

# 1 Some fundamental concepts for semantics

All science, all significant inquiry, is a web with indefinite frontiers.

(Justus Buchler 'Introduction' to Peirce 1940:xii)

It is advisable to read the "Preface" before starting on this chapter.

## 1.1 Where we are heading

This chapter outlines some fundamental concepts for semantics, concepts that will be referred to either explicitly or implicitly throughout the rest of the book. Here, and throughout the book, KEY words and concepts are introduced in SMALL CAPITALS and also listed in the summary section.

In doing semantics it is essential to define the terms used in discussion. For instance:

*Definition 1.1* SEMANTICS is the study of meaning in human languages.

To begin with, interpret the word *meaning* as anyone who knows English might reasonably do; this whole book is about the meaning of *meaning*. Note that within the discipline of linguistics the term *semantics* is not in the least bit pejorative as it is in the colloquial accusation *That's just semantics!* which means "You're just quibbling and prevaricating." The definition of semantics refers to human languages – also referred to throughout the book as 'natural languages' – and we discuss them in §1.2.

*killed, crocodile, hunter, the, the*

### Textbox 1

If I ask you to construct a meaningful sentence using all the words in Textbox 1, you can do so because meaning is compositional. The compositionality of meaning is examined in §1.3. It raises the distinction between the language we are describing, the OBJECT LANGUAGE, and the language (and formulae) we use when describing it, the METALANGUAGE. Because semantics is about meaning in human languages, the object language will be a human language. But what form does the language of semantic theory

(the metalanguage) take? §1.4 discusses the options and also the functions of a THEORY. Like any theory, a semantic theory is developed by applying the analyst's experience and intuitions to inferences drawn from occurrences of actual speech events. INFERENCE is defined and examined in §1.5.

Meaning in language is significantly underspecified. For a simple demonstration, consider 1.

1 Last night the King of France fell off her bike while playing polo.

I expect you to be surprised by 1 and to recognize it as nonsense. This does not depend on what is explicit in 1 but on knowledge that I expect you to have, namely: that there is no longer a King of France; that polo is played on horseback not bikes; and that 'her' cannot normally refer to a king. Every language user relies on nonlinguistic as well as linguistic knowledge when speaking and understanding language. In §§1.6–8 we consider aspects of the speech situation and the conventions of language use that facilitate the underspecification of meaning. In §1.6 we define speaker, speech act, hearer, and indexicality. §1.7 is on context and common ground. §1.8 explains the semantic expectations that arise from the conventions for cooperative behaviour in language interaction. §1.9 summarizes the chapter and looks ahead to the next.

## 1.2 Human language and semantics

Human languages are important because of the meanings they convey. It is a bonus that the sound of a human voice is comforting, or that beautiful calligraphy delights us: these are by-products of the main function. Therefore, semantics studies the essential property of language.

Human language can be investigated from at least four different perspectives.

(a) Language is manifest as a PHYSICAL object or physical event. Right now, you can see language in the print before your eyes. You see people signing in ASL, Auslan and other languages for the deaf; you hear language spoken, even feel the air pressure changing if you are close enough to someone's mouth when they speak. Language as a physical object or physical event is language uttered at a particular time in a particular place – giving it spatio-temporal coordinates.

*Definition 1.2* In the CANONICAL SPEECH EVENT, Speaker makes an utterance to Hearer at a certain time and place.

The physical attributes of language are only relevant to semantics with respect to forms and modulations on them which give rise to meaningful effects, e.g. the sound symbolism (Chapter 4) which links the meanings of *bash*, *crash*, *flash*, *smash*, *splash*, etc.; the stress differences between 2 and 3 (where **BOLD SMALL CAPITALS** identify the stressed syllable); and the tone differences that distinguish the statement in 4 (final fall tone) from the question in 5 (final rise tone).

- 2 Maisie didn't **SHOOT** her husband, she **KNIFED** him.
- 3 Maisie didn't shoot her **HUSBAND**, it was her ex-**LOVER**.
- 4 Maisie spoke to Jòe.
- 5 Maisie spoke to Jòe?

(b) Ask yourself what the physical manifestations of language are manifestations of. The answer: something **ABSTRACT** and intangible. English, for instance, is not just all that is written and spoken in English; it is also something abstracted from people and times and places, it is something that speakers of English are able to use in order to say something that has never ever been said before – consequently it must exist independently of any particular speakers. Most semantic analysis approaches language as something abstracted from the spoken and written texts that people like you and I actually produce when communicating with others.

(c) To use a language, you must know it: so language is also a **COGNITIVE** or psychological entity. Exemplified and discussed in terms of functional, conceptual, and cognitive semantics from Chapter 8 onwards is lots of evidence that the cognitive aspects of language are of immense importance to the construction of meaning. This gives rise to:

***Assumption 1.1** Meaning in natural languages is very responsive to, and often a reflex of, human perception and conception.*

(d) Language exists as a vehicle for communication between people; in other words, language is a manifestation of **SOCIAL INTERACTIVE** behaviour. Social interaction includes flirting and passing the time of day, but also the exchange of information and the expression of arguments. It involves the use of language for entertainment in factual historical anecdotes as well as in fictional narrative. Social interaction is of primary importance within human communities, and language is the principal means of social interaction; cf. Clark 1996. Whether or not language was motivated and developed for this purpose, its grammar is certainly influenced by the fact that it is a means of social interaction, a means of revealing one's thoughts and perceptions to others.

This book is a general introduction to the field of semantics that attempts to give fair treatment to a number of differing perspectives on semantics. Nevertheless, an underlying philosophy will be apparent:

***Assumption 1.2** The expression of meaning through language is an essential means of cementing human bonding and of displaying it to others, both at the individual and the community level.*

Assumption 1.2 does not conflict with the view that language is a system for the expression of thought.<sup>[1]</sup> Some people think in visual images, so language is not a prerequisite for solipsistic thinking. But, beyond the simplest level, it is absolutely essential for the expression of thought to others. Whether and how one expresses a particular thought to a particular other is determined, more often than not, by a judgment of the desired effect on the hearer or reader. Because of the dominant social interactive function of language, we

shall find that it is impracticable (if not impossible) to discuss semantics without making frequent reference to aspects of pragmatics.

*Definition 1.3* PRAGMATICS is the context-dependent assignment of meaning to language expressions used in acts of speaking and writing.

We discuss context in §§1.6–7. Time and again you will see that semantics is determined by the needs of human beings when seeking to communicate with one another.

*Assumption 1.3* At the simplest level of analysis, any language is a system of forms paired with meanings.

This is most obvious in dictionaries where forms are listed and their meanings given, e.g.

**bonza/bonzer**

excellent; terrific; very good

(*The Dinkum Dictionary: A Ripper Guide to Aussie English* 1988)

For reasons discussed in Chapter 3, most dictionaries do more. The forms are sometimes referred to as *signs* and sometimes *symbols* (see Lyons 1977 Ch. 4 for discussion). Natural signs are referred to in nostrums like those in 6.

- 6 (a) Where there's smoke, there's fire.  
 (b) Those clouds mean rain.  
 (c) Red sky at night, shepherds' delight; red sky in the morning, shepherds' warning.

Natural signs needn't involve language at all: a wet pathway outside your house means that it has been raining. The study of non-natural signs is SEMIOTICS. Within human society, the kind of food you eat, the clothes you wear, the things people know that you own, your religion and ideology are components of cultural expression that communicate information to others about you and are therefore of potential interest to semioticians.<sup>[2]</sup> We speak of 'natural language' because human language has evolved with the species and not been consciously constructed. Nevertheless, natural language uses non-natural signs in the sense that there is no natural connection between form and meaning (see Chapter 4 for discussion). For example, none of the translation equivalents *ájá* (Yoruba), *cane* (Italian), *dog* (English), *Hund* (German), *kare* (Hausa), *mbwa* (Swahili), *pies* (Polish) is naturally representative of dogs or of their distinctive properties. Thus Grice 1957 refers to language meaning as 'non-natural meaning' or 'meaning<sub>NN</sub>'. Many people believe that linguistics is a part of semiotics (presumably Chomsky and many of his followers would either disagree or regard the point as trivial; cf. Chomsky 1975:57). This book assumes that language is an aspect of culture and cultural transmission. On many occasions it is also best interpreted in the context of the speaker's (or writer's) cultural background, i.e. in the light of his or her belief system and probable assumptions.<sup>[3]</sup> The physical and social distance maintained between interlocutors, where their gaze is directed, the management of terms of address and reference to others, notions of appropriate discourse, the perception of silence, the indicators of intention to speak, voice quality – all these are (sub)culturally conditioned

and vary between speech communities even within one society (cf. Chapter 5, Tannen 1990). The cultural norms guide behaviour, and so a speaker's observation or modification of them contribute to meaning in human languages.

In this section we have discussed different perspectives on human language that affect the assumptions we make about what semantics should investigate and the scope of that investigation. In §1.3 we look at the way that meaning is structured in a human language.

### Exercises

- 1.2.1 Identify some languages that are not natural human languages.
- 1.2.2 Can you think of any supporting evidence for the assumption that meaning in natural languages is very responsive to, and often a reflex of, human perception and conception?
- 1.2.3 A whistle is used in different semiotic systems by a football referee, a policeman directing traffic, the doorman at a five-star hotel, and once upon a time by a workman on a building site when a young woman walks by. Comment on what all these systems have in common and yet how in each one the whistle has a distinct purpose. What is/are the language counterparts to the whistle?
- 1.2.4 Discuss why it is that human languages are regularly referred to as 'natural languages' yet Grice referred to their meanings as 'meaning<sub>NN</sub>'.
- 1.2.5 Just what difference can you detect between language as an abstract entity on the one hand, and language as either a physical or psychological object?

## 1.3 Meaning is compositional

[E]very sentence, no matter how complicated, can be seen as the result of a systematic construction process which adds logical words one by one.

(Frege's principle of compositionality, Gamut 1991 I:15)

Most people in our community hold two true beliefs:

- (a) Meanings are a property of words.
- (b) Word meanings are stored in dictionaries.

As a review of this book's Contents and Preface shows, there is much more to semantics than this. We need to expand Definition 1.1 as follows.

*Definition 1.1 (expanded)* Semantics is the study of meaning in human languages. More precisely, it is the study and representation of the meaning

of every kind of constituent and expression in language, and also of the meaning relationships between them.

The popular notion that words (the vocabulary of the language) are the basic building blocks for language construction is not precise enough. The defining characteristic of the basic building blocks is that they are form–meaning pairs (Assumption 1.3) but their meaning is not determinable from any meaning that can be assigned to their constituent forms – e.g. the meaning of *paddle* cannot be correctly computed from the meaning of *pad-* and the meaning of *-dle*. So, the language user must memorize each basic building block individually, as a form paired with its meaning. All that a grammar can do is list them in the lexicon (= dictionary). For that reason, Di Sciullo and Williams 1987 dubbed them LISTEMES.

