Text worlds: Representing conceptual space in discourse

PAUL WERTH
TEXT WORLDS
Textual Explorations

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*Text Worlds: Representing Conceptual Space in Discourse*
PAUL WERTH
TEXT WORLDS:
Representing Conceptual Space in Discourse

Paul Werth
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Editor’s Preface

For unfortunate reasons beyond everyone’s control, the publication of this book has been delayed for more than three years. Though still a relatively young man, Paul Werth died of cancer in December 1995. His untimely death was a severe loss not just to his family, but also to the world of text and discourse linguistics and of stylistic analysis. Paul was a big man, not just in stature and his contribution to linguistics, but also in terms of his generosity of spirit. I, for one, will never forget his good-humoured and energetic contributions at meetings of the Poetics and Linguistics Association and his unflagging willingness to help postgraduate students and young scholars on their academic way.

At the time of his death, Paul was struggling to finish a camera-ready-copy version of the present volume. However, after his death the computer disks holding his last version of the manuscript could not be found, leaving only pre-final versions of the electronic and hard-copy versions of the manuscript.

Paul’s colleagues and family made considerable efforts to find the disks, but to no avail. The editors and publishers felt that it was still important to produce the book, because we considered it to be an important contribution to text and discourse linguistics and stylistics. So we decided to produce the book from the latest version of the paper manuscript which we possessed.

This decision turned out not to be without its problems, as we have had to reconstruct some small parts of the book. We have tried, as best we can, to do this in the spirit and style which Paul intended.

We have also had to try to check Paul’s quotations and references, some of which were also incomplete. I would like to thank especially Dawn Archer, Michael Burke, Cathy Emmott and Joanna Gavins for their sterling work in this respect. It may well be that there are still some errors in these areas, for which we apologise.
However, we have taken considerable time and trouble over these technical matters, to keep such errors to a minimum.

I hope that the final version of the book is in a form of which Paul would have approved and that its readers will find it worth the wait. The fact that a number of scholars and postgraduate students have approached me over the last two years in order to read the manuscript before publication gives me grounds to believe that Paul’s last major work will be of interest to many others.

Mick Short
Lancaster, April 1999
Like most books in linguistics, I suppose, this one has been written for both internal and external reasons. The internal reasons have to do with its specific subject-matter, while the external ones have to do with its contribution to the discipline in general. Several sections of Chapter 1 will be devoted to the external question. I shall at this point therefore confine myself to a brief statement about the internal motivation for writing this book. Actually, of course, the two motives are connected, for it was dissatisfaction with the way that my subject-matter was being treated in the discipline at large that led me to attempt to take a fresh look at its assumptions and premises as they applied to the particular case.

I have been a discourse grammarian (or text linguist) for most of my adult research life. This was never actually illegal in Generative Linguistics, at least among consenting adults, but was rather frowned on (the 'real linguists don't do text' syndrome – cf. Pullum 1989 on 'Fuzzies'). For many years, like all except the most diehard structuralists, I accepted the new research programme offered by generative linguists, while having reservations about their non-treatment of discursive and pragmatic issues – an absence of treatment which was often proclaimed as being principled. Still, I thought that this was a policy mistake that could be corrected, and given time and sweet reason, would be. Indeed, as late as Werth (1984), I maintained the possibility of a discourse grammar consisting merely of a further component to a sentence grammar, handling such constraints as coherence. However, as I came to understand better the ramifications of the work I was doing, I realised two things: firstly, that Generative Linguistics was not merely postponing work on discourse, it was actually outside its theoretical scope; and, secondly, that the theory of Generative Linguistics in fact excluded almost everything that did not fall into a very restricted area of syntax and phonology. Thus time was not going to heal this particular problem, and sweet reason had nothing to do with it.
I claim no particular perspicacity for having been in this position for so long, a position that these days looks like incredible far-sightedness. Any kind of Rake’s Progress may look logical and inevitable when viewed as a whole, but in all probability will actually have consisted of a series of more or less independent steps, each taken for separate, sometimes accidental, reasons. In my case, one of my earliest research interests was the relationship between intonation and syntax in English (a hot issue in the mid-1960s). I fairly quickly finessed this into the relationship between stress and meaning, which led me rather naturally into discourse. My first paper in this then rather untrodden field (indeed, my first paper) was presented at a conference in 1968, and, deservedly, remains unpublished.

By the mid-1970s, I was studying the notion of coherence in discourse, and gradually developed a mechanism intended to explain how coherence actually functioned. This was reported on in a series of papers in the later 1970s and early 1980s, culminating in a book (Werth 1984). The mechanism of emphasis (as I eventually came to call it) also helped to explain many phenomena orthodoxly thought to be pure problems of syntax or phonology. Looking at coherence from the other end, as it were, it also became abundantly clear that verbal context alone was not enough either to characterise discourse or ultimately to explain how discourse elements interact with each other.

It therefore became obvious that the next obstacle that had to be attempted was no less than non-verbal context. This was a daunting prospect, which linguists, from Bloomfield and Firth (though less so) to Katz and Postal and Chomsky had always fought shy of. Werth (1984) had set up a framework which included situational factors, but the thrust of that book was on the mechanism which maps coherence onto language form. The present book, therefore, sets out to complement the previous work by concentrating on the areas that received less attention there. These, in brief, are the areas of knowledge, frames, text worlds and situations. This, to my mind, is the Unified Field Theory of linguistics: genuinely relating the domains of cognition and language in a practical way which respects what we know about each domain (and without involving any unfounded constructs such as ‘language organs’).

The overall complementarity between this book and Werth (1984) does not entail perfect matching without overlap, however. Some overlap has been necessary, for several reasons: it was necessary to show that the more fully specified system still followed through
without drastic changes; in some respects, modifications turned out to be needed, where the new findings brought about some un-anticipated alterations in the 1984 story; lacking the fuller picture, the 1984 system was in certain places underdetermined, vague or even inconsistent – these failings had, where possible, to be corrected. (I thank a number of my reviewers – in particular, Brown (1985), Burton-Roberts (1985) and Foolen (1986/7) – for indicating many of those areas of insufficiency. I may not have accounted for all their criticisms, or even agreed with all of them, but where I considered them justified, I have done my best to effect repairs.) And, of course, a certain amount of repetition is necessary for purposes of clearer explanation.

