one's brother in-law's cousin a relation?)
<i>sibling of</i>	transitive; symmetrical
<i>friend of</i>	non-transitive; symmetrical
<i>near to</i>	non-transitive (if A is at the limit of what can be described as <i>near to</i> B, and C is similarly disposed with respect to B, but in the other direction from A, then A may not be near enough to C to count); symmetrical
<i>to the right of</i>	transitive (assuming a constant reference point); asymmetrical
<i>far from</i>	non-transitive; symmetrical
<i>resembles</i>	non-transitive; in some sense symmetrical from the strictly logical point of view, but notice that while it might be acceptable to say <i>My brother resembles Julius Caesar</i> , it would be decidedly odd to say <i>Julius Caesar resembles my brother</i> .

7. Presuppositions

- (a) "Lesley is a woman."
- (b) "Lesley plays the clarinet."
- (c) "Lesley is an undergraduate."
- (d) "Lesley has caused a lot of trouble."
- (e) "Somebody wrote the letter."
- (f) "Lesley was ill; Lesley serves on the committee."

8. Implicitly negative items

Negative items: *hardly, seldom, far from, free from, beware of, avoid*

Chapter 3: Concepts and meaning

2. Category levels

I would classify the items as follows:

Basic level: SANDAL SEAGULL DAISY GRASS BULLDOZER BUS WALNUT
SUGAR DELI(CATESSEN) SUPERMARKET PETROL STATION
TOWN HALL MOTORWAY ROAD PARK CANAL POLICE STATION
WINE MILK

Superordinate level: UNDERWEAR BUILDING GROCERIES BEVERAGE

Subordinate level: BIRO TEASPOON MOUNTAIN BIKE SELF-RAISING FLOUR
ARMCHAIR CHAMPAGNE

(In one of the construals of *road* a motorway is a kind of road, but for me the default reading of *road* is one that excludes motorways.)

Chapter 4: Lexical unit

1. Semantic constituents

A full answer is not possible here. The following are some suggestions:

(i) Fully meaningful:

dislike, disapprove (*like* and *dislike, approve* and *disapprove*, are closest to antonyms—see Chapter 7)

dismount, disembark (*mount* and *dismount* are reversives)

discolour, displace (*discolour* means something like “cause to become wrong in respect of colour”; *displace* (on one reading) means “cause to become wrong in respect of place”)

(A case can perhaps be made for *disconfirm* and *dispossess*, but neither meaning is recurrent.)

(ii) For most words beginning with *dis-* the prefix is not independently meaningful:

disgust, dismay, disgruntle, disturb, disport, discover, disconcert, etc.

2. Expressions with holistic properties

(a) *you have to hand it to him*: frozen metaphor

he's got guts: compositional: non-default reading of *guts*

(b) Frozen metaphor (drawn from tennis)

- (c) Idiom
- (d) Compositional: cliché
- (e) Idiom
- (f) Frozen metaphor
- (g) Idiom
- (h) Compositional: collocation—non-default reading of *loaf*
- (i) Compositional: cliché
- (j) *he swallowed it*: collocation—non-default reading of *swallow*
lock, stock, and barrel: for those who know that these are parts of a rifle,
frozen metaphor; for most of us, idiom.
- (k) Idiom
- (l) Cliché

Chapter 5: Contextual variability of word meaning

1. Distinctness of readings

- (a) Homonymous senses (these are etymologically related, but I imagine few speakers of current English can intuit a relationship)
- (b) Polysemous senses
- (c) Different perspectives
- (d) Different facets
- (e) Sub-senses
- (f) Polysemous senses
- (g) Polysemous senses; (autohyponymy: (ii) is hyponymous to (i))
- (h) Contextual modulation
- (i) Different facets
- (j) A difficult case: either polysemous sense, or they may well be local senses on a sense spectrum

2. How many senses?

This is quite a difficult exercise, and illustrates the problems of 'real-life' lexicography. My analysis would be as follows, but there is room for disagreement.

There seem to be two basic meanings of *collect*:

- A. "bring scattered or distributed items together in one place"
- B. "pick up and take away"

A straightforward example of A is: (d); (e) is a straightforward metaphorical extension; (b) and (i) are distinct specializations (in (i), the direct object (presumably *money*) is incorporated into the meaning of the verb).

Examples of B are: (c), (f), (j), (k), and (n). The instances in (l) and (o) are presumably metaphorical extensions of this sense (in neither case do the recipients literally 'pick up' anything).