*Definition 1.4* A LISTEME is a language expression whose meaning is not determinable from the meanings (if any) of its constituent forms and which, therefore, a language user must memorize as a combination of form and meaning.

We language users combine listemes into words, phrases, sentences, and longer texts. At each level we construct meanings. The meaning of the word *bachelors* is composed from at least the listemes *bachelor* and *-s* and also the morphosyntactic relationship between the two listemes. The semantics of the combination of the listemes is just as important as the semantics of the listemes themselves and is part of the reason that dictionaries usually specify the morphosyntactic class (also referred to as ‘lexical class’) of each entry (Chapter 3). The noun phrase *young bachelors* is composed from the meaning of the adjective listeme *young*, the compound meaning of the word *bachelors*, and the syntactic relationship between the two words that is roughly captured by saying that *young* restricts the reference (Chapter 2) of the head noun *bachelors* to a subset (Chapter 7) of bachelors. A clause such as *young bachelors are often irresponsible* is composed of the meaning of *young bachelors* and the meaning of the other phrases, words, and listemes in the clause, as well as the various relationships between the constituent listemes and their combinations indicated by the syntactic structure. In case the importance of structural meaning is not already obvious to you, look at the difference in meaning between two sentences containing identical listemes but different structural relations:

- 7 Everyone loves someone.
- 8 Someone loves everyone.

In Chapter 7 we shall discuss the structural difference and the fact that it indicates a difference in the interpretation of ‘someone’ in the two sentences.

The principle we have been describing is ‘compositionality’. Many semanticists believe that the meanings of listemes can themselves be decomposed into SEMANTIC COMPONENTS (Chapter 8) – e.g. that *kill* has *cause* and *die* as semantic components.

*Definition 1.5* COMPOSITIONALITY: any complex language expression can be analysed in terms of simpler constituent expressions down to the semantic

components of listemes and the structures that combine them (cf. Kamp and Partee 1995:135).

The flip-side of compositionality is generativity.

*Definition 1.6* GENERATIVITY: language has a structure that permits boundless meanings to be created from a finite set of listemes.

Compositionality is a guiding principle for all kinds of semantics. The program for semantic theory includes:

- (a) Specify the rules for translating sentences of the object language into a metalanguage that captures their proper semantic components.
- (b) Identify the rules for combining these components in such a way as to interpret the input sentences of the object language.

In the course of this book we review hypotheses about what counts as a semantic component, and ways in which the systematic construction process is to be represented. In doing so, bear the following in mind:

If you asked me how a motor car worked you would think me somewhat pompous if I answered in terms of Newton's laws and the laws of thermodynamics, and downright obscurantist if I answered in terms of fundamental particles. It is doubtless true that at bottom the behaviour of a motor car is to be explained in terms of interactions between fundamental particles. But it is much more useful to explain it in terms of interactions between pistons, cylinders and sparking plugs.

(Richard Dawkins *The Blind Watchmaker* 1988:12)

It is important to recognize that any explanation is directed to an audience; thus, presentation of the theory and its components should make the commonplace assumptions about the level of knowledge and understanding of its anticipated audience – i.e. build on common ground (§1.7). For reasons discussed in the next section, formalisms within a theory are no excuse for obscurity.

## Exercises

1.3.1 How does the difference between (a) and (b) show the contribution of syntactic relations to the meanings of the sentences?

- (a) The old woman chased the young man.
- (b) The old man chased the young woman.

1.3.2 What is the difference in interpretation between 'someone' in 7 and the same word in 8?

## 1.4 The metalanguage: the language of the semantic theory

Human languages are the objects that we study in semantics. For that reason, the language under investigation is known as the OBJECT LANGUAGE. The language which a linguist uses to describe and analyse the object language is called the METALANGUAGE. The basic requirement for a metalanguage is to satisfactorily communicate the meaning of item  $e_{ol}$  – that is, any expression in the object language, whether it is a word, a phrase, or a sentence – in terms of an expression “ $e_m$ ” in the metalanguage. A metalanguage is just another language, often an artificial and not a natural one.

One important practical constraint on a metalanguage is that (mostly) it needs to be understood by human beings who normally communicate in a natural language of which they have fluent command. If you understood neither Polish nor Swahili there is little point in my using Swahili as a metalanguage for the semantic analysis of Polish (or vice versa): e.g. to say *To jest pies* means “Ni mbwa” will not help you at all. Readers of this book must, perforce, know English, so we can use English as a metalanguage and say *To jest pies* (in Polish) means “It’s a dog”; or we can say *To jest pies* means “Ni mbwa” in Swahili, which means “It’s a dog” (here using English as a meta-metalanguage). To ensure that readers understand the semantic metalanguage used in this book, it is often translated into English – i.e. English is used as either a metalanguage or a meta-metalanguage. In practice, every scholar does exactly this either by explicitly providing natural language glosses for exotic metalanguage expressions, or by assuming that the reader has some existing knowledge of the semantics of the symbols and expressions being used: e.g. that ‘ $\forall$ ’ means “for all”, ‘ $\leftrightarrow$ ’ means “if and only if”, ‘ $\wedge$ ’ means “logical and” (as you will be expected to do by the time you’ve finished Chapter 7).

INFORMAL: *dog* means “canine animal”  
 FORMAL:  $\forall x[\mathbf{dog}'(x) \leftrightarrow \mathbf{animal}'(x) \wedge \mathbf{canine}'(x)]$

### Textbox 2

Ideally, a semantic metalanguage would be a FORMAL LANGUAGE. A clue to the difference between a formal and an informal metalanguage is given in Textbox 2. Strictly, a formal language has a fully defined vocabulary and syntax (the vocabulary and syntax of the formal example in Textbox 2 will be explained later in the book). Ideally, the vocabulary would be a specified set of symbols whose forms and correlated meanings are fully defined; all possible combinations of vocabulary items in the metalanguage would be generated from fully specified syntactic axioms and rules of syntax; and the meanings of syntactically well formed structures would be fully specified by semantic axioms and rules for the metalanguage.

All systems of FORMAL SEMANTICS attempt to create exactly such formal languages whether they be couched in terms of propositional logic, predicate logic, truth-conditional semantics, possible worlds semantics, intensional logic, model theoretic semantics, situation semantics, dynamic semantics and discourse representation theory, or whatever.<sup>[4]</sup>

However, defining a formal metalanguage for natural language semantics requires that it have the same expressive power as a natural language because:

- (a) The metalanguage is in effect a translation of the object language (cf. Carnap 1937:228), and the object language is a natural language.
- (b) In order for the metalanguage to be understood and used by human beings it must be communicable, and hence translate into a natural language.

The ideal formal semantic metalanguage would have to be at least as comprehensive as a natural language (and to date no formal system achieves this goal). In other words, it would be a deliberately contrived artificial language of the same notational class as a natural language and, like a natural language, would reflect genuine properties of human perceptions of the real world as well as other aspects of human cognition. Contriving such a metalanguage would be a triumph for human ingenuity and might, as a by-product, reveal something about the nature of human languages. However, it will not in other respects be superior to a natural language used as a semantic metalanguage. We must conclude:

*Assumption 1.4 A metalanguage expression “ $e_m$ ” used in the semantic definition of a natural language expression  $e_{ol}$  will always be equivalent to the natural language expression through which it is interpreted.*

The advantages of a formal semantic metalanguage are the explicit definition of primitives and standards of rigour and exactitude that tend to be ignored when using an informal metalanguage such as a natural language. Furthermore, proper formalization of the metalanguage should permit proofs of particular conclusions about semantic structure and so prevent mistaken conclusions derived from faulty assumptions and/or inference procedures. However, none of these advantages of a formal system is necessarily unobtainable using an informal system like a natural language metalanguage for semantics. Given two metalanguages which apparently have the same descriptive and explanatory capacities, the only way to choose between them is to be guided by your gut feeling: favour the one you are happier with. Never forget that a metalanguage is the product of an analyst’s mind; the analyst not being God, every metalanguage is limited by the beliefs, perspectives, and purposes of its creator.

The metalanguage is the language of the semantic theory. The principal function of the theory is to explain data (words, sentences) from natural language. The goal of the theory is to explain all the data that it was constructed to explain; therefore, limitations on its range need to be clearly stated. A theory should have predictive power insofar as it raises expectations about data that have not yet come to light. It is absolutely necessary that a theory be internally consistent. But what about its external relations?

No theory of semantics can completely ignore syntax and phonology, and the ideal semantic theory will integrate with theories of both these components of a grammar. Semantic theory should also integrate with theories of pragmatics which seek to explain meaning in social and cultural contexts<sup>[5]</sup> and with theories of discourse structure.<sup>[6]</sup> A semantic theory should not only make useful revelations about the nature of human language but also about human cognition because, as stated in Assumption 1.1, meaning is often a reflex of human perception and conception. All theories, without exception, are abstractions from reality; so the relation of theory to reality ‘is not analogous to that of

soup to beef but rather of check number and overcoat' (Einstein 1973:294). Like any other kind of theory, semantic theory is developed by applying the analyst's experience and intuitions to inferences drawn from occurrences of actual speech events to create a demonstrably rational account of their structures and causes.<sup>[7]</sup> What, exactly, are inferences? They are defined and examined in the next section.

### Exercises

- 1.4.1 What is meant by 'all possible combinations of vocabulary items in the metalanguage would be generated from fully specified syntactic axioms and rules of syntax; and the meanings of syntactically well formed structures would be fully specified by semantic rules and axioms for the metalanguage'?
- 1.4.2 Sometimes, in kin term semantics for example, we find the symbols “♀” and “♂” used in the metalanguage expression. What do you understand by them? Are they equivalent in meaning to some natural language expression? Do you think they can be understood without reference to a natural language?
- 1.4.3 To get a machine to understand human language and to respond with human language as another person would, is it necessary for the semantic metalanguage to be equivalent to a natural language?
- 1.4.4 What is the difference between knowing a language and knowing about a language?

## 1.5 Three kinds of inference

**Logic, n.** The art of thinking and reasoning in strict accordance with the limitations and incapacities of the human misunderstanding. The basic of logic is the syllogism, consisting of a major and a minor premise and a conclusion – thus:

*Major premise:* Sixty men can do a piece of work sixty times as quickly as one man.

*Minor premise:* One man can dig a post hole in sixty seconds; therefore –

*Conclusion:* Sixty men can dig a post hole in one second.

This may be called the syllogism arithmetical, in which, by combining logic and mathematics, we obtain a double certainty and are twice blessed.