Paul Werth
Author's Acknowledgements

Parts of the present book, although they have been considerably changed or developed, are derived from earlier articles which I have written. I wish to acknowledge the following publications: T. Eaton (ed.) Essays in Literary Semantics (Werth 1977), for part of Chapter 11; J. Van der Auwera (ed.) The Semantics of Determiners (Werth 1980), for part of Chapter 12; A. Bossuyt (ed.) Functional Explanations in Linguistics (Werth 1986), for parts of Chapters 2 and 5; R. Tracy (ed.) Who Climbs the Grammar-Tree (Werth 1992a), for parts of Chapters 6, 10 and 12; Lingua 78 (Werth 1989), for part of Chapter 2; Linguistica Antverpiensia XXVI (Werth 1992b), for part of Chapter 2; Lingua 89 (Werth 1993a), for part of Chapter 9; and Language and Literature 3 ii for parts of Chapters 8 and 11.

There are a number of friends and colleagues to whom I owe debts of gratitude ranging from at one extreme, the simple borrowing of an insight or the lending of a ready ear to, at the other, a wholesale dependence on the benefactor's generously given time and wisdom. I simply list in alphabetical order those that sprint to mind here, with apologies to anybody I have omitted: Ineke Bockting, Claudia Brugman, Teun van Dijk, Cathy Emmott, Gilles Fauconnier, Chuck Fillmore, Donald Freeman, Paul Gabri, Jadrana Gvozdanovic, Paul Kay, Lois Kemp, George Lakoff, Ron Langacker, Frederike van der Leek, Gene Moore, Nanda Poulisse, Dan Slobin, Shi Xu. I have also benefited greatly from the comments of Mick Short and Geoffrey Leech who advised on the manuscript for Longman.

Finally, all my love and thanks to my family for putting up with my back view, my vacant gaze, my presence in body but not in spirit, my cussing-out of the computer and all its peripherals, yea, even unto the fourth generation, and all the other rich and wonderful little symptoms which accompany that most monstrous of birth-pangs, the writing of a book.
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We would also like to thank Mick Short for his invaluable and generous help in the preparation of the book.
Notation

Pages xvi and xvii contain a list of notation possibilities. In any given instance, only those are used which will illustrate the point at hand. All possibilities which are shown as occurring in text worlds can also occur in sub-worlds.
TEXT WORLD (TW)

(subtler frame)

TW in focus

SUB-WORLD (SW)

desire belief purpose hypothesis condition

metaphor metonym flashback negation

projection-lines

character-accessible SW

participant-accessible SW

(can overlap outline of world)

WB = world-building elements

FA = function-advancing propositions

PEND = pending file

WB t = time
l = location
c = character
ο = object
A = assumption
l/o = location-cum-object etc.

FA source

(goal I)

(path)

(goal II)

implicit element
Representation of tense relationships:

- **Past Time Zone**
  - Character-accessible

- **Present Time Zone**
  - Character-accessible

- **Future Time Zone**
  - Character-accessible

- **Remote Past**
  - Participant-accessible

- **Remote Present**
  - Participant-accessible

- **Remote Future**
  - Participant-accessible

**Text World**

**Tense System**

- **Past TW**
- **Present TW**
- **Future TW**

**Remote System**

- **Past TW**
- **Present TW**
- **Future TW**
Chapter I

Introduction

1.1 Initial observations

1.1.1 The distinction between text and discourse

A text is to a sentence as a discourse is to an utterance. That is to say, a text, like a sentence, is somewhat of an abstraction which is made for purposes of analysis. What it is abstracted from is its context. Let us assume that it is preferable to derive theoretical units from phenomena which actually occur (or, at least, which we perceive as occurring). Then our starting-point in this equation must be the discourse, since it is a term which characterises actual stretches of language. We can say, therefore, that a discourse is a complete language event, i.e. one with a perceived beginning and end.

In practice, a discourse can be as short as a single word, such as 'Fire!' or as long as a written record spanning many generations of authors, like the Anglo-Saxon Chronicle. The point is that it should be perceived as a single language event. I would like to point out two important aspects of this approach to definition which will later be seen to fit into the broad cognitivist philosophy which underlies the whole book. The first is that what I have given is not strictly a definition of the term 'discourse'; rather, it is a characterisation of the frame, or prototype, notion of discourse. (A frame is a description which sets the working conditions within which a term is used; a prototype is a description of the central sense of a term.)

The second point is that this frame is based not on any absolute values, but on perceived properties. In other words, whether or not a particular stretch of language qualifies as a discourse is open to interpretation, and interpretations may, of course, differ.

Following the same approach, we can define an utterance as a single, minimal language act, i.e. a stretch of language which is perceived as carrying out a single speech-act function, and which contains no other language act. By this definition, 'Fire!' is not only a discourse, but also an utterance (on any given occasion,
that is to say, it will constitute the utterance either of a speech act of warning or one of commanding). The working definition of an utterance which we can use for practical purposes, however, is that it is a sentence (or a piece of language of approximately sentence length) in a real context – that is to say, it has a speaker or writer and at least potentially a listener or reader as well, and it is produced and received in some physical setting, containing all kinds of notions and objects which are not necessarily expressed verbally. This working definition assumes that people can recognise sentence-type units, even though the sentence as such is not a naturally occurring phenomenon. In just the same way, we can say that a discourse is a text in a physical setting, even though texts are not naturally occurring phenomena either.

That means, then, that a text is something of an artefact which has been abstracted out of a discourse – it is the verbal part of a discourse. It corresponds to the transcription you might make from a tape or video. That is one of the reasons why one common definition of text vs discourse is that a text is written and a discourse is spoken. That is not the definition I want to use, for very good reasons, but you can understand the reasoning behind that definition, because a text usually is written. Even what starts out as a spoken discourse, by the time it appears as a ‘text’ – that is, as an object of study – has usually been transcribed in some way. So texts do tend to be written, in practical terms, although that is not the important thing about them. What is important is that they have been abstracted away from the real-life situation in which they occur, for one purpose or another – to make a permanent record or to study, for example.