Readings (a) and (g) are obviously related (although distinct by our criteria), and differ from A and B in that *book* designates a location in both cases. There is an intuitive connection between these and (h), but this has to be considered separate, as there is no transitive version (**The noticeboard collects students*).

We have not yet accounted for (m). There is a possible connection with A (*They survived by collecting mushrooms from the fields and rainwater in a bucket*); but there is also a possible relation to (a)/(g) (*Rainwater collects in the bucket*). My vote would go to the former solution, but the matter is far from clear-cut.

Chapter 6: Paradigmatic relations of inclusion and identity

1. Hyponymy and taxonomy

The following are related by taxonomy:

poodle:dog
cottage:house
hailstone:precipitation
boot:footwear
icing sugar:sugar

2. Meronymy

Readers will have to give their own answers to this. My judgements would be as follows:

prototypical examples:

belt:buckle; jacket:lapel; fork:prong; candle:wick; door:hinge

non-prototypical examples:

shoe:lace; hand:vein; beard:hair; finger:tip

borderline:

building:façade; bread:crumb; omelette:egg; colander:hole; potato:peelings

non-examples:

bottle:cap; hot-water bottle:water; bed:sheet; cassette-player:cassette

The non-examples all seem to lack the feature of integrality. The borderline cases are not sufficiently congruent in some respect. I am less sure about the non-prototypical examples: *lace* is not sufficiently necessary for *shoe*; *hand* and *vein* are non-congruent with respect to type; the *tip* of a *finger* is perhaps not sufficiently distinct; perhaps prototypical parts need to be different from their sister parts, and that is why *beard:hair* is not prototypical.

3. Synonyms

(a) There are no absolute synonyms; all are at least near-synonyms. I would put *brave*, *courageous*, *gallant*, and *plucky* together in a group of propositional

synonyms, since it seems paradoxical to assert any one and deny another. *Heroic* and *valiant* differ from the members of the first group in degree, and therefore are not propositionally synonymous with them, since one can say *He was brave (etc.), but not heroic* but not *?He was heroic, but not brave*. Probably *heroic* and *valiant* differ in degree, too, with the former denoting the higher degree of the quality. *Bold* and *daring* should probably be separated from the rest because the others express a degree of approval of the action qualified, hence the oddness of *?a brave/courageous etc. robbery*; also, *daring* indicates a higher degree of fearlessness than *bold*. Within the group of propositional synonyms, there are nonetheless differences. For instance, a prototypical courageous act has a moral dimension, and requires awareness of wider issues, hence it is odd to describe a child or a dog as courageous, although they may be brave; bravery is prototypically displayed in the face of physical danger or suffering. *Gallant* is usually used of persons engaged in battle (as is *valiant*); *intrepid* is more at home in non-combatant situations (according to my intuitions, one can be brave without being intrepid, the latter indicating a lack of fear, rather than the ability to overcome fear); *plucky* expresses condescension towards the referent, but according to my intuitions is not propositionally distinct.

Chapter 7: Paradigmatic relations of exclusion and opposition

1. Types of opposition

- (a) Complementaries
- (b) Incompatibles
- (c) Co-meronymy
- (d) Complementaries
- (e) Reversives
- (f) Antipodals
- (g) Antonyms
- (h) Converses
- (i) Incompatibles
- (j) Antonyms (on the assumption that one can (a) have a neutral stance and (b) there are degrees of approval and disapproval)

2. Antonyms

<i>far:near</i>	polar
<i>beneficial:harmful</i>	equipollent
<i>happy:sad</i>	equipollent
<i>brilliant:stupid</i>	implicit superlatives
<i>deep:shallow</i>	polar
<i>advantageous:</i>	equipollent
<i>disadvantageous</i>	
<i>fat:thin</i>	
<i>happy:unhappy</i>	

(for the majority of my students these are equipollent) referring to an emotional state, overlapping; in the sense of "happy/unhappy with sth.", privative

<i>satisfied:unsatisfied</i>	privative
<i>comfortable:</i>	intuitions differ: for me, they are privatives
<i>uncomfortable</i>	
<i>polite:rude</i>	overlapping
<i>easy:difficult</i>	polar
<i>thick:thin</i>	polar
<i>rough:calm</i>	privative (<i>calm</i> denotes the absence of waves)

Chapter 8: Lexical hierarchies

- A. The following words must be added to the set: *tableware, glassware, table linen, crockery, cutlery, condiments*. Mostly, this set is not problematic. There is a problem, however, of how to place the likes of *breadboard, table mat, napkin ring*, and so on. Also, assuming a cake slice is an item of cutlery, does it fall under *knife*?
- B. In this set, taxonomic relations (like *dictionary:book*) must be carefully distinguished from part-whole relations (like *page:book*). Even so, there is a problem of intersecting branches: for instance *page* will come under several headings. Do we say that each different heading involves a different microsense of *page*? Account must also be taken of facets (for instance, in the relation between *book* and *novel*).