(Bierce 1971:211f)

**Definition 1.7** A logic is a system of valid inference from assumptions (= premises).

Roughly speaking, an inference is a conclusion drawn from one or more assumptions. ABDUCTIVE REASONING was championed by the early pragmatist Charles Peirce as an empirically focused procedure for the construction of classes and categories from observed data. He defined it as follows:

The surprising fact, C, is observed;  
 But if A were true, C would be a matter of course,  
 Hence, there is reason to suspect that A is true. (Peirce 1940:151)

Abduction does not really require that the fact observed be surprising. Peirce's definition of abductive reasoning is presented as a syllogism (a form of argumentation developed by Aristotle in the 4th century BCE). We use (a1), (a2), etc. to mark assumptions, ' $\wedge$ ' is logical conjunction (Chapter 6) which, for the present, may be interpreted by English "and", ' $\vdash$ ' (named 'turnstile') means "is valid from the assumptions" and '(c)' is the conclusion.

9 (a1) Fact C is observed;  
 $\wedge$  (a2) If A were true, C would be a matter of course;  
 -----  
 $\vdash$  (c) There is a reason to suspect that A is true.

Abductive inferences lead to testable hypotheses about the way things are. Data are correlated on the basis of their similarity or by analogy with some known system, usually with an eye to their apparent function or relevance within the emerging general description. An example of abductive reasoning in historical linguistics is 10.

10 (a1) In the ancient Indic language Sanskrit, words for numbers 2–7 are *dva*, *tri*, *catur*, *pañca*, *ṣaṣ*, *sapta*. These are similar to number words in European languages known to be related to one another: e.g. Slovak *dva*, Latin *duo* "2"; Slovak *tri*, Italian *tre* "3"; Latin *quattuor* "4"; Welsh *pump*, German *fünf* "5"; Spanish *seis*, English *six* "6"; Latin *septem* "7".  
 $\wedge$  (a2) If Sanskrit were related to these European languages (i.e. they all have a common ancestor), the similarity would be a matter of course.  
 -----  
 $\vdash$  (c) There is a reason to suspect that Sanskrit is related to European languages.

10 (a1) collapses several similar observations. We could deconstruct (a1) and (a2) into a series of syllogisms like the following:

Sanskrit *dva* means "2"  
 Slovak *dva* and Latin *duo* also mean "2" } cf. (a1)

-----  
 Perhaps Sanskrit is related to Slovak and Latin (already known to be related to each other) [cf.(a2)]

(a2) is an imaginative leap because Sanskrit is separated by time and thousands of kilometres from the European languages, and it was spoken by a different race. (a2) expresses the intuition underlying the creation of the hypothesis in 10(c).<sup>[8]</sup> The abduced hypothesis (c) can be inductively confirmed by finding additional systematic correspondences (including all those given in 10(a1)) leading to the recognition of an Indo-European language family. Once a part of the system is recognized and predictions about

the whole system begin to be made, the investigator moves from abduction – hypothesizing – to hypothesis testing and inductive reasoning.

An example of INDUCTIVE inference is 11.

- 11 (a1) Every day till now the sun has risen in the east.  
 -----  
 ⊢ (c) If we check tomorrow, the sun will have risen in the east.

The inductive inference (c) is a prediction based on sampling. If the sampling technique is good, the prediction will probably be verified: in 11, (c) is highly probable given the assumption (a1), but it is not necessarily going to be the case. Inductive inference is used in linguistics: for instance, if you are told that almost all French nouns ending in *-ion* are feminine then you can inductively infer that the next French noun you encounter that ends in *-ion* will most probably be feminine. Induction uncovers tendencies, but not certainties, and so is open to dispute; so, the problem with inductive reasoning is exactly that it identifies conclusions in which we have some degree of confidence (given the assumptions) but not the kind of confidence that is given to deductions.

In formal semantics DEDUCTIVE reasoning is required because, provided the assumptions and the reasoning process are correct, a valid conclusion is guaranteed. For instance, from any proposition *p* we can validly deduce *p*.

- 12 (a) Max weighs 250 pounds.  
 -----  
 (c) Max weighs 250 pounds.

*Definition 1.8* A PROPOSITION is (roughly speaking) the meaning of a declarative clause.

More interesting deductions involve more than one assumption, e.g. from (a1) *A bachelor is a man who has never married* and (a2) *Max is married*, we can deduce that (c) *Max is not a bachelor*. The steps to the conclusion in this case are given in 13; they are given informally i.e. they rely on your common sense, because we have not specified the deductive system – in fact this is one of the tasks for semantics.

- 13 (a1) A bachelor is a man who has never married  
 -----  
 ⊢ (c1) A man who has married is no longer a bachelor  
  
 (a2) Max is a man  
 ∧ (a3) Max is married  
 -----  
 ⊢ (c2) Max is a man who has married

$$\begin{array}{l} (a4)=(c1) \text{ A man who has married is no longer a bachelor} \\ \wedge (a5)=(c2) \text{ Max is a man who has married} \\ \hline \vdash (c3) \quad \text{Max is no longer a bachelor} \\ \\ (c3)=(a6) \text{ Max is no longer a bachelor} \\ \hline \vdash (c4) \quad \text{Max is not a bachelor} \end{array}$$

In 14, the conclusion validly follows from assumptions (a1, a2) because the reasoning is sound.

$$\begin{array}{l} 14 \quad (a1) \quad \text{Snow is black} \\ \quad \wedge (a2) \quad \text{Snow is hot and dry} \\ \hline \vdash (c) \quad \text{Snow is hot, dry, and black.} \end{array}$$

What this clearly demonstrates is that false assumptions will lead to valid but probably (see exercise 1.5.3) false conclusions. It follows that we must get our assumptions right if we are to use deductive inference in natural language semantics to seek true as well as valid conclusions.

Deductive inference is used all the time in ordinary language understanding; e.g. we readily interpret from *Max is married* that *Max is not a bachelor*. One of the functions of linguistic semantics is to account for such valid inferences by establishing the steps that validate them. Take another example: from *Francis killed Xavier* we can validly infer all of the following (and more).

- 15 (a) Xavier was killed by Francis.  
 (b) Xavier was alive until he was killed by Francis.  
 (c) Xavier is dead.  
 (d) Francis caused Xavier's death.  
 (e) Xavier's death came about as the result of something Francis did.  
 (f) Francis killed someone.  
 (g) Francis killed something.  
 (h) Francis has killed.  
 (i) There was a killing.  
 (j) There is someone called Francis.  
 (k) There was someone called Xavier (now deceased).

We can also infer that if the above are true, the following (among other propositions) are false:

- 16 (a) Xavier is alive.  
 (b) Francis never killed anyone.

All these facts arise from the nature of semantic relations and must be accounted for within a semantic theory.

We have looked at three different kinds of inference. Abductive reasoning is used in figuring out classes, categories, and functions of observed phenomena – i.e. arriving at a hypothesis. With abductive reasoning the conclusions are based on a best guess; once predictions are built on the results of abduction, we have induction (market research is one practical use of induction). Deductive inference is the move from assumptions to valid conclusions by observing strict rules of procedure (identified in systems of logic) that guarantee a valid conclusion from the assumptions; the assumptions must be correct if the conclusions are to accord with the facts. Any thorough account of natural language understanding uses all three kinds of inference. As Peirce (1940:154) says:

These distinctions [between abductive, inductive, and deductive reasoning] are perfectly clear in principle, which is all that is necessary, although it might sometimes be a nice question to say to which class a given inference belongs.

### Exercises

1.5.1 We deduced from *Max is no longer a bachelor* that *Max is not (now) a bachelor*. Is this due to the fact that the meaning of *not* is contained within the meaning of *no longer*?

1.5.2 In what way is compositionality relevant to the deduction from (a1) and (a2) to (c)?

(a1)	All semantics students are smart
∧ (a2)	Harry is a semantics student
⊢ (c)	Harry is smart

1.5.3 What kind of inference leads to conclusion (c) from assumption (a):

(a)	Emma is drinking champagne and dancing
(c)	Emma is dancing

1.5.4 Construct one valid and one invalid argument using (in each case) three out of the four following propositions: (a) *A dentist is a tooth-doctor*. (b) *Harry was a policeman*. (c) *Harry is a tooth-doctor*. (d) *Harry is a dentist*.

1.5.5 Comment on the following syllogism:

(a1)	Women are cats
∧ (a2)	Cats are human
⊢ (c)	Women are human

1.5.6 In English there is a distinction between singular and plural NPs: *one sheep, three sheep; one stone, two stones*; etc. What sort of reasoning leads people who were not brought up to speak native standard English to say things like *a trouser, two equipments, some furnitures*?

1.5.7 Swahili (Bantu, E. Africa), like other Bantu languages, has many noun classes. Human beings (in singular number) mostly go into class one, e.g. *mtu* “person”, *mwanamke* “woman”, *mtoto* “child”, *mzee* “old person”, *mgonjwa* “sick person”, *mgeni* “traditional doctor”, *mwalimu* “teacher”, *mpishi* “a cook”. But the following singular nouns go into class seven (typically the class for artifacts, diseases, and diminutives): *kibogoyo* “toothless person”, *kidurango* or *kibete* “dwarf”, *kikaramba* “old crone/old fart”, *kinukamito* “unstable, unsettled person”, *kipofu* “blind person”, *kisiki* “prostitute”, *kiwete* “a cripple”, *kiziwi* “deaf person”. Suggest a reason for this and for deciding whether your reasoning is abductive, inductive, or deductive.

1.5.8 Use deductive reasoning to show that *the stone died* is anomalous (is nonsense) whereas *the cat died* is not.

## 1.6 Speakers, speech acts, hearers and overhearers

Communication is successful not when hearers recognize the linguistic meaning of the utterance, but when they infer the speaker’s “meaning” from it.

(Sperber and Wilson 1986:23)

This book adopts the social-interactionist view that language results from acts of speaking or writing when someone (Speaker) says (or writes) something to someone else (Hearer) at a certain time in a certain place (Definition 1.2) – often as part of a longer discourse or interchange. Normal utterance involves a hierarchy of SPEECH ACTS.<sup>[9]</sup> To begin with, there is the ACT OF UTTERANCE. This is recognizable even in an unknown language in which we cannot distinguish the sentences used, and what Speaker’s message is. Utterance is recognized by brute perception: hearing the utterance spoken, seeing it signed or written, or feeling it impressed in braille. Linguistics is concerned with utterances in which Speaker uses a language expression and thereby performs a locutionary act (and more).

*Definition 1.9* In performing a LOCUTIONARY ACT Speaker uses an identifiable sentence or sentence fragment from a language L.

Producing the locution demands that Speaker has knowledge of the grammar, lexicon, semantics, and phonology of L; recognizing it, that Hearer has comparable knowledge. Speaker uses the locution to REFER to things, i.e. talk about them (Chapter 2, Definition 2.5). Different Speakers using different locutionary and utterance acts can refer to the same thing. For instance, at a gathering in which there are speakers of English (17), Swahili (18), and Tohono O’odham (19), 17–19 could all be referring to the same dog.

- 17 The dog's barking!  
 18 Mbwa anabweka!  
 19 Hi:nk o g gogs!