A more technical definition of utterance sometimes given is ‘a sentence-context pair’ (e.g. Gazdar 1979). This is actually fundamentally different from the definition given above. Gazdar’s definition takes as its starting-point the sentence, that traditional unit of grammar which is at the centre of mainstream linguistic and logical study, but whose raison d’être is hardly ever considered. I would suggest, though, that the sentence is the direct result of a need to segmentalise speech for the purposes of writing (in this respect, it is on a par with the word and the letter). Sentences do not naturally ‘occur’ (cf. Burton-Roberts 1985), they result from a process of decontextualisation which is artificial. Nevertheless, they have been familiar units for thousands of years, and a good proportion of the education process is concerned with their recognition and manipulation.
The alternative viewpoint I am proposing starts from the discourse: the discourse is an actually occurring piece of language whose dimensions are dictated by the situation (including, crucially, the participants in it). A discourse is therefore essentially a ‘megauutterance’, and utterances are perceived sub-units of it. Another kind of definition is sometimes attempted: Burton-Roberts (1985: 288–9) evidently defines utterances as ‘anything uttered’. For him, they are actions having the ‘status of events and acts’ (citing as examples ‘my inarticulate cry of pain and my syntax lecture (or my last doodle and the manuscript of this article)’). He would presumably also have to include vocal noises made unconsciously (such as snores) and physical marks made involuntarily (such as the print left in the sand by Man Friday’s foot). But this is to confuse utterances with signs – or at any rate, signs made through human agency. Signs are inherently meaningless elements that have meaning attributed to them – clouds may be a sign of rain, or a broken twig may be a sign that something has passed through the forest. Utterances correspond to speech acts, which is to say that they are intentional; they are also linguistic, as has already been established. Though a doodle may be intentional, it is no more a linguistic act than Picasso’s Guernica.

I am interested, then, in the discourse, rather than just the text – which is why I call myself a discourse linguist and not a text linguist. People who are interested in linguistic systems usually stop at the text, because they find the whole notion of tackling something as immense as context more than a little bit scary. There is too much of it, it is very complicated, and linguists have traditionally found great difficulty in knowing where to start. I agree that it certainly poses immense problems for study and analysis, though some linguists go as far as to claim that it is in principle beyond the reach of scientific study. Nevertheless, fools rush in where angels fear to tread, and I place myself firmly in the discourse (and non-angelic) camp. I am, moreover, not only interested in the verbal part of discourse (the text), but I am also interested in everything in principle which surrounds it. I say ‘in principle’ because, of course, contextual matters are admittedly extremely complicated – so, for example, I am not in the business of predicting where a discourse is going to go after a given point. (This would be equivalent to a sentence grammarian wanting to predict what predicate a given subject will take.) Nevertheless, I firmly believe that we cannot afford to ignore the context, not least because it is the source of very many of the problems thrown up by current approaches to
the study of language. These include problems in pragmatics such as relevance and speech acts – indeed, we might say that the whole of pragmatics is located here – problems in semantics, such as reference, classification and inference, as well as problems like anaphora and definiteness, often treated as purely syntactic, and problems to do with stress and intonation, often treated as phonological or even phonetic matters.

1.1.2 The conceptual basis of language use

I make the assumption that we speak and write in discourses. Obviously the context surrounding writing is different from the context surrounding speaking, but the difference is not one which affects our definition of context. Central to the conceptual basis of language which I will be talking about is the notion of location in space. I am going to put forward a view of language in which the idea of space is at the centre, and there are all kinds of abstract extensions which are still locative in a fundamental way, while not actually being about physical space. The origins of this view of space are discussed in the following section.

Space – the final frontier

In this section, I want to examine a particular technical usage which I will be using freely in this book, and which has become very productive in recent years. I am referring to the use of the term ‘space’ to denote a set of abstract configurational parameters in the conceptual domain. This kind of use goes back, as far as I am aware, to the ‘semantic differential’ of Osgood, Suci and Tannenbaum (1957), which was calculated in spatial terms (cf. Deese 1970: 97 ff.), and fairly quickly thereafter transposed into a space model (see Rips, Shoben and Smith 1973, and the brief account of this line of psychological research given in Clark and Clark 1977: 432 ff.). Presumably, though, the first notion of space as a non-physical concept was that of mathematical space, which is a good deal older.

A fascinating approach to the geographical idea of space and its conceptual extension into abstract domains is contained in Hall (1991), a study of the concept of map-making. Map-making remained more or less unchanged between the great developments in the sixteenth century and the middle of the present one. Hall quotes from the Encyclopaedia Britannica of 1910: ‘A map is a representation, on a plane and a reduced scale, of part or the whole
of the earth's surface.' That kind of narrow geographical definition, he remarks 'has been conceptually overwhelmed since the end of the Second World War':

A whirlwind tour of the world captured by modern mapping extends from the atomic to the cosmic. Planetary geologists have mapped the hills and dales of Venus by radar, of Mars by magnetometer, of Jupiter by photopolarimeter, of the moon by moon rover. Climatologists have mapped the shores of lakes in the Sahara that began to disappear sixty centuries ago, and they are mapping the climate as it will appear 100 years hence. From 600 miles above the earth's surface satellites make it possible to portray the average income of a neighbourhood and track the paths of wandering icebergs; with instruments resting on the surface of the earth physicists can render maplike images of the heart of the planet, the heart of the atom, the heart of the big bang. The new telescopes of astronomy chart the cosmos in all its multiple electromagnetic personalities – optical, infrared, ultraviolet, radio, X-ray and gamma ray. Biologists have mapped the cells in tissues, the proteins in cells, the atoms in proteins. Neurobiologists have mapped areas of the brain that light up when we dream. (Hall 1991: 16–17)

Central to the idea of map-making is the concept of space. A map is a view of a particular space; at first, that space was what we ordinarily think of as physical space: land and sea, with a physical extension. Next, the space became not just terrestrial, but the same thing on other planets – not such a surprising extension. But then the idea of mapping went inwards: people started mapping the human brain, and talking about three-dimensional mapping, no longer just two. The mapping of the stars and the universe is three-dimensional or even, if Einstein is to be believed, four-dimensional, since Time has to be brought into the equation as well. It has been, says Hall, 'the greatest reconsideration of our concept of space' since the invention of mapping itself 2,600 years ago. 'It is now possible to measure, and therefore to map, physical domains so remote and fantastic that the effort involves nothing less than the reinvention of the idiom of geography.' Later on he talks about a geographical 'metaphor' – that is to say, modern mapping is often so far removed from its iconic origins that one can think of many modern maps as being a metaphor of a map.