Chapter 9: Syntagmatic semantic relations

1. Semantic clash

- Inappropriateness
- Incongruity
- Inappropriateness
- Paradox (can be normalized by substituting a different period of time)
- Incongruity

2. Selectional restrictions

<i>a record X</i>	score, price, distance, temperature, speed: requires some variable property that can be calibrated on a numerical scale (notice that <i>record kindness/politeness/hardness</i> are slightly odd).
<i>a sad X/X is sad</i>	(i) woman, teacher, class: requires a human being, or group of human beings (<i>?The horse is sad</i>), who has enough maturity to grasp a situation (<i>?The baby is sad</i>). (ii) film, book, poem, song, event: requires something which expresses, describes, or denotes a state of affairs.
<i>a leisurely X</i>	meal, tour, walk round the park, cycle ride, shopping trip: human activity, usually involving moving about; voluntary; can be performed for enjoyment; speed variable without interfering with purpose
<i>Can you lend me X?</i>	your car, a fiver, a pen, a tie, some sugar: inanimate; useful to another person; control can be transferred temporarily; can be restored unchanged or replaced with same

(A tree does not have an obvious utility to another person if it is left in place; chopping it down or transplanting it would prevent it being restored unchanged.)

Chapter 10: Describing lexical senses 1

1. Degree of necessity

- (a) Improbable
- (b) Expected
- (c) Expected
- (d) Impossible
- (e) Natural necessity
- (f) Logically necessary
- (g) Possible
- (h) Canonically necessary

2. Dimensions of descriptive meaning

- (a) Specificity
- (b) Quality
- (c) Intensity
- (d) Vagueness
- (e) Orientation

3. Dimensions of non-descriptive meaning

- (a) Expressive meaning (surprise?)
- (b) Evoked meaning: style
- (c) Evoked meaning: field
- (d) Expressive meaning (intensity of desire; politeness); evoked meaning (register: style)

Chapter 11: Describing lexical senses 2

None of the following suggested analyses is fully satisfactory, and for each there are equally good alternatives:

- | | |
|--------------|--|
| <i>skirt</i> | <ul style="list-style-type: none"> - object - clothing - worn by women - on lower part of body - attached at waist - legs not individually covered - normally visible |
| <i>book</i> | <ul style="list-style-type: none"> - object - serves as locus of text - has many pages bound together - has cover - not part of an indefinite series appearing at regular intervals |

- cottage*
- object
 - dwelling
 - small
 - permanent
 - stone or brick
- teaspoon*
- object
 - implement
 - cutlery
 - with cup-shaped concavity at one end
 - for adding sugar and stirring tea in cup
- violin*
- object
 - musical instrument
 - stringed
 - played with bow
 - lowest note: G below middle C
- dream*
- process
 - mental
 - during sleep
 - experience unreal events
- kiss*
- action
 - physical
 - intentional
 - apply lips to something
 - functions as conventional signal

Chapter 12: Extensions of meaning

2. Examples of non-literal use

- | | | |
|-----|---------------------------------------|--|
| (a) | <i>a nearly overwhelming desire</i> | hyperbole |
| (b) | <i>a quick bowl of soup</i> | metonymy (the consuming of the soup was quick) |
| | <i>kick into high gear</i> | metaphor |
| | <i>the principals in the cast</i> | metaphor |
| (c) | <i>a fruitless attempt</i> | metaphor |
| | <i>to cut into the heat</i> | metaphor |
| (d) | <i>room 323 is not answering</i> | metonymy |
| (e) | <i>staring out at the night</i> | metonymy |
| (f) | <i>the yawning three-storey drop</i> | metaphor |
| | <i>kick in</i> | metaphor |
| (g) | <i>his name was being withheld</i> | metaphor |
| | <i>withheld from the local papers</i> | metonymy |
| (h) | <i>I could practically hear..</i> | hyperbole |
| | <i>hear Mac squinting</i> | metonymy (his voice betrayed an emotion which typically makes a person squint) |