Austin 1962 alerted us to the fact that Speaker DOES something when making an utterance. Some examples are: Speaker

<b>states a fact or an opinion</b>	<i>Semantics can be difficult.</i>
<b>confirms or denies something</b>	<i>It's not true that Marilyn Monroe committed suicide.</i>
<b>makes a prediction</b>	<i>It'll rain tonight.</i>
<b>makes a promise</b>	<i>I'll be with you in five minutes.</i>
<b>makes a request</b>	<i>What's the time?</i>
<b>offers thanks or an invitation</b>	<i>Can you come to dinner next Saturday?</i>
<b>issues an order or an umpire's decision</b>	<i>Out!</i>
<b>gives advice or permission</b>	<i>Yes, of course you can leave early today.</i>
<b>names a child or a ship</b>	<i>I name this ship "QE3".</i>
<b>swears an oath</b>	<i>I swear allegiance to the King.</i>

*Definition 1.10* In making an utterance, Speaker performs an ILLOCUTIONARY ACT by using a particular locution with the ILLOCUTIONARY FORCE of a statement, a confirmation, a denial, a prediction, a promise, a request, etc.

*Assumption 1.5* Although an utterance has more than one illocutionary force (Allan 1994g), it will usually have only one message to convey; the illocutionary force that carries this message is said to be the ILLOCUTIONARY POINT of the utterance.

- 20 I'll make the tea.

In 20, the locution is what you see following the example number. Context of utterance will determine the reference of 'I' and 'the tea' (§1.7, Chapter 2). The primary illocutionary force is a statement about a future act. It may be used with a second illocutionary force: to make a promise. If this promise is Speaker's illocutionary intention, 20 has the illocutionary point "Speaker is promising to make the tea."

Typically, the illocutionary point of 21 is to have Hearer recognize that Speaker is offering a bet. The acceptance or refusal of the challenge is the PERLOCUTIONARY EFFECT of the utterance.

- 21 I bet you a dollar you can jump that puddle.

*Definition 1.11* Speaker's PERLOCUTIONARY ACT is act of achieving a particular perlocutionary effect on Hearer as a result of Hearer recognizing

(what s/he takes to be) the locution and illocutionary forces in Speaker's utterance.

A perlocution is Hearer's behavioural response to the utterance – not necessarily a physical or verbal response, perhaps merely a mental or emotional response of some kind. Other perlocutions are such things as:

- alerting Hearer by warning Hearer of danger;
- persuading Hearer to an opinion by stating supporting facts;
- intimidating Hearer by threatening;
- getting Hearer to do something by means of a suggestion, a hint, a request, or a command;

and so forth. (Responding to a raised voice or an angry look does not result from Hearer recognizing a locution and illocutionary point and therefore does not count as a perlocutionary effect. It is instead a gestural effect.) Perlocutions are extremely significant within a theory of communication because the normal reason for speaking is to cause an effect in Hearer, and Speaker typically strives to achieve this by any means s/he can. However,

*Assumption 1.6 Perlocutionary effects fall beyond the boundary of linguistics because they are not part of language but behavioural and/or cognitive and/or emotional responses to the illocutions (= illocutionary forces) in utterances.*

Linguists can properly look at Speaker's illocutionary intention:

*Definition 1.12 Speaker's ILLOCUTIONARY INTENTION is have Hearer recognize the illocutionary point of Speaker's utterance in order to achieve a particular perlocutionary effect.*

In the canonical speech event (Definition 1.2), there is an assumption that Speaker intends to communicate with Hearer (cf. Definition 1.27). As recognized by Grice, the intention is reflexive: it is Speaker's intention to have a person in earshot recognize that Speaker wants him or her to accept the role of Hearer and therefore be an (or the) intended recipient of Speaker's message and consequently react to it.

*Definition 1.13 Speaker's REFLEXIVE INTENTION towards Hearer is the intention to have Hearer recognize that when uttering U in context C, Speaker intends U to have a certain effect on Hearer partly caused by Hearer recognizing that Speaker has the intention to communicate with him or her by means of U.<sup>[10]</sup>*

So, when Joe hears Sue talking in her sleep, he will not assume she has a reflexive intention towards him, and therefore not expect that she intends her utterance to have any effect on him – though she might unintentionally keep him awake. There are innumerable mental, emotional, and physical effects that speakers might wish to produce, e.g.

persuading Hearer to an opinion, intimidating Hearer, alerting Hearer of danger, getting Hearer to do something by means of a suggestion, a hint, a request, or a command.

In the spoken medium there is never more than one speaker per utterance; however, two speakers may utter identical utterances in unison, or Speaker may speak on someone else's behalf. Co-authors generally take joint responsibility for what is written but, normally, each writes only a part of the text. This starkly contrasts with the number of hearers or readers Speaker may have for an audience. (A1.6 refers to Assumption 1.6.)

*Definition 1.14* HEARER is anyone who, at the time of utterance, Speaker reflexively intends should recognize the illocutionary point (A1.6) of the utterance (= Speaker's message).

Speaker tailors the utterance to suit Hearer, taking into account the presumed common ground (§1.7) and what s/he knows or guesses about Hearer's ability to understand the message s/he wants to convey.

Clark and Carlson 1982 distinguish between Hearer as 'direct addressee' and Hearer as 'ratified participant', the latter being a member of the audience participating in the speech act (cf. Goffman 1981:131). The notion of face (§1.8, Brown and Levinson 1987) is useful in distinguishing between two kinds each of hearers and overhearers.

*Definition 1.15* An ADDRESSEE is someone who cannot reject the role of Hearer without serious affront to Speaker.

Direct address is determined contextually – by direction of gaze, pointing a finger, touching an arm, using a name, or on the basis of who spoke last; less commonly, the nature of the message will determine who is the intended addressee. Note the change of addressee in 22:

22 *Joan*, Max bought me this beautiful ring for our anniversary, didn't you *Max*, you sweetie!

And the nonspecific addressee in 23:

23 Congratulations, *whoever* came first!

*Definition 1.16* A RATIFIED PARTICIPANT is a Hearer, but not directly or personally addressed. So s/he can reject the Hearer role more freely than an addressee and with less of an affront to Speaker.

When Speaker is speaking, all those who can reasonably consider themselves ratified participants are expected, as part of the cooperative endeavour, to keep tabs on what is said, so that if called upon to participate they may do so appropriately.

Any other person hearing the utterance, U, is an OVERHEARER: either a bystander or an eavesdropper. People in earshot are expected to overhear, though not necessarily to listen; only hearers are properly expected to listen. It can happen that U is overheard by someone when there was no original specific intention on Speaker's part that this should happen; to

put it more precisely, Speaker has a reflexive intention towards Hearer but not towards an overhearer. An overhearer may perchance understand the message the same way Hearer does because they share common ground; but, because s/he is not necessarily party to the appropriate contextual information relevant to the correct interpretation of the utterance, it is possible that s/he may seriously misinterpret it.

*Definition 1.17* A BYSTANDER within earshot was not originally intended as a Hearer and may, depending on circumstances, accept or reject the role of Hearer without loss of face.

Consider an occasion where X is arguing with Y within earshot of Z.

- 24
- |  |  |
|--|--|
| [X to Y as addressee]                        | Shut up or I'll lay one on you.                  |
| [Y to Z as ratified participant]             | You heard him threaten to hit me,<br>didn't you? |
| [X to Z as bystander]                        | You mind your own business.                      |
| [Z to X and Y, rejecting the role of Hearer] | I wasn't listening.                              |

*Definition 1.18* An EAVESDROPPER can only admit to listening at the risk of looking bad, and perhaps also affronting Speaker.

The speech event defines a context for the utterance. This is further specified in the next section.

## Exercises

- 1.6.1 Why use Speaker and Hearer to include “writer” and “reader” respectively, rather than Writer to include “speaker”, Reader to include “Hearer”?
- 1.6.2 Discuss the locution, reference, apparent illocutionary point, and possible perlocutionary effect of *I'm hungry*.
- 1.6.3 Exactly why is Speaker's intention described as ‘reflexive’?
- 1.6.4 How does a messenger fit into the scheme of hearers and overhearers? E.g. Cleopatra addresses Caesar's messenger, Thidias as follows;
- Most kind messenger,  
Say to great Caesar this in deputation,  
I kiss his conquering hand: tell him, I am prompt  
To lay my Crown at's feet, and there to kneel.  
Tell him, from his all-obeying breath, I hear  
The doom of Egypt.

(Shakespeare *Antony and Cleopatra* III.xiii.88–93)

## 1.7 Context and common ground

The term CONTEXT denotes any or all of four things: the world and time spoken of; the co-text, i.e. the text that precedes and succeeds a given language expression; and the situations of utterance and interpretation. We discuss them in turn.

In the course of interpreting any text a hearer or reader must construct a MODEL of THE WORLD AND TIME SPOKEN OR WRITTEN OF in the text. The technical terms *model* and *world and time spoken of* (used as an abbreviation for “world and time spoken or written of”) are sometimes called the discourse world or discourse model. They refer to the mental model of the world which a cognitivist believes that we all construct in order to be able to produce or understand a phrase, a sentence, or a much longer text. For instance, to interpret a declarative sentence such as 25, Hearer models a world in which it is day-time and the sun is (mostly) shining and there is (at least) one person mowing a lawn.

25 It’s a sunny day and someone is mowing a lawn

Typically, the world and time spoken of contain people and things Hearer knows or knows of; thus it is a contextualization of the states of affairs referred to by the text producer in terms of place, objects, and participants, etc. It can be (a reconstruction of) the real world, or some other possible world that can be imagined, desired, or supposed. A world that can be spoken of is referred to in this book as an (ADMISSIBLE) POSSIBLE WORLD defined as one that is known (factual), imagined, desired, or supposed (all nonfactual). Worlds that can be spoken of overlap with logically possible worlds.<sup>[11]</sup> Occasionally people speak of logical impossibilities such as *the largest prime number*; and there may be logically possible worlds no speaker conceives of.

It is often the case that a single utterance evokes more than one world and/or time.

26 If Max owned a Rolls Royce, he’d be a lucky man.

27 Nimoy plays Spock in “Star Trek”.

28 President Clinton was a baby in 1946.

26 evokes an actual world where Speaker presupposes (Chapter 6) that Max does not own a Rolls, but imagines a hypothetical world in which he does (this sentence is further discussed in Chapter 2). In 27 Speaker refers to the fictional world of “Star Trek” in which Spock exists and which is to be found within the actual world in which Leonard Nimoy exists. In 28 the person who was the baby in 1946 became the US president in 1993. The same individual may occupy different worlds;<sup>[12]</sup> two worlds that include the same people and places may exist at different times (28) or in different realities (26–27). Models are therefore defined as world–time pairs (Chapter 2). In fact only a part of a world is focused upon in any text, nevertheless the rest of the world (and the universe that contains it) is accessible and can be elaborated upon if need be.<sup>[13]</sup>

Speaker and Hearer are mutually aware that, normally, their interlocutor is an intelligent being. Speaker does not need to spell out those things which are

- (a) obvious to the sensory receptors of Hearer, or
- (b) which Hearer can very easily reason out on the basis of

- (i) knowing the language and the conventions for its use, and
- (ii) using the knowledge that each of us develops from birth as we experience the world around us.