The idea of space itself has also developed in a number of directions since the Renaissance. In the field of mathematics, ordinary space had long been called 'Euclidian space'. Taking the basic sense of 'space' to mean a mathematically definable model having n dimensions, they were able to define other kinds of space than
Euclidian – Hilbert space, for example. Spatial geometries therefore involved extensions from ‘ordinary’ Euclidean space, having any number of dimensions, and therefore not corresponding to anything like what we call space. Those were the first extensions of the term, I believe, to refer to some sort of conceptual model which is not necessarily capable of being experienced.

One of the first of the behavioural sciences to adopt this abstract notion of space was psychology. Thus, in the 1950s, Charles Osgood and others developed notions of ‘semantic spaces’. Osgood designed a very simple testing procedure called the ‘Semantic Differential Technique’ which involved giving large numbers of informants a number of concepts – the word violin, for instance – and then asking them to place the concept along a number of descriptive scales ranging between opposites, such as ‘happy’ and ‘sad’. With many responses over a large number of such scales, Osgood was able to plot the semantic space for each concept. Nobody was quite sure what the semantic space was, or what it was he was measuring: it was something like the associations which words have, or their connotations, but nobody was really sure what this all meant. In any event, Osgood and his associates used the notion of space to refer to an area of conceptualisation.

Subsequently, sociologists began to use the same kind of metaphor in talking about ‘social space’. This is not to be confused with the notion of ‘personal space’, arising out of the study of ‘body language’ and the like – this has to do with physical proximity, and is therefore still a conventional geographical notion, though with psycho-social implications. ‘Social space’, though, has to do with the way in which a particular individual fits into his or her social relationships. So if you consider all possible social relationships as forming an enclosed three-dimensional figure – a cube, or a sphere, perhaps – then if you had the appropriate instruments, the appropriate sets of questions and so on, you could plot a person’s position within this total social space. This, too, is an abstract space which allows certain conceptual patterns to be expressed, given a means of defining the parameters of the space.

Within Linguistics and Artificial Intelligence, there has developed in the last ten or fifteen years a related notion: conceptual or cognitive space. An alternative, though still related, metaphor which is much used is that of the mental landscape. All of these terms have become quite common and are widely used in a rather loose, evocative sense. However, there is one approach in which such notions are central and therefore terminologically significant. This
is Cognitive Linguistics, one branch of which was, for example, until quite recently actually known as ‘space grammar’. We will discuss these approaches further in Chapter 2. For further discussion of the connections between maps and language, see Moore and Carling (1988: chs 2–3), and Grace (1987: ch. 1).

The central assumption as far as the present book is concerned will be that conceptual space is modelled upon physical space. Most directly, this concerns our mental representations of places and routes: finding our way through the physical world reported by our senses must depend on mental maps. Mental maps, in turn, are built up not only from what we can perceive on any single occasion, but also on our memory of previous occasions, our knowledge of similar situations, and inferences that we can draw between all of these sources. Less direct than this is orientation mediated by language, i.e. where any or all of the above sources are replaced by a verbal account of a place or a route. We will be looking at these presently. Least direct of all is non-locative language, language not obviously about space at all. I will attempt to show, however, that even this is profitably describable in terms of abstract locations and abstract routes between them.

1.2 Text worlds exemplified

The main question I will be asking in this book is:

- how do we make sense of complex utterances when we receive them (as hearers or readers)?

I assume that this question is related (though not identical) to the corresponding question:

- how do we as speakers (writers) put together a complex utterance in order to express particular concepts?

I will suggest that an important part of the answer to both of these questions is that we build up mental constructs called text worlds. We can for the moment think of these as conceptual scenarios containing just enough information to make sense of the particular utterance they correspond to. I will first provide some examples, and afterwards discuss what kinds of structure and information might be required by such frameworks. Let us first consider a simple scene-description:
1. Inland, the prospect alters. There is an oval maidan, and a long sallow hospital. Houses belonging to Eurasians stand on the high ground by the railway station. Beyond the railway – which runs parallel to the river – the land sinks, then rises again rather steeply. On this second rise is laid out the little Civil station [. . .] It is sensibly planned, with a red-brick Club on its brow, and further back a grocer’s and a cemetery, and the bungalows are disposed along roads that intersect at right angles.

(E.M. Forster 1924/1978: 2–3)

This is taken from the second paragraph of *A Passage to India* (the first describes the City of Chandrapore, which runs alongside the River Ganges). (1) offers a fairly straightforward image. Though humans are implied, of course, none is actually depicted. It is clear enough to build up a diagram, and I will be suggesting that this is close to what we actually do conceptually: Figure 1.1 provides a graphical representation which I claim is at least similar to the mental representation which must underlie our processing of this text.

In order to be able to understand this particular text – to ‘process’ it at all – the reader must envisage a mental picture which is close to Figure 1.1.

Nevertheless, it should be acknowledged that even such an apparently simple and straightforward description – adjectives like ‘photographic’ and ‘cinematic’ spring to mind – is in fact profoundly biased in many ways, in personal viewpoint, cultural assumptions etc. (see Grace 1987 on the assumptions behind mapping and scenic descriptions). Furthermore, as we will see, not all texts are so obligingly visual; but nevertheless I will propose that even the most abstract of texts must be mentally represented, and that it is efficient to postulate that all text representations must use the same symbol system at some level. We are not forced, furthermore, to cite neurology at this point, and confine our discussion to chemicals and electrical impulses, since it seems clear that these are simply the real brain encodings of a mental symbol system, just as a particular message can be encoded in speech (air disturbances), writing (marks on paper), morse code (sound beeps or flashes of light), semaphore (flag waving), and so on. We will return to this question later, and the philosophical problems it raises, but for now let us just take each sample text as it comes.