- | | | |
|-----|--|--|
| (i) | <i>July... is an unsettling affair</i> | metonymy |
| (j) | <i>my sleep-smudged face</i> | metaphor (viewing sleep as a substance) |
| (k) | <i>she's probably in the book</i> | metonymy |
| (l) | <i>mortgaged to the eyeballs</i> | metaphor (DEBT IS A LIQUID—which can drown a person) |
| | <i>wasn't worth a cent</i> | hyperbole |
| (m) | <i>the day (was) all heat and bugs</i> | metonymy |
| | <i>ear-splitting regularity</i> | hyperbole (also metonymy?—regularity doesn't split ears) |
| (n) | <i>have me switched over</i> | metonymy |
| (o) | <i>pleated with erosion</i> | metaphor |
| | <i>the hills rose up</i> | metonymy |
| | <i>the heaving gray Pacific</i> | metaphor |

Chapter 13: Grammatical meaning; nouns and noun phrases

- cattle* singular in form, plural concord: *These cattle are...*; unhappy when explicitly counted, except with classifier: *?seven cattle, seven head of cattle*; no singular use.
- oats* plural concord: *These oats are...*, but (for me) more normal to express quantities with *much* than with *many*: *How much/?many oats does that sack contain? This feed has too much/?many oats in it.* singular form has a distributive meaning: *This is an excellent oat for acid soil.*
- scissors* plural in form and concord: *These scissors are...*; singular reference (**pluralia tantum**); needs classifier for counting: *one/two pair(s) of scissors.*
- iron* plural in form, concord and reference: *these iron filings are...*; odd in singular: *?an iron filing*, but no obvious classifier.

Chapter 14: Argument structure and transitivity

Case roles

- | | | |
|-----|---------------------|--|
| (a) | John: | agentive |
| | the squirrel | objective |
| (b) | on the table | locative (goal) |
| (c) | You | agentive (<i>Go and taste that wine</i>) |
| | | dative (experiencer) (<i>I can taste the wine in this sauce</i>) |
| (d) | the river | locative (path) |
| (e) | the hole | factive |
| | it | objective |
| (f) | London | locative (source) |
| (g) | the storm | instrument (or force) |
| (h) | John | dative (beneficiary) |

Chapter 15: Verbs and adjectives

1. Tense

When John had eaten, Bill switched off the lights.
When John was eating, Bill switched off the lights.
When John was about to eat, Bill switched off the lights.
When John has eaten, Bill switches off the lights.
When John is eating, Bill switches off the lights.
When John is about to eat, Bill switches off the lights.
When John has eaten, Bill will switch off the lights.
When John is eating, Bill will switch off the lights.
When John is about to eat, Bill will switch off the lights.

2. Progressive and simple forms of verbs

<i>resemble</i>	simple form:	stative
	no progressive:	
<i>die</i>	simple form:	perfective
	progressive:	approaching end-point of process
<i>guess</i>	simple form:	habitual
	(<i>Does he know?</i>)	<i>No, he just guesses</i>
	progressive:	in progress on particular occasion
	(<i>Does he know?</i>)	<i>No, he's just guessing</i>
<i>look (happy)</i>	simple form:	(relatively) permanent
	progressive:	(relatively) temporary
<i>exaggerate</i>	(as <i>guess</i>)	
<i>command</i>	simple form:	performative; if non-performative, habitual
	progressive:	emphasizes a previous performative
<i>feel (cold)</i>	(as <i>look (happy)</i>)	
<i>explode</i>	simple form:	perfective, single event (<i>The bomb exploded</i>)
	progressive:	series of events (<i>The bombs are exploding</i>)

3. Event types

- (a) Accomplishment
- (b) Process
- (c) State
- (d) Achievement
- (e) Activity
- (f) Semelfactive

4. Modality

<i>it is probable that</i>	median
<i>it is possible that</i>	low
<i>it is unlikely that</i>	low
<i>it is certain that</i>	high