These constitute what is called ‘common ground’.<sup>[14]</sup> Much of our understanding rests on an assumption of common ground: e.g. pointing to something and saying *Isn't that nice?* on the assumption that Hearer understands English and can also see it; or saying *Let's go to Paris* on the assumption that ‘Paris’ will be understood as referring to a certain city. Some common ground is universal e.g. knowledge of sun, rain, the physiological differences between the sexes; some common ground is very restricted, e.g. between a couple who use *the Hobgoblin* to refer to the man's first wife. Speaker can usually readily assess the probable common ground with Hearer, and choose his or her words accordingly. A simplified definition of common ground is:

*Definition 1.19* COMMON GROUND for any community K of two or more people is that:

- (a) every member, or almost every member, of K knows or believes some fact or set of facts F; and
- (b) a member is presumed to know or believe F by (almost) every other member of K; and
- (c) a member of K knows that both (a) and (b) are true.

When a member of K applies knowledge of F in order to interpret P, a state of affairs or something said, s/he can presume that others in the community will also apply knowledge of F in order to interpret P. The existence of F, P, and the application of knowledge of F to interpreting P is common ground for members of the community K. Once attended to, P becomes part of F, incrementing the common ground.

(c) is similar to Lewis's 1969:78 definition of CONVENTION. Roughly speaking, a convention is a regularity of behaviour to which, in a given situation almost everyone within a population conforms and expects almost everyone else to conform. Moreover, almost everyone prefers this state of affairs to an alternative. This is not say that the convention is immutable: if people cease to conform to a particular regularity and prefer to cease to conform to it, it will cease to remain a convention; and if they gradually adopt another regularity in behaviour, this will become a convention when almost everyone in the population conforms to it and almost everyone prefers this state of affairs to the alternative. In my definition of common ground, F includes not only behaviours but also manifest facts such as what can be seen and heard, etc. by the interlocutors.

Common ground allows meaning to be underspecified by Speaker, so that language understanding is a constructive process in which a lot of inferencing is expected from Hearer. Take, for example, the following interchange:

29 [The doorbell to Maggie and Frank's apartment rings]

MAGGIE [*voice off*]: Did you hear the doorbell, dear? I'm in the bathroom.

FRANK: I'll get it.

- (a) First of all Maggie draws to Frank's attention to  $P_1$ , the fact that the doorbell has been rung, by asking whether Frank has heard it.
- (b) By asking the question of him,  $P_2$ , she demonstrates that she assumes that Frank is not deaf: this is a GENERALIZED IMPLICATURE attached to all spoken questions (part of F; 'implicature' is defined in Chapter 6).
- (c) It also suggests that she thinks that he possibly heard the doorbell himself ( $P_1$  becomes part of F): this is a PARTICULARIZED implicature relevant to this particular context.
- (d) Maggie could, in principle, justify these implicatures on the basis of what she assumes to be common ground with Frank: he speaks English and knows the conventions for using it (part of F); the doorbell to their apartment has rung ( $P_1$ ) and it is sufficiently noisy that they both have sufficiently good perceptual and cognitive abilities to recognize that if one of them has heard it the other one will have done (part of F).
- (e) It follows that Maggie expects Frank to infer (as we do) that she is implying that the caller (part of F recognized from  $P_1$ ) needs to be attended to (more of F). This is another generalized implicature, that would usually be described as the illocutionary point (Assumption 1.5) of this part of the utterance.
- (f) Secondly, Maggie announces she is in the bathroom, thereby implying that she is unable to open the door herself (more of F).
- (g) Frank takes the hint ( $P_3$ ). Again by a process of implication, we, along with Maggie, recognize the statement 'I'll get it' as a promise (yet more F). If Frank's promise is sincere – which is our normal expectation (§1.8 and §6.5) – he will act upon it.

Note the amount of inferencing that Maggie expects from Frank. This is typical of normal language interchange (cf. Sperber and Wilson 1995), and it is a constant refrain in this book. We have to conclude:

*Assumption 1.7 Speaker expects Hearer to make constructive inferences and produces his or her text accordingly.*

Additional evidence for the constructive nature of text understanding includes:

- (a) Inference and speculation enables Hearer to predict what might happen next, allowing a sentence begun by one participant in conversation to be completed by another.
- (b) Titles and headings set up expectations about the text which follows, and so facilitate understanding.
- (c) Tests on eyewitness testimony and experiments with scrambled stories confirm that we tend to reformulate what we see, hear, and read in terms of what we expect to see, hear, and read.<sup>[15]</sup>

PRACTICAL REASONING is used in calculating the meaning of an utterance. It uses assumptions in which Hearer has a certain confidence, but which are not necessarily held to be true; the degree of confidence in the conclusion will be the same as that of its weakest assumption. Practical reasoning uses all three kinds of inference: abduction, induction, and deduction (§1.5); e.g.

30 I am waiting for the bus to go to work. The ride is scheduled to take ten minutes, and I can make it if the bus arrives on time. I don't know if the bus will arrive when it should. Even if the bus arrives on time, it may be delayed at the roadworks. It looks as though I could be late.

In (the model of) the world and time spoken of, states of affairs exist and/or events occur that Hearer is expected to be able to understand or imagine.

*Assumption 1.8* A text is judged coherent where the world at the time spoken of is internally consistent and generally accords with accepted human knowledge.<sup>[16]</sup>

Even an imaginary world is necessarily interpreted in terms of the world of our experience. Decide which of 31–33 seems best to you and why.

31 Tracy had first aroused before daylight when the dog barked at something, then turned over for another half hour. Cosmetic surgery would have to wait, cosmetic application was urgent. The shower refreshed her; the mirror depressed her with red eyes returning her gaze. She had been studying till the early hours and slept in later than usual. Just before eight she dragged herself into consciousness and out of bed. She set about it.

32 Cosmetic surgery would have to wait, cosmetic application was urgent. Just before eight Tracy dragged herself into consciousness and out of bed. She had been studying till the early hours and slept in later than usual. She set about it. She had first aroused before daylight when the dog barked at something, then turned over for another half hour. The shower refreshed her; the mirror depressed her with red eyes returning her gaze.

33 Tracy had been studying till the early hours and slept in later than usual. She had first aroused before daylight when the dog barked at something, then turned over for another half hour. Just before eight she dragged herself into consciousness and out of bed. The shower refreshed her; the mirror depressed her with red eyes returning her gaze. Cosmetic surgery would have to wait, cosmetic application was urgent. She set about it.

Chronological coherence is an important aspect of texts; so is coherent unfolding of a story-line. 33 has these characteristics, 31–32 do not.

The world and time spoken of form the most crucial category of context. Co-text is only significant for identifying the world and time spoken of or something within the world.

*Definition 1.20* CO-TEXT is the text that precedes and succeeds a given language expression.

A sentence fragment like *By taxi* sends us to the co-text to discover who or what is travelling by taxi. The interpretation of pronouns and other anaphoric expressions (Chapter 2) usually requires that they be correlated with names or full noun phrases in their co-text, e.g. the co-indexed (subscripted) NPs in 29.

34 When he<sub>i</sub> did at last get home, Eddy<sub>i</sub> fell asleep.

The co-text provides information necessary to the proper interpretation of ambiguous forms: e.g. the word *bank* can be a noun (*a bank*) or a verb (*to bank money*); as a noun it can denote a financial institution (*Citibank*) or its buildings (*the bank on High Street*), a raised earthwork (*river bank*). The co-text will ordinarily disambiguate by permitting only one interpretation to make sense ‘in context’. Language expressions not only take from their co-text, they also give to it: what we say or write at any point most often has an important bearing on how a text will continue. The reason that titles and headings facilitate communication is their co-textual function of identifying the topic of the narrative.

In face-to-face interaction the situation of utterance and the situation of interpretation are practically indistinguishable in time, though the locations of Speaker and Hearer are distinct. For some telephone conversations across great distances, and for nearly all written texts there is an obvious time difference between the two situations.

*Definition 1.21* The SITUATION OF UTTERANCE identifies the place at and the time in which Speaker makes the utterance.

*Definition 1.22* The SITUATION OF INTERPRETATION identifies the place at and time in which the utterance is heard, seen, and/or read.

The situation of utterance could be described as the world and time spoken IN. It is most significant to language understanding when it is spoken of: the exception is in those matters of politeness which are determined by relationships between participants irrespective of the world (and time) being spoken of (Chapter 5); this is less important in English than in the languages of such cultures as Japanese and Javanese.<sup>[17]</sup> The situations of utterance and interpretation provide anchors for DEICTIC or INDEXICAL categories such as tense (Chapter 11), personal pronouns, deictic locatives and demonstratives; see Table 1.1. In personal pronoun systems, Speaker is first person, Hearer is second person, all others are third person. Many languages, including some English dialects, have corresponding locatives meaning roughly “near Speaker”, “near Hearer”, “not-near either Speaker or Hearer”. Standard English has two: “near Speaker” and “not-near Speaker”.

Situation of Utterance	Situation of Interpretation	Neither
present tense = time of utterance		
Speaker = 1st person	Hearer = 2nd person	3rd person
<i>here, this place</i> Japanese <i>kono</i>	<i>there, that place</i> Japanese <i>sono</i>	<i>there, yonder</i> Japanese <i>ano</i>

**Table 1.1** Sketch of some deictic categories, the situations of utterance and interpretation

The situations of utterance and interpretation may determine choices of adverbials and directional verbs relative to the location of Speaker and Hearer; e.g. the choice among the

verbs *come, go, bring, come up, come down, come over*, etc. Situation of utterance and assumptions about Hearer also play a role in determining the topic and the linguistic register or jargon – that is, the variety of language associated with a particular occupational, institutional, or recreational group: for instance, legalese, medicalese, cricketese, linguisticalese, and so forth (Chapter 5).<sup>[18]</sup> They influence politeness factors such as terms of address and reference to others; and are where and when paralinguistic occurs such as gesture, facial expression, and the positions and postures of interlocutors (cf. Argyle 1988, Clark 1996).

In this section we have seen that language understanding is a constructive process, and that Speaker underspecifies meaning knowing that s/he can rely on Hearer's ability to correctly infer Speaker's meaning without every scrap of it having to be made explicit. The fact that people have the ability to use language at all makes it a cognitive entity, and this constructive aspect of understanding exploits human cognitive abilities to the full.