For simplicity, I have assumed a (static) bird’s eye view in Figure 1.1. It is also possible to view this or any other scene with a moving eye – as the author ‘moves across’ the landscape, our
viewpoint also moves. This kind of moving viewpoint is commonplace in cinema – and this in turn, it seems to me, has influenced our ‘way of seeing’ in the Western world (cf. Berger 1972), so that the notion of a moving viewpoint is perhaps more familiar to us than it would have been to our pre-cinematographic ancestors. Viewpoint is bound up with the concept of deixis, which I will be discussing later. Nevertheless, it should be added that even when there is conceptual movement of this kind, it must ‘cross’ a ground plan like Figure 1.1.

We will now look at a scenario built around movement across a ground plan:

2. (a) Francis Macomber had, half an hour before, been carried to his tent from the edge of his camp in triumph on the arms and shoulders of the cook, the personal boys, the skinner and the porters. The gunbearers had taken no part in the demonstration. When the native boys put him down at the door of his tent, he had shaken all their hands, received their congratulations, and then gone into the tent and sat on the bed until his wife came in. (Hemingway 1947/1964: 413)

The difference between this narrative and the descriptive text in (1) is that (2a) involves movement, whereas (1) is static (discounting for the moment the possibility of conceptual ‘movement’, to which we will return presently). Therefore the most important difference between the diagrams is that Figure 1.1 contains only arrangements of objects, whereas Figure 1.2 below in addition contains paths.

A path is a map of a movement; however, maps may be complete or incomplete, whereas actual movements always have a starting-point and a point which they have reached at any given moment (which may be their finishing-point or some point before that). In (2a), we know that this particular movement of Francis Macomber’s began at the edge of the camp, which is the limit of our space. We know that he was brought to his tent door, and that he then continued on into the tent and on to the bed, presumably under his own locomotion. So for that path, we have a starting-point, a specific middle-point, and an end-point. For Mrs Macomber’s path, on the other hand, we only have an end-point (one which is less specific than her husband’s end-point). Where she came from has been left unspecified, and is presumably of no relevance.

Note, incidentally, the difference between not mentioning something, and mentioning something negatively, for example the (absence of) gunbearers in (2a). If Hemingway had not mentioned them, then obviously they would have played no part whatsoever
in our mental picture: for example, he does not mention that no London policemen took part in the celebration, so we have no right to ask why not. But he does mention the gunbearers, if only to say that they did not join in. This is now a fact for which we expect an explanation: the gunbearers have been pointed out, and we will want to know why.\footnote{6}

A second characteristic of movement is that it takes place through \textit{time}. Whereas a description is conceived of as static, motion is essentially a kind of change. In a sense, a pathway already implies movement and thus time, but as we have seen, even a static scene exhibits a kind of conceptual pathway in that its description is necessarily ordered. The important difference between the time taken to unfold a description and the time taken to traverse a path is that the former is something done by the creator of the description (and then subsequently by its recipient), while the latter is carried out by the character in the story. We will subsequently be examining this distinction in Chapter 7 (though I briefly return to it in the discussion of the next example). I have treated the passing of time in (2a), which is of the second kind, in a somewhat cavalier fashion, by adding a ‘label’ to the effect that time has elapsed, and also by having two representations of Francis Macomber in the diagram. Both of these devices are unsatisfactory
and temporary. I will be devoting Chapter 6 to questions of time and tense, and I will return to a more satisfactory kind of notation for such problems in Chapter 8.

We now turn to movement of a more conceptual kind:

3. Stuart glanced up. His expert eye studied the ancestral portrait on the wall and then moved across to the ornately carved staircase. His gaze climbed upwards, searching the panelled woodwork for some sign of the master craftsman whose work this was, finally coming to rest on the painted escutcheon which hung over the landing.

Text (3) is approximately represented by Figure 1.3.

![Figure 1.3](image)

I have not diagrammed the complement of searching in the text, namely for some sign of the master craftsman whose work this was. This is because that expression denotes something which is not in itself part of the ‘scene’ or the ‘action’ which we are seeking to capture. Rather, it has to do with the character Stuart’s own purposes, a
question he has posed himself, and which he is trying to answer. In particular, it is clear that no such sign may actually exist. Nevertheless, no self-respecting theory of language can afford to ignore such types of sentence, and indeed they pose extremely thorny problems. For further discussion, see particularly Chapters 2, 8 and 9.

Text (3) also involves motion, but this time the motion is entirely notional, since it is not Stuart who is moving, but his focus of attention. So what we have here is a metaphor for looking based on physical movement. Since there is motion, albeit of a conceptual rather than a physical kind, there is also a path, as in (2a). But since this is a metaphorical path, it denotes not movement, but some kind of non-physical activity expressed in motion terms. In such cases, therefore, the pathways are labelled for the kind of activity which is metaphorically being compared to movement (and often, exactly the same predicates are in fact used – e.g. here, ‘move’, ‘search’, ‘come’). This sort of metaphor is so common, we hardly even consider it a metaphor. But we should not forget that a corresponding literal meaning does exist, in which Stuart’s optic actually bounces up the stairs!

The alternative ‘moving viewpoint’ for text (1), briefly discussed above, is, of course, related to the ‘conceptual movement’ of (3). But the difference is an important one: in (3), the conceptual movement is part of the text world in the sense that its performer is an entity in that world (Stuart in Figure 1.3). But in (1), any such movement must be connected to the way in which the writer conceives the description and/or the reader interprets it. The reader and writer are not characters in the world depicted – rather, they are participants in the language situation in which the text has been formed. Thus, they are outside the text.7 Furthermore, my remarks above about time in the text creator’s world as compared to time in the text world are very similar to what I am now saying with regard to viewpoint. The similarity is, of course, no accident: both time and viewpoint are aspects of deixis, which I will discuss in Chapter 6. To demonstrate that the ‘moving viewpoint’ option belongs to the discourse participants rather than to the text world, we can easily show that a description of real movement can equally well be given in static terms. A static version of (2a) is:

2. (b) Francis Macomber is at the edge of the camp. In triumph, he is on the shoulders of a grinning exuberant crowd of personal boys, skinners and cooks. The gunbearers are not among them. Now he is at the entrance to his tent, no longer on their shoulders. They proffer congratulations. We now see Francis in the tent, on his bed. After a while, his wife is there in the tent with him.
Such a version reads very awkwardly as an account of the same scene as (2a), viewed from the same viewpoint. But, of course, (2b) is not viewed from the same viewpoint: in fact, (2b) would be more appropriate if narrated from the point of view of somebody suffering blackouts, or psychosis, or some intense experience (e.g. a Joycean ‘epiphany’). So, just as an arrangement may be viewed as a static distribution of objects or as a kind of ‘guided tour’ of a scene, so may a path be viewed as a map of a movement or as a set of static points in space (but taking place at different times). I will therefore assume that this distinction is a matter of interpretation outside the text world itself, so we do not have to take it into account when discussing text worlds as such.