5. Implicit superlatives

vast ugly enormous excellent charming hilarious

6. Types of combination

<i>a forged passport</i>	negational
<i>a dead cat</i>	Boolean
<i>long eyelashes</i>	relative
<i>a clever footballer</i>	indirect/relative (ambiguous)
<i>a high price</i>	relative
<i>artificial cream</i>	negational
<i>a former Miss World</i>	negational
<i>a black hat</i>	Boolean
<i>a brilliant pianist</i>	indirect/relative (ambiguous)
<i>a poor singer</i>	indirect/relative (ambiguous)
<i>a small planet</i>	relative
<i>a striped dress</i>	Boolean

Chapter 16: The semantics of prepositions

Exercise on *round*

The primary sense denotes a spatial relationship between a TR and a (more or less) circular path enclosing a central LM, as in example (11). The following varieties of the relationship can be distinguished (prior to assignment to distinct senses):

- a. TR in motion, external to LM: 11
- b. TR static, external to LM: 4, 9
- c. TR in motion, internal to LM: 1, possibly 7
- d. TR static, internal to LM: 13 (on most likely reading)
- e. TR static, but with moving gaze, internal to LM: 15
- f. Random motion, internal to LM: 5
- g. Random static distribution, internal to LM: 6
- h. TR in motion along semicircular path, avoiding LM: 2
- i. TR static, at end-point of partially circular path: 8
- j. Metaphorical extension of basic sense: 3
- k. Metaphorical extension of 2: 12
- l. TR in motion, circular path is LM: 14
- m. TR static, circular path is LM: 10

The next step, deciding how many senses are represented, is more difficult. The following presents one possible analysis.

There are fairly good grounds for disregarding the "in motion"/"static" distinction in assigning the examples to independent senses, as it always

seems to be triggered by the context. This allows us to reduce the number of senses as follows:

- A. 4, 9, 11 "external to LM" sense (consistent with primary sense)
 B. 1, 7, 13, 15 "internal to LM" sense

(The separation of A and B rests on the ambiguity of sentences like *We walked round the Pantheon* ("we followed the wall on the inside/outside"). However, it is possible to argue that this is not due to an ambiguity in *round*, but to two different construals of *the Pantheon*. A more radical proposal is therefore that 1, 4, 7, 9, 11, 13, and 15 all contain contextually modulated variants of the primary sense.)

- C. 10, 14 "LM = path" sense
 D. 5, 6 "random" sense

The remaining four cases are independent senses:

- E. 2 "avoidance" sense
 F. 8 "end-point of partially circular path" sense
 G. 3 "abstract circular motion" sense
 H. 12 "abstract avoidance" sense

Chapter 17: Derivational affixes

1. Noun-forming suffixes

<i>employee</i>	patient/theme
<i>standee</i>	agent/subject
<i>addressee</i>	indirect object
<i>retiree</i>	agent/subject
<i>biographee</i>	denominal noun
<i>attendee</i>	agent/subject
<i>amputee</i>	(does not fit)
<i>escapee</i>	agent/subject

2. The prefix *dis-*

The *dis-* of *disappoint* is not a full semantic constituent. The types of negation are as follows:

polar:	<i>disadvantageous, disagreeable, discreditable</i>
logical:	<i>disbelieve, disobey, dishonest, discontinuous</i>
reversive:	<i>disappear, disconnect, disinfect</i>
privative:	<i>disbud, disrobe, disarm</i>

Both *disprove* and *dispossess* exemplify a kind of internal negation:

If *prove* is glossed as "show to be true", then *disprove* = "show to be not true"; *dispossess* does not mean "to not possess", but "to cause not to possess".

Chapter 18: Speech acts

1. Performative verbs

<i>bet</i>	as in <i>I bet you £50 she refuses</i> but not as in <i>I bet he drinks Carling Black Label</i>
<i>pray</i>	as in <i>We pray thee O God that thou wilt deliver us</i>
<i>deplore</i>	
<i>celebrate</i>	as in <i>We (hereby) celebrate our team's splendid victory!</i> but not as in <i>We celebrate Xmas at home</i>

2. Searle's classification of speech acts

Classifying performative verbs

<i>complain</i>	assertive (according to Searle) directive? (aims to elicit some action, but this is not normally specified) expressive (expresses an attitude to a state of affairs)
<i>warn to</i>	directive (according to Searle)
<i>warn</i>	assertive (according to Searle)
<i>that</i>	directive? (aims to elicit some action, but this is not normally specified)
<i>confess</i>	assertive (committed to truth of confession) expressive (expresses contrition) declarative? (in the context of a police interrogation, a confession is to some extent ritualized, and could be said to 'change reality')
<i>bemoan</i>	expressive assertive? (speaker is committed to truth of state of affairs bemoaned)