The facts that

- (a) language is used to talk about things in the real and imaginary worlds and times and
- (b) Hearer must model (construct) the worlds and times spoken of in order to understand an utterance

indicate the crucial significance of context in semantic analysis. If Hearer is to properly understand Speaker's text, Speaker needs to ensure that s/he makes the most accurate assumptions possible about Hearer and the situation of interpretation. Likewise, Hearer needs to take account of what is known about the situation of utterance (see the discussion of utterance meaning in Chapter 2). Context includes the world and time spoken of, i.e. the content of some mental space; this is normally linked directly to the world and time spoken in, which is defined on the spatio-temporal characteristics of situation of utterance. In fictional and imaginative works, however, the association with the world and time spoken in may be much less substantial – though Speaker's assumptions and beliefs will undoubtedly be influenced by them. The word *context* is often used to refer to the co-text of a given word or longer expression; this is principally because the co-text reveals information about the world and time spoken of.

What we have been discussing in §§1.6–7 confirms that human language is primarily a form of social interaction. Like other social activities, language interchange requires participants to mutually recognize certain conventions. These are the topic of the next section.

## Exercises

- 1.7.1 Here is a demonstration that language understanding is a constructive process. Read the following two introductory paragraphs from a story and then try answering the questions below it.

### The Maasai Clans

The Maasai people are divided into two moieties, the one called the Odomong'i (people of the red oxen) and the other the Orok-kiteng' (people of the black cow). These moieties are further subdivided into five, this latter subdivision being the origin of the Maasai clans. This is how the division came about.

Long ago, at the beginning of time, lived a demigod called Naiterukop, Beginner-of-the-Earth. Naiterukop married two wives. Now, as for the first wife, he gave her red cattle and she was given the bridal name Nadomong'i, She-of-the-red-oxen. It was allowed that she build her house by the gatepost on the righthand side of the gate into the compound.

Now answer the following questions and discuss the basis for your answer, commenting on what it shows about the way we understand language. Where relevant refer to common ground (and/or the lack of it).

- (a) Guess what colour cattle the second wife got.
- (b) Guess what her married name was.
- (c) Guess which side of the gateway the second wife built her hut.
- (d) If the two wives gave rise to the Maasai moieties, where would you guess that the five clans come from?
- (e) What does the title help you to do?

[The rest of the story is given in "Answers to Selected Exercises" (see "Preface")]

1.7.2 Our tendency to speculate about (predict) what is likely to happen next in a narrative occasionally leads to 'garden-pathing' (cf. Clark and Clark 1977:80–2) as in *A horse raced towards the gate fell* where many a Hearer pulls up short at the apparent ungrammaticality of 'fell' and has to reprocess the sentence to make sense of it. Explain how you can be 'led up the garden path' by each of (a–c).

- (a) A horse raced towards the gate fell.
- (b) Our astronomer gazed transfixed at the star racing towards him with her arms outstretched.
- (c) Mary is afraid her mother saw her duck behind the curtain. (Her mother hates her to take the bird into the house.)

1.7.3 What does model (world and time) construction have to do with the comprehending of one (or both) of the following:

- (a) The major problem is quite simply one of grammar, and the main work to consult in this matter is Dr Dan Streetmentioner's *Time Traveller's Handbook of 1001 Tense Formations*. It will tell you for instance how to describe something that was about to happen to you in the past before you avoided it by time-jumping forward two days in order to avoid it. The event will be described differently according to whether you are talking about it from the standpoint of your own natural time, from a time in the further future, or a time in the further past and is further complicated by the possibility of conducting conversations whilst

you are actually travelling from one time to another with the intention of becoming your own mother or father. (Adams 1992:216)

- (b) It is the moment of non-construction, disclosing the absentation of actuality from the concept in part through its invitation to emphasize, in reading, the helplessness – rather than the will to power – of its fall into conceptuality. (Paul Fry *A Defense of Poetry* 1995)

1.7.4 In what way does the interpretation of the word *morphology* differ in (a), and *lamb* in (b); and what are the clues to the difference?

- (a<sub>1</sub>) the morphology of the Basque language      (a<sub>2</sub>) the morphology of the whale  
(b<sub>1</sub>) the lamb frolicked in the field              (b<sub>2</sub>) the lamb tasted delicious

1.7.5 Discuss the fact that language treats Speaker and Hearer as being in different locational zones (different places) but not in different time zones. What does this tell you about the differences between speech and writing?

1.7.6 Ilocano (Austronesian, Philippines) has the personal pronouns listed below. Show how their semantics systematically represents components of person deixis in terms of Speaker, Hearer, and third persons.

*co* “I/me”; *mo* “you singular”; *ta* = *co* and *mo* (together); *na* “he/him, she/her, it”; *da* “them”; *mi* = *co* and *na/da* (together); *yo* = *mo* and *na/da* (together); *tayo* = *co* and *mo* and *na/da* (together)

1.7.7 Which categories of context seem to be used to interpret the italicized pronouns in (a–d)?

- (a) When Harry and Sally first met *she* didn’t like *him* at all.  
(b) *I* want *you* to bring *that* – whatever *it* is – *here*, and put it *there*.  
(c) Anna beat Sandra at chess because *she* was the better player.  
(d) Anna beat Sandra at chess because *she* was an incompetent player.

1.7.8 How do evaluations of ‘talking to oneself’ square with our view that language is primarily a vehicle for social interaction among human beings?

1.7.9 Discuss the fact that Frank’s pronoun ‘it’ in 29 (the doorbell interchange) has no antecedent.

## 1.8 Maxims of the cooperative principle, and the principle of relevance

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. One might label this the COOPERATIVE PRINCIPLE.

(Grice 1975:45)

In this section we establish some basic assumptions about the cooperative principle, and its competitor, relevance theory (Sperber and Wilson 1995). Both are pragmatic rather than semantic, and so we do not give them the attention they would merit in a book on pragmatics. As we shall see, however, the cooperative maxims are fundamental to a proper account of meaning in natural language; to build a semantic theory that makes no reference to the implicatures that arise from cooperative maxims would be like building a car with square wheels.

Grice 1975 described the cooperative principle in terms of four categories of maxims given in the original as follows.

Quantity:

- 1 Make your contribution as informative as is required (for the current purposes of the exchange).
- 2 Do not make your contribution more informative than is required.

Quality:

Try to make your contribution one that is true.

- 1 Do not say what you believe to be false.
- 2 Do not say that for which you lack adequate evidence.

Relation:

Be relevant

Manner:

Be perspicuous.

- 1 Avoid obscurity of expression.
- 2 Avoid ambiguity.
- 3 Be brief (avoid unnecessary prolixity).
- 4 Be orderly.

(Adapted from Grice 1975:45f)

Such maxims are not laws to be obeyed, but reference points for language interchange – much as the points of the compass are conventional reference points for identifying locations on the surface of the earth. The perceptiveness of Grice's observations cannot be denied; much criticism has been levelled against various maxims but it fails if we interpret Grice charitably. One frequent objection is that Grice mistook the conventions of his own society to be universal; this is a common enough mistake and not fatal to the theory, as we shall see.

The Grice quantity maxims can be usefully augmented with Atlas and Levinson's (1981:40–50) informativeness principle, paraphrased in Levinson 1983:146f, 'read as much into the utterance as is consistent with what you know about the world.' For the purpose of this book, the augmented Grice maxims are revamped as follows:

*Definition 1.23* The maxims of QUANTITY. Quantity1 enjoins Speaker to make the strongest claim possible consistent with his/her perception of the facts. Quantity 2 enjoins Speaker to give no more and no less information than is required to make his/her message clear to Hearer.<sup>[19]</sup>

Complementing these is a principle of interpretation by Hearer:

*Assumption 1.9* Given the semantic content of the utterance and Hearer's perception of the contextually relevant facts, the strongest inference possible is to be drawn from the utterance.

We shall see evidence for this when we discuss implicature in Chapter 6. We do not normally say things like 35 because it contains an unnecessary relative clause:

35 My neighbour, who is a woman, is pregnant.

We know that if the neighbour is pregnant, it MUST be a woman (notwithstanding the De Vito/Schwarzenegger film "Junior").

*Definition 1.24* The maxim of QUALITY. Speaker should be genuine and sincere.

That is, Speaker should state as facts only what s/he believes to be facts; make offers and promises only if s/he intends carrying them out; pronounce judgments only if s/he is in a position to judge etc. For example it would violate the maxim of quality to assert 36.

36 The book in which this sentence occurs is suitable for five-year-olds.

Our definition of the maxim of quality significantly differs from Grice's original, which – perhaps because Grice was a philosopher and not a linguist or sociologist – referred to truth instead of sincerity (cf. Lewis's 1969:178 'regularity of truthfulness'). Truth is something independent of human action and belief (Chapters 6, 10), though beliefs about what constitutes truth are not; cf. Shapin 1994. From a cognitivist or functionalist viewpoint, language, and particularly meaning in language, is closely bound to human action and belief (Chapter 9). There are many kinds of utterance (= kinds of speech act) for which the evaluation of truth is either inapplicable or of secondary consideration to aspects of Speaker credibility and sincerity, for example, when giving advice, apologizing, thanking, or congratulating someone. In human communication it is not sufficient to utter a truth, the truth also needs to be credible and it is often important to modify the truth in order to preserve social harmony (see the discussion of lying in Chapter 10). Thus, we emphasize cooperation in social interaction in having the maxim of quality recommend that Speaker ensure his or her credibility by being genuine and sincere. The maxim of quality can be identified with Speaker's sincerity in believing that the preconditions on the utterance hold good (Chapter 6): e.g. Speaker believes the facts are as stated, believes there is reason to apologize or congratulate Hearer, believes s/he will carry out the promise being made, believes that Hearer can accomplish the request being made of him or her, and so forth. Thus, if requested to do so, Speaker is under an obligation to provide justification for whatever kind of speech act is used (cf. Habermas 1979:65).

*Definition 1.25* The maxim of RELEVANCE ("be relevant"). In general, an utterance should not be irrelevant to the context in which it is uttered, because that makes it difficult for Hearer to comprehend.

We shall presume that Speaker has some reason for making the particular utterance U in context C, in the particular form which s/he uses, rather than maintaining silence or uttering something different.

*Definition 1.26* The maxim of MANNER. Where possible, Speaker's meaning should be presented in a clear, concise manner that avoids ambiguity, and avoids misleading or confusing Hearer through stylistic ineptitude.

Thus one should ordinarily avoid saying things like 37:

37 There is a male adult human being in an upright stance using his legs as a means of locomotion to propel himself up a series of flat-topped structures some fifteen centimetres high.

(What do we say instead?)

We will augment Grice's original cooperative principle by requiring that the cooperative principle holds whenever Speaker and Hearer mutually recognize Speaker's observance of three things.

*Definition 1.27* The COMMUNICATIVE PRESUMPTION: When Hearer perceives Speaker's utterance to be linguistic, Hearer presumes that Speaker has made the utterance with the intention of communicating some message using the conventions of natural language.