Finally, an example of a wholly conceptual text world.

4. The natural tendency in problem-solving is to pick the first solution that comes to mind and run with it. The disadvantage of this approach is that you may run either off a cliff or into a worse problem than you started with. A better strategy in solving problems is to select the most attractive path from many ideas, or concepts. [. . .] [This book is] concerned with conceptual blocks: mental walls that block the problem solver from correctly perceiving a problem or conceiving its solution. (J.L. Adams 1974/1987: ix)

Text (4) is entirely abstract in the sense that it is talking about a complex mental process. Yet, in another sense, the language used is extremely concrete: mental processes of various kinds are expressed in terms of simple physical actions – movement, limb activities such as running, grasping, perceptual activities such as seeing, choosing – and a mental ‘landscape’ is evoked which contains the congeners of simple physical objects – blocks, walls, paths, cliffs. Despite the fact that the phenomena referred to are insubstantial mental concepts, their relationships and functions are conceived of in terms of tangible physical surroundings. The process is quintessentially metaphorical, removing the topic under discussion from a realm which is barely expressible in its own terms and placing it in a well-understood conceptual sphere, which is taken to be notionally isomorphic with the topic, and therefore appropriate. This appropriateness is not merely a matter of some physical situation being comparable with some conceptual situation; it is also a question of being able to draw valid inferences from one which are also appropriate to the other. For example, you run with a ball in American football or British Rugby football to achieve a particular objective (to touch down – the aim of the game, or to gain
ground – taking you closer to your aim); in the same way, you try out an idea in order to solve a problem (the aim) or to take it on to a further stage (closer to the aim).

Of course, some of these metaphors are more clearly figurative than others: the image of picking up a solution and running with it obviously alludes to a ball game (although the subsequent picture of carrying on over a cliff introduces an element of farce). Others, though, are less obvious in that they are well established in the language. This usually means that the metaphorical origin (which is often in another language, even) is no longer evident, leaving us with an expression which now may appear to be simply abstract. A few examples from (4) are: tendency, solve/solution, select, approach.

The use of concrete metaphor in text (4) makes it much easier to conceive of this abstract in physical terms. Nevertheless, there are considerable problems. Firstly, unlike a descriptive text like (1) or (2), or a narrative text like (3), text (4) is a discursive text arguing a point. This means that its purposes will include the possibility of drawing comparisons and contrasts, speculating about imaginary situations, erecting hypotheses, considering alternatives and so on. In (4), different approaches to problem-solving are considered, but since these involve entirely different alternative situations, I have treated them separately, though linking the frames. Again, this is an ad hoc solution, which will subsequently be abandoned.

For the sake of comparison, we may now also look at an abstract text which is much less overtly metaphorical (Laszlo 1972: 3):

5. Until very recently, contemporary Western science was shaped by a mode of thinking which placed rigorous detailed knowledge above all other considerations. This mode of thought was based on the implicit belief that the human mind has a limited capacity for storing and processing information. If you know some things very thoroughly, you cannot know very many different kinds of things. If you have some acquaintance with many different things, chances are you do not know them thoroughly.

I will not diagram this text (but see 8.2.2), but will make the point that the more abstract a text is (i.e. both discursive and non-metaphorical), the more schematic any such diagram becomes. We may nevertheless ascertain that the underlying conceptual structure of this text – i.e. the text world that it constructs – is basically metaphorical again. In this text world an entity, ‘Western science’,
comes into 'physical' being (*was shaped*) through the agency of another entity, a certain mode of thinking. This latter entity is itself located on, or follows the topography of, another entity, a 'belief' of a certain kind (therefore deriving some of its properties). The characterisation of the mode of thinking is described spatially: an entity ‘knowledge’ (which we otherwise recognise as the ‘content’ of thought, and both the driving force and the result of science) is at the top of a stack of other entities. The belief is stated as a proposition (in an 'embedded' world) about an entity called 'the human mind' (which we recognise as the locus and the agentive force behind the other entities which have been evoked here). This entity is evidently both a container (a kind of storehouse) and a machine (a processor). The final two sentences propose alternative sub-worlds (this term will be explained later), neither of which necessarily exists from the viewpoint of the main text world, though at least one of them must exist there. We will also discuss the conditional process subsequently (see section 10.3, and also Werth 1992a, 1997a and b).

Despite the highly abstract nature of this text, then, we can nevertheless 'picture' it perfectly adequately in representational terms, and read off certain valid inferences from the resulting diagram. This will all be discussed in greater detail in Chapters 7 and 8.

A brief word on the question of 'dead' metaphors, such as those mentioned in the previous paragraphs. Should they be treated just like living metaphors, i.e. as having some connection with physical experience, or are they now really just words with a more or less abstract meaning? I would suggest that even the etymologically conscious would rarely represent the literal origins of these words mentally, in everyday use, since this is for most purposes unnecessary and therefore redundant. Dead metaphors, in other words, will in almost all uses remain dead, unless consciously revived as in some creative uses. (For a recent example, consider the Disney cartoon of *Beauty and the Beast*, in which the face and hands of a clock-character are shown as a 'real' face and hands.) The question resolves itself, therefore, into: how do we conceptualise this 'second-order' abstract language? As we saw in text (5), though the literal (or even the etymological) origins of the meaning may not be present any longer, certain of the original inferences still remain. For example, if A is placed above B, then A is the thing that you meet first, and that you give your first attention to (i.e. it is more important, or higher-valued).
1.3 Aims of this book

In one sense, the subject-matter of this book is no less than 'all the furniture of the earth and heavens'. That is quite a tall order, of course, so my first task has been to impose some kind of reasonable structure and limitation on what would otherwise have been a shapeless and infinite mass of information. My reading of 'reasonable' in this as in other instances is 'conforming to cognitive and communicative functions'. These functions, our knowledge of which is, at best, patchy and incomplete, incorporate current knowledge concerning the cognitive processes of information handling, storage and retrieval, the social principles of co-operation and purposefulness, and the pragmatic conditions of coherence and relevance.