3. Locutionary acts, etc.

- (a) parrot Can produce an utterance inscription (but not compose it, or contextualize it).
No true illocutionary act possible (although a parrot might possibly intend to attract attention by producing bit of language, but that would not function by virtue of its meaning).
There may be perlocutionary effects.
(Note that there are reports of parrots using language meaningfully; if these reports are true, the above will have to be revised!)
- (b) computer Clearly, a sufficiently sophisticated computer could do everything.
(Most everyday computer messages, though, like *You are running out of memory* and *Save large clipboard?* are not composed.)

Chapter 19: Reference and deixis

1. Implicit reference points, etc.

- (a) *recommend* For what purpose?
other Other than what?
route From where to where? (cf. *road*, which has no inherent latent complements)
- (b) *ring up* Ring up who or what? (cf. *Mary is telephoning* does not have a latent direct object)
time Time for what?
- (c) *left* Requires an implicit orientation to be identified.
next After what?
- (d) *rather a lot* Needs an implicit reference point—compared with what?
- (e) *the last* Requires identification of *this sit-in*, or some such.
better Better than what? In what respect? From whose point of view? (For instance, from the point of view of the participants, a better sit-in is probably one that more people joined, and that was more disruptive.)

2. Types of deixis

- (a) *I, her* person deixis
understood temporal deixis
meet her there spatial deixis (symbolic)
that week extended spatial deixis
bringing spatial deixis
that's what discourse deixis
said temporal deixis
- (b) *Come out* spatial deixis
there spatial deixis (gestural?—the distinction is sometimes hard to apply)
at once temporal deixis (gestural)
- (c) *I, we, he, etc.* person deixis
met, got, etc. temporal deixis
this Xmas temporal deixis (symbolic)
tomorrow temporal deixis (symbolic)

3. *Bring* and *take*

For me, the normal sentences are: (c), (e), (f), (h), (i), (j), (k), (m), (n), (o), (p), (q), (r), (s), (t).

The rule appears to be that in direct speech, *bring* requires motion towards speaker or hearer, or someone/something in vicinity of speaker or hearer, otherwise *take* is used. In indirect speech, it appears that the deictic centre

may be either the reporting speaker or the original speaker. (NB: these remarks may not be valid for every reader's usage.)

4. Non-prototypical uses of deictics

- (a) The deictic centre is projected to 'the visitors' (notice that they are not the addressees).
- (b) The deictic centre is projected onto *Jackson*.
- (c) If this was discourse deixis, one would expect *that*. Perhaps this is a psychological use of spatial deixis, implying that the matter touches the speaker personally.
- (d) Similar to (c)?

Chapter 20: Conversational implicatures

1. Implicatures

Everyone will have their own answers to this. Here are a few suggestions (the implicatures vary in strength):

- (a) She doesn't spend much on clothes.
(implicature: "Yes, she does spend a lot on clothes.")
- (b) I don't know if she has anything left from the £500 she won at bingo.
(implicature: "She has nothing left from the £500 she won at bingo.")
- (c) Does she still push drugs?
(implicature: "She still pushes drugs.")

2. Cooperative Principle and Politeness Principle

- (a) Infringes the Maxim of Manner: *Avoid obscurity.*
Avoid unnecessary prolixity.
- (b) There is no maxim that covers this case, but there seems to be a deliberate refusal to accept the normal convention that a change of speaker involves a change of deictic centre.
- (c) Infringes the Maxim of Manner: *Be orderly.*
- (d) Infringes the Modesty Maxim.
- (e) Infringes the Maxim of Quantity: (gives too little information).
- (f) Infringes the Tact Maxim by being indirect when directness would be polite.
- (g) Infringes the Maxim of Relation.
- (h) Infringes the Consideration Maxim.
- (i) Excessive adherence to Modesty Maxim (not really explained by the maxim itself).
- (j) Infringes the Maxim of Manner: *Avoid unnecessary prolixity.*

3. Implicit propositions

- (a) Entailment
- (b) Particularized conversational implicature
- (c) Part of explicature by enrichment
- (d) Ad hoc arrangement
- (e) Generalized conversational implicature (part of meaning of syntactic construction)
- (f) Particularized conversational implicature

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Alan Cruse was formerly Senior Lecturer in Linguistics at the University of Manchester.

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