*Definition 1.28* The REASONABLENESS CONDITION: The communicative presumption presupposes that Speaker is acting reasonably, i.e. Speaker has some reason for making that particular utterance  $U_a$ , at that time  $t_a$ , in that place  $w_a$ , rather than maintaining silence or uttering something different (Sperber and Wilson 1995 describe this as Speaker observing the principle of relevance).

The communicative presumption and reasonableness condition explain why a reader will make the effort to understand 38.

38 Wants pawn term dare worsted ladle gull hoe lift wetter murder inner ladle cordage honour itch offer lodge dock florist. Disc ladle gull orphan worry ladle cluck wetter putty ladle rat hut, end fur disc raisin pimple caulder Ladle Rat Rotten Hut.

Furthermore, Speaker does not randomly choose the forms and style (Chapter 5) to use in making the utterance: s/he normally has some reason for selecting the particular ones used – a reason sought by Hearer (not necessarily consciously) when interpreting Speaker's utterance.

The final component of cooperation in language interaction is observance of the NORMAL CONVENTIONS PERTAINING TO FACE EFFECTS (politeness phenomena) of their community. Scholars who have criticized Grice's statement of the maxims for not being universally applicable overlook the possibility that the cooperative principle is motivated

by conventions pertaining to face effects: conventions that vary between situations and communities (Leech 1983 even differentiates a ‘Politeness Principle’ from the cooperative principle). Face (Brown and Levinson 1987, Brown and Gilman 1989) has two aspects:

*Definition 1.29* Positive face is the want of a person to have their attributes, achievements, ideas, possessions, goals, etc. well regarded by others.

*Definition 1.30* Negative (or impositive) face is the want of a person not to be imposed upon by others.

Brown and Levinson’s definition of negative face has been criticized for being Anglo-centric (e.g. in Watts, Ide, and Ehlich (eds) 1992) and there is no doubt that many cultures give community wants and needs priority over individual wants and needs with the consequence that the original Brown and Levinson definition of face needs adjusting to cultural differences (cf. Lee-Wong 2000, Scollon and Scollon 1995: 134). Nonetheless, face concerns offer the most feasible explanation for the maxims of the cooperative principle. Face can be lost (affronted), gained (enhanced), or just maintained. In virtually every utterance, Speaker needs to take care that what is said will maintain, enhance, or affront Hearer’s face in just the way s/he intends to affect it, while at the same time maintaining or enhancing Speaker’s own face. There is a general presumption that Speaker will be polite except when intending to affront Hearer’s positive face; and Speaker will not normally impose on Hearer without good reason, lest Hearer’s negative face be affronted. The meaningful effects of an utterance (and longer texts) which result from the Gricean maxims and other face effects are CONVERSATIONAL IMPLICATURES (referred to earlier simply as ‘implicatures’).

*Assumption 1.10* A theory of meaning must take account of normal conventions pertaining to face effects within a language community because utterance meaning is partly determined by reference to them; they form part of the common ground.

The cooperative principle governs one category of positive face effects – making Hearer feel good – and five categories of negative face effects. One is a nonverbal category governing such matters as eye contact; the rest are verbal categories. In the interests of social harmony, Speaker normally avoids the following four modes of behaviour unless s/he intends to affront Hearer’s negative face.

- (a) Attacks on Hearer’s positive face, e.g. with imprecations or abusive epithets.
- (b) Impositions on Hearer’s person, possessions, time, and the like, e.g. requiring Hearer to do something, asking for the use of Hearer’s possessions or ideas, etc. where these are not sanctioned as social obligations.
- (c) Wittingly misleading Hearer into erroneous beliefs and assumptions (governed by the maxim of quality).
- (d) Requiring Hearer to expend unreasonable effort in order to understand what Speaker means by making the utterance because it is: uncomfortably loud, inaudible, incoherent,

irrelevant, abstruse, or otherwise unreasonable. The maxims of quantity, relation, and manner govern different aspects of this final category of impositives.

*Assumption 1.11* *Were there no cooperative principle (no communicative presumption, no reasonableness condition, nor conventions pertaining to face effects) systematic communication would be impossible. There would be no ground rules for deciding whether or not an utterance – or longer text – makes sense nor what value should be put on it. Conversely, Speaker would have no ground rules for getting her or his message across to Hearer. It is these ground rules that we shall have cause to refer to when identifying conversational implicatures. They are crucial to the understanding of ordinary language.*

Sperber and Wilson's 1995 RELEVANCE THEORY seeks to replace the Gricean maxims with just one principle of relevance.<sup>[20]</sup> Some scholars think it succeeds, but others find that the individual Gricean and neo-Gricean maxims are incorporated under relevance – in other words, relevance theory does exactly the same thing using different terminology but without demonstrating any reason to abandon Grice. One difference we can point to is that relevance theory has a purely cognitive basis, whereas the cooperative principle as described in this book is social-interactive. Grice himself probably regarded his cooperative principle as a pragmatic complement to truth-conditional semantics (Chapter 6). The cognitive basis for relevance theory can be seen in Sperber and Wilson's 1995 observations on 'context'. In relevance theory, context is the set of assumptions manifest to Speaker and Hearer on the basis of common ground. Each 'assumption' is a structured set of concepts. A fact is 'manifest' (i.e. perceptible or inferable) to an individual at a given time only if s/he is capable of representing it mentally and accepting its representation as credible. The set of facts that are manifest to an individual is his or her cognitive environment. Two people who share the same cognitive environment are capable of making the same assumptions because they are cognizant of the same context and potentially share the same common ground (however, they do not necessarily do so). What we are calling the 'model' and the 'world and time spoken of' are networks of such assumptions.

In relevance theory, optimal relevance for Hearer is to recover as many contextual effects as possible for the least cost in cognitive processing. Contextual effects reveal or create something novel in a given context. To achieve this, Hearer joins new assumptions with existing assumptions, sometimes to derive further assumptions, and hence model the world and time spoken of. An assumption is relevant to an individual at a given time only if it is relevant in one or more of the contexts accessible to that individual at that time. It is relevant to an extent determined by its contextual effects weighted against the effort required to process it. Thus relevance theory goes beyond language to give us an explanation for the way in which our knowledge develops and changes in response to what we see and hear in our immediate environment. In this book, which assumes a social-interactive basis for the cooperative principle (whose motivation was not accounted for by Grice), there is frequent reference to maxims of the cooperative principle. This does not entail a rejection of the cognitive approach of relevance theorists, but it does reflect on

their failure to sufficiently specify the cognitive conditions that underlie each of the maxims we have defined in this section.

This section has sketched the cooperative principle in language interaction. The conventions for cooperative language behaviour are expected to be known within a language community and both observance and violation of them have meaningful implications. Speakers exploit them to persuade, to curry favour, to insult, and every other kind of effect that language can produce. We shall constantly refer to them in the course of this book.

### Exercises

1.8.1 Suppose that Ed, a logician who has five children, is in conversation with Nancy:

NANCY: Do you have any children?

ED: I have two.

Ed did not misunderstand the question. Why is it that although Ed can claim to be telling the truth his answer is misleading?

1.8.2 What cooperative maxims do you believe might be referred to when accounting for the following interchange; the context is that a car is for sale.

BUYER: How much do you want?

SELLER: Three thousand.

BUYER: I'll give you two.

1.8.3 What do you make of 38 in the main text? (Wants pawn term dare worsted ladle gull hoe lift wetter murder inner ladle cordage honour itch offer lodge dock florist. Disc ladle gull orphan worry ladle cluck wetter putty ladle rat hut, end fur disc raisin pimple caulder Ladle Rat Rotten Hut.) Try translating it into ordinary English and explain the reasons for being able to do so.

1.8.4 What maxim(s) can be referred to in accounting for B's response in

A: What happened to those sausages I left to thaw?

B: The dog's looking very pleased with herself.

1.8.5 Here are some examples of the violation of the manner maxim. Try glossing them and say how you would describe them.

- (a) The cognitive-affective state characterized by intrusive and obsessive fantasizing concerning the reciprocity of amorous feelings by the object of the amorous.
- (b) A manual earth-restructuring implement.
- (c) Localized capacity deficiency inhibiting vehicular ingress and egress.
- (d) Ballistically-induced aperture in the subcutaneous environment
- (e) Nutritional avoidance therapy.
- (f) An outlet for reutilization marketing.

## 1.9 Summary

This chapter introduced concepts fundamental to semantics, the study of meaning in human languages. The primary function of language is to be a medium for social interaction, and this imposes constraints on its systems and structures. In due course, we shall attest the influence of human perception and experience on the categories of meaning, because language is a product of the mind. Language is produced by speakers, but it also exists independent of them; so, when doing semantics we also address language as an abstract entity. Broadly speaking, language is used most efficiently when Speaker utters as little as possible and relies on Hearer to read between the lines. Hearer constructs meaning from what is said by adding inferences based on context and experience. This chapter has given some pointers to these fundamentals of language understanding. Already we have begun to answer some of the research questions for semantics. In the course of this book we seek to answer all of the following:

- ❶ What are the tools of semantic analysis?
- ❷ How do we account for the relationships between words and things?
- ❸ How do we account for the meaning relationships between language expressions?
- ❹ What is the relationship between a lexicon and an encyclopedia?
- ❺ Where do listemes come from?
- ❻ What are the components of listeme meaning?
- ❼ What relationships hold between the form and meaning of listemes?
- ❽ How do we account for the meanings of phrases, sentences, and larger structures?
- ❾ What kinds of meaningful effects result from the use of particular listemes and sentences?
- ❿ What are the cognitive and functional bases for meaning in language?

Chapter 2 builds on Chapter 1 to look at dictionary meaning, sentence meaning, utterance meaning, speaker meaning, and hearer meaning. It offers an account of the terms *sense*, *denotation*, *reference*, *intension*, *extension*, and *specificity*; and there are brief reviews of generic NPs and aspects of anaphora.