My main thesis is that all of semantics and pragmatics operates within a set of stacked cognitive spaces, termed 'mental worlds'. Connections with 'reality' are stipulated rather than built in, and indeed the very notion of reality itself is an assumption, which we readily accept, but have no direct access to. My argument for this position, in a nutshell, is that uses of language presuppose occurrence in a context of situation, and that on top of this they also presuppose the existence of a conceptual domain of understanding, jointly constructed by the producer and recipient(s). The former is the immediate situation (the representation of which I will henceforth call the discourse world) and the latter a text world. The discourse world is based on perception, backed up by knowledge of the elements perceived. To the extent that it is founded on interpretation, and is 'filled in' and edited, the discourse world is a construct, although one which we may suppose is founded on 'real' external circumstances. The text world, though, is a total construct, so therefore negotiated by the participants through the medium of the discourse, again backed up by relevant knowledge. Since it is a construct, it is dependent on resources of memory and imagination, rather than direct perception.

It is important to distinguish between participants and nonparticipants in a given discourse. The participants are responsible for the shape and direction which a specific discourse takes; nonparticipants have nothing to do with this process. There are, for our present purposes, two kinds of non-participant: the 'third-person' type, who may figure as entities in a text world, and then the 'voyeur' type. The voyeur type of non-participant plays absolutely no part in the discourse process, either at immediate situation or at text...
world level. I mention this category merely because you and I, dear reader, are both in it, along with all the linguists and literary critics and discourse analysts and deconstructionists – in short all those who take a professional interest in language from some sort of outside perspective. It may be argued (and has been, many times) that a truly outside perspective is impossible, since we are all linguistic creatures. To some extent this is true because we must approach a text in the first place by hearing it or reading it. But there is an enormous difference between hearing a discourse as a participant, and hearing it as a non-participant. In the latter case, the immediate situation perhaps no longer exists, in the sense that the participants have presumably departed and gone their separate ways. With a written text, the difference is more subtle. Nevertheless, the difference is there, and is a question of objectives: the linguist or literary critic approaching a written text does so with very different goals from those of the ‘ordinary reader’. The ordinary reader, I assume, is concerned almost exclusively with extracting a meaning from the text, including emotional content, spiritual or moral significance and suchlike. The linguist critic, on the other hand, though necessarily passing through the ordinary reading process at an early stage, is primarily interested in further goals, such as determining structure, artistic method, historical or social significance and so on. It is not part of my present purpose to dissect this point; I merely appeal in general to an essentially common-sense distinction (with all the necessary caveats about ‘common sense’).

1.4 Towards a more human Linguistics

We may now examine the current situation of Linguistics, by which I am referring to the current scatter of related theories which descend from Generative Linguistics in one or other of its many avatars, and which together constitute what many would call ‘mainstream Linguistics’. In one sense, this Linguistics is healthier than ever before; but in another sense, it is in imminent danger of bankruptcy. This apparent paradox is entirely due, in my view, to the predominance of one theory of language – Generative Grammar, in one form or another – over the last thirty or so years. Generative Grammar has had a revitalising effect on language study for a whole generation now. Since the mid-1950s, when Chomsky (1955/1975, 1957) provided the discipline with a respectable new research programme, it has also had a resounding quantitative
success – new university departments, new journals, congresses, number and variety of publications, graduates and doctoral degrees. This provided not only renewed stimulus for Linguistics itself, but also opened up new directions of research in all those disciplines in which language played a role.

But in other terms, Linguistics, led by its flagship the Generative Enterprise, is heading for the asteroid belt. It is travelling in ever-decreasing circles, using more and more complex devices to talk about smaller and smaller fragments of language. This is, then, a problem of coverage of the available data. Let me try to put this into perspective. Chomsky’s main goal was the explanation of the human language faculty and was a clear advance over the previous structuralist goal of devising a descriptive apparatus for different languages. Where he went wrong, in my view, was when he decided to restrict his domain of enquiry almost entirely to syntax. This is a question of methodology, therefore. This led him and his followers to ignore, as a policy decision, almost all the kinds of information that language users have available to them when learning, using and understanding their language. So, without denying the historical significance of the generative approach, it must be said that many negative effects have flowed from it too, and, as a result, vast areas of language are neglected – as a matter of policy – by the current front runner in linguistic theory.

It is my contention that the ‘tunnel vision’ of Generative Grammar has helped to create the present climate in which our whole discipline can be dismissed as ‘unilluminating confusion’ (Robinson 1975). I am not alone in this view: Ray Jackendoff, a committed generativist himself, made the same point some years ago (1988). I strongly believe that the much-overdue examination and overhaul of our basic meta-assumptions, and the new direction which will inevitably result from this, will make the subject scientifically respectable. Indeed, by returning the discipline of Linguistics to a more human level we will in the long run ensure its future.

Let me now characterise what I mean by a ‘more human’ Linguistics. This means in essence that language must be viewed as a phenomenon which is intimately bound up with human experience. This principle underlies the new research programme which I am advocating here, a programme which has the Chomskyan paradigm as its ultimate predecessor, but which deviates from it on the crucial questions of methodology and coverage mentioned above. Instead of starting with a list of properties, I will content myself for the moment with saying that a text or discourse represents
a coherent and joint effort on the part of its producer and its recipients to build up a ‘world’ within which its propositions are appropriately-formed and make sense. This is opposed to the generative view that a text consists of no more than a set of sentences, each analysed independently of context and user, and then interpreted semantically. I will subsequently show that, on the contrary, we need to represent the notion of a ‘conceptual background’. My preferred term for this is the text world (borrowed from the work of Teun van Dijk, e.g. 1977). A text world is a deictic space, defined initially by the discourse itself, and specifically by the deictic and referential elements in it. It falls within the definition of ‘mental space’ of Fauconnier (1985). The deictic and referential elements are given by the discourse. The referential elements, in their turn, activate relevant areas of memory, including complex conceptual structures known as frames. Frames are whole chunks of experience and situations, codified and stored in memory as single items (see Minsky 1975, Fillmore 1982 and 1985, and Chapter 4 below). These then operate to ‘flesh out’ the discourse from the knowledge and imagination of the participants. This accounts for the fact that every individual will build up a slightly different text world from the same discourse input. At the same time, there are strong restrictions on this so that individual differences remain within accepted boundaries.