- Key words and phrases whose meanings and import you should know, or know better, after reading this chapter – in some cases there will be more information given later in the book. (In what follows, A1.1 refers to Assumption 1.1 and D1.2 refers to Definition 1.2.)

abduction  
 addressee (D1.15)  
 assumption (premise)  
 bystander (D1.18)  
 canonical speech event (D1.2)  
 co-text (D1.20)  
 coherence  
 common ground (D1.19)  
 communicative presumption (D1.27)  
 compositionality (D1.5)

context  
 convention  
 conversational implicature  
 cooperative principle  
 deduction  
 deictic (indexical) category  
 eavesdropper (D1.18)  
 face effects (politeness phenomena)  
 generalized implicature  
 generativity (D1.6)

Hearer (D1.14)	perlocutionary effect (A1.6)
illocutionary act (D1.10)	positive face (D1.29)
illocutionary force (D1.10)	possible world
illocutionary intention (D1.12)	practical reasoning
illocutionary point (A1.5)	proposition (D1.8)
induction	pragmatics (D1.3)
inference	ratified participant (D1.16)
listeme (D1.4)	reasonableness condition (D1.28)
locutionary act (D1.9)	reflexive intention (D1.13)
logic (D1.7)	relevance theory
maxim of quality (D1.24)	semantic component
maxim of quantity (D1.23)	semantics (D1.1)
maxim of manner (D1.26)	semiotics
maxim of relation (relevance) (D1.25)	situation of interpretation (D1.22)
metalanguage	situation of utterance (D1.21)
model (of the world(s) and time(s) spoken of)	Speaker
negative (Impositive) face (D1.30)	speech act
non-natural meaning	utterance act
object language	valid inference (symbolized by $\vdash$ 'turnstile')
overhearer	world and time spoken of
particularized implicature	world-time pair
perlocutionary act (D1.11)	

- Many linguists believe that semantics is a part of semiotics, but semiotics additionally studies the meanings of many nonlinguistic signs and symbols.
- Meaning in natural languages is very responsive to, and often a reflex of, human perception and conception (A1.1).
- Language is an abstract entity that has physical manifestations in spoken and written utterances.
- The canonical speech event is an instance of social-interactive behaviour.
- The expression of meaning through language is an essential means of cementing human bonding and of displaying it to others, both at the individual and the community level (A1.2).
- Speaker's and Hearer's knowledge of language and how to use it reflects a cognitive ability and indicates that language is a psychologically real entity.
- At the simplest level of analysis, any language is a system of forms paired with meanings (A1.3).
- The object language is the one whose semantics is being described, and the metalanguage is the language or symbolic system used in describing it.
- Ideally a metalanguage would be a formal language with a fully defined vocabulary, syntax and (paradoxically) semantics. The advantage of a formal metalanguage is (or should be) its explicitness and rigour.
- The problem for any metalanguage for natural language semantics is that it must have the expressive power of a natural language because, in effect, it translates the object

language; and then in order to communicate in an illuminating fashion it has to be translatable back into a natural language (cf. A1.4).

- Abductive reasoning is used in figuring out classes, categories, and functions of observed phenomena – i.e. creating hypotheses.
- Inductive inference is a prediction based on sampling. If the sampling technique is good, the prediction will be verified.
- Deductive inference requires one or more assumptions from which a conclusion is derived by well established rules of rules of inference. Provided the assumptions are correct and the reasoning process accurate, a valid conclusion is guaranteed.
- Much linguistic categorization and theorizing is inductive; but formal semantics is deductive.
- A proposition is the content of a (declarative) clause; it is often referred to as a sentence or a statement because these are what express the proposition.
- With very few exceptions, the purpose of speaking or writing is to cause an effect on the audience.
- An utterance act occurs when Speaker makes an utterance in whatever medium. No knowledge of the particular language used is required to recognize an utterance act.
- A locution is the form of words produced and then recognized by someone who has knowledge of the grammar, lexicon, semantics, and phonology of the language used. In considering the locution no regard is paid to the things Speaker is talking about, nor why the Speaker should be saying it.
- In the locution is to be found Speaker's message. The message is the illocutionary point of the utterance, which is one of the illocutionary forces in the utterance.
- Speaker has an illocutionary intention to create a perlocutionary effect by means of a reflexive intention to have Hearer recognize this intention via an understanding of the locution and illocutionary point of the utterance. A perlocutionary effect is the behavioural and/or cognitive and/or emotional response. Most of what human beings say is aimed towards a perlocutionary effect.
- There are two kinds of Hearer: addressees and ratified participants. Overhearers are divided into bystanders and eavesdroppers. The acceptance and rejection of these roles has implications for face maintenance.
- There are four categories of context: the world(s) and time(s) spoken of, the co-text, and the situations of utterance and interpretation.
- Situations of utterance and interpretation define deictic (= indexical) categories.
- A model of the world and time spoken of is the content of a mental space which can be readily associated in a variety of ways with other worlds and times occupying other mental spaces (see Chapter 2). Because worlds spoken of are revealed through language, they all have some association with the world Speaker inhabits. You will see the effect of this if you compare, e.g., the science fiction of H.G. Wells with one of today's SF writers.
- We speak of ideas and of things that don't exist (Chapter 2); but mostly we speak of things that exist in some world or other. To recognize the things spoken about, to mentally model the world and time spoken of, we look to context.
- Meaning is underspecified by Speaker and language understanding is a constructive process in which a lot of inferencing is expected from Hearer (A1.7).
- We tend to reformulate what we see, hear, and read in terms of what we expect to see, hear, and read.

- A text is judged coherent where the world at the time spoken of is internally consistent and generally accords with accepted human knowledge (A1.8).
- Grice's cooperative principle is characterized by four categories of maxims: quantity (make the strongest claim possible without giving too much or too little information); quality (be sincere); relation (be relevant); and manner (don't mislead or confuse through stylistic ineptitude).
- Relevance theory seeks to replace the Gricean maxims with just one principle of relevance.
- The strongest inference possible is drawn from the utterance, given its semantic content and Hearer's perception of the contextually relevant facts (A1.9).
- The cooperative principle holds whenever Speaker and Hearer mutually recognize Speaker's observance of the communicative presumption, the reasonableness condition, and the normal conventions pertaining to face effects (politeness phenomena) of their community.
- The cooperative principle is motivated by conventions pertaining to face effects – which are culturally (and subculturally) determined.
- A theory of meaning must take account of normal conventions pertaining to positive and negative face effects within a language community because utterance meaning is partly determined by reference to them. They form part of the common ground (A1.10).
- The cooperative principle comprises a set of conventions guiding social behaviour, a system of ground rules or conditions for communicating with others. Certain identifiable systematic inferences, called 'conversational implicatures', will be drawn from both compliance and violation of the cooperative principle. Awareness of the cooperative conventions is crucial to the understanding of ordinary language. (Cf. A1.11.)

## 10 Notes on further reading

[1] On language as a system of thought: Heraclitus 'although the word is common to all, most people live as if each had a private understanding of their own' (Kahn 1979:28); Chomsky 'Language, it is argued, is "essentially" a system for the expression of thought' (1975:57).

[2] On semiotics see Eco 1976, 1984, Hodge and Kress 1988, Sebeok 1994.

[3] On the influence of culture on language, see Humboldt 1836, Boas 1911, Sapir 1921, 1929, Whorf 1956.

[4] See Gamut 1991, McCawley 1993 for overviews of formal semantics; Tarski 1956, Davidson 1971 on truth-conditional semantics; Carnap 1956, Kripke 1963, Montague 1974, Lewis 1970, Cresswell 1973, Bentham 1988 on intensional model theoretic semantics; Barwise and Perry 1983 on situation semantics; Kamp and Reyle 1993 on discourse representation theory.

[5] On pragmatics see Stalnaker 1978, Gazdar 1979, Cole (ed.) 1978, 1981, Leech 1983, Levinson 1983, Blommaert (ed.) 1995.

[6] On discourse structure see Labov and Fanshel 1977, Brown and Yule 1983, Dijk and Kintsch 1983, Seuren 1985, Kamp and Reyle 1993, Schiffrin 1994, Givón (ed.) 1997

[7] On the importance of intuition in creating theories and logic in stating them, see Poincaré 1946:214f, 219, Einstein 1973:221, 334, Bronowski 1978 Ch. 4, Katz 1981 Ch.6, Kuhn 1970:122f, Pirsig 1976.

[8] The essential contribution of intuition to scientific theory is widely recognized among philosophers of science.

Pure logic could never lead us to anything but tautologies; it could create nothing new; not from it alone can any science issue. [...T]o make arithmetic, as to make geometry, or to make any science, something else than pure logic is necessary. To designate this something else we have no word other than *intuition*. [... L]ogic and intuition have each their necessary role. Each is indispensable. Logic, which alone can give certainty, is the instrument of demonstration; intuition is the instrument of invention.

(Poincaré 1946:214f, 219)

The supreme task of the physicist is to arrive at those elementary laws from which the cosmos can be built up by pure deduction. There is no logical path to these laws, only intuition resting on sympathetic understanding of experience can reach them.

(Einstein 'Principles of research' 1973:221)

Similar conclusions were reached by Bronowski 1978 Ch. 4, Katz 1981 Ch. 6, Kuhn 1970:122f, Pirsig 1976.

[9] On speech acts see Austin 1962, Searle 1969, 1979, Labov and Fanshel 1977, Bach and Harnish 1979, Edmondson 1981, Recanati 1987, Allan 1994e,f.

[10] Reflexive intention was first recognized by Grice (1957, 1968, 1969) and the notion has been revised by others, notably Recanati 1987.

[11] On logically possible worlds, see Bradley and Swartz 1979 for an easy-to-read introduction. There are more challenging accounts in Kripke 1963, Lewis 1973, 1986, Cresswell 1988, Gamut 1991.

[12] The same individual may occupy different worlds; see Lewis 1973, 1986, Bradley and Swartz 1979, Cresswell 1988, Fauconnier 1985.

[13] As described here, worlds spoken of are roughly equivalent to the 'situations' of Barwise and Perry 1983 and the content of the 'mental spaces' of Fauconnier 1985.

[14] On common ground see Stalnaker 1973, 1974, Clark 1996.

[15] On the use of inferences and speculations, see Allan 1981, Charniak 1976, 1977, Clark 1977, Graesser and Clark 1985, Johnson-Laird 1983, Schank and Abelson 1977, Sperber and Wilson 1995, Thorndyke 1976, Dijk and Kintsch 1983 and many others. On the effect of titles and headings see Bransford and Johnson 1972, Kozminsky 1977. On the ability to predict what happens next see Coates 1997, Gernsbacher and Givón (eds) 1995, Linell and Korolija 1997, Uyl and Oostendorp 1980. On eyewitness testimony see Loftus 1979. On the replacement of

abnormal by normal events but not vice versa in recall situations see Schank and Abelson 1977, Dijk and Kintsch 1983. On experimental evidence for the realignment of scrambled stories in both summaries and recall see Kintsch et al. 1977, Thorndyke 1977.

[16] On coherence and accepted knowledge, see Thorndyke 1976, Reinhart 1980, Gernsbacher and Givón (eds) 1995.

[17] On politeness and honorifics, see Brown and Gilman 1960, Brown and Ford 1961, Geertz 1972, Ervin-Tripp 1972, Ervin-Tripp et al. 1984, Loveday 1981, Moedjanto 1986, Sanada 1993, Shibatani 1994.

[18] On jargons (registers) see Chapter 5, Wardhaugh 1986, Allan and Burridge 1991.

[19] There is more on quantity in Chapter 6 and thereafter. See also Allan 1999, Atlas and Levinson 1981, Horn 1984, Levinson 1995.

[20] On relevance theory, see Sperber and Wilson 1995.