Having introduced some elements of what I have called a text world, I would like to characterise my approach of a more human Linguistics and contrast it with current Generative Linguistic practice, which I will refer to for the time being as the systems viewpoint. The systems viewpoint takes mathematical rigour as its ideal, and has the unstated assumption that, if they claim to be real sciences, the human sciences should be as much like the ‘hard’ sciences as possible in their methodology and metaphysics. By this view then, language is regarded as an objective system of rules and conditions on rules. This system operates by manipulating categories in a manner which must be as context-free as possible for rules to have maximum application. Freedom from context includes, of course, freedom from any effect which different users or circumstances may have on a piece of language. The notion underlying this meaningfree ideal is that Linguistics, as some sort of science, should be mathematically modellable: mathematical elements must be meaning-free for the very good reason that any elements occurring in a mathematical expression must have the identical value to any equivalent elements in another expression. In Generative Grammar,
'equivalent' means, by definition, 'syntactically equivalent' – since syntax is assumed to be mathematically modelable.

The basic metaphysical assumptions of the systems view are what Lakoff (1987a) calls **objectivism**. Categories and concepts exist objectively from the human mind and body, free from any human intervention. The properties of the objectivist or systems view are by no means a random collection of characteristics. They are collectively explained by the metaphysics of objectivism:

(i) the formal aspects of language should be autonomous in the theory of grammar, i.e. divorced from both meaning and context;
(ii) semantic specification should itself be mathematically modelable;
(iii) semantic specification should 'hook on' to reality by way of models (or 'situations') which are themselves content-free;
(iv) semantic specification should be supplied only to the forms and arrangements dictated by the syntax.

This list applies to most of the current contenders in grammatical and semantic theory today. What is perhaps more remarkable than the persistence and spread of the systems view is the fact that it was conclusively demonstrated as long ago as 1977 to be logically incoherent. The philosopher Hilary Putnam, in his Presidential Address to the Association for Symbolic Logic in 1977 (1977/1980), showed that the divorce between a language and its interpretation leads to logical inconsistency. Putnam's arguments – which have never been successfully refuted – are expanded by Lakoff (1987a) and are shown to apply equally to Generative Linguistics.

Let me now turn to the human viewpoint. This can usefully be represented as a set of eight characteristics, which can be brought together to form the acronym PACKAGEED. The PACKAGEED properties of the human viewpoint are listed below:

<table>
<thead>
<tr>
<th>Property</th>
<th>Arising out of</th>
</tr>
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<tbody>
<tr>
<td>Pragmatic</td>
<td>human purposes</td>
</tr>
<tr>
<td>Attitudinal</td>
<td>human emotions and beliefs</td>
</tr>
<tr>
<td>Cognitive</td>
<td>human mental processes</td>
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<tr>
<td>Knowledge-fed</td>
<td>human knowledge and memory</td>
</tr>
<tr>
<td>Artistic (imaginative)</td>
<td>human creativity</td>
</tr>
<tr>
<td>Grounded (contextual)</td>
<td>human situations</td>
</tr>
<tr>
<td>Experiential</td>
<td>human experience</td>
</tr>
<tr>
<td>Discourse-driven</td>
<td>human language</td>
</tr>
</tbody>
</table>
A linguistic theory founded on the PACKAGED properties is a
different kind of theory from one founded on objectivist or
systems viewpoint properties. I will not discuss the differences in
detail at this point, nor explicitly illustrate all the PACKAGED
properties. They will emerge in the coming pages. Let me just say
that my approach places particular emphasis on a number of these
properties. The following properties are essential: the importance
of knowledge, the central role of human experience, the inescap-
able effects of the situation, the discourse-driven nature of these
processes (I subsequently use the term ‘text-driven’, however),
and the necessity of metaphor to express domains of experience
for which we lack a direct language.

It is in my view crucial to make a distinction between the work-
ings of the human mind as evidenced by language as a functional
entity, and the workings of the minds of linguists when confronted
with language. In words attributed to Edward Lear:

I thought I saw an argument
For abolishing the Pope;
But when I looked again it was
A bar of mottled soap –
A fact so dread, he faintly said,
Extinguishes all hope.

Consider, for example, the case of the Martian canals – the human
mind, faced with any multiplex phenomenon, is predisposed to
extract patterns; this is how it makes sense of its environment. But
when the human race, via the Mariner probes, looked again (and
more closely), there were no canals on Mars. Linguists, faced
with the dazzlingly complex phenomena of language, have fallen into
a similar trap. But where the Martian misobservations were aided
by the great distance involved, linguists have often actively con-
sorted to distort their observations. They have either:

(i) ‘simplified’ data
(ii) ‘normalised’ data
(iii) tried to confirm some pre-formed hypothesis.

This has usually led to the finding of patterns. But are these pat-
terns really there? Are they bars of mottled soap, or are they merely
Martian canals? What does it mean for a pattern to be ‘really there’?
I would like to find out by means of a solidly human-based Lin-
guistics, since I pin no hopes at all on the capacity of Generative
Linguistics to do this. I must agree with Lakoff (1990) that any
such attempt by the latter would be doomed because of Generative
Linguistics’ ‘primary commitment’ being to the systems approach.
If one replaces this primary commitment with a commitment to establish generalisations, then the same questions get answered in a very different and incompatible way. This is a commitment not to a particular form of answer, but instead to a particular content: data about language and conceptualisation.

It is important that the systems view, just because it tends to use a more formal-looking notation, should not have any of the high ground of science conceded to it. The systems view is a philosophical stance rather than a truly scientific one. It preselects a formal model which it protects against all empirical evidence of inadequacy by carefully discarding any data incapable of being represented in the model. Its successful formalism is therefore bought at the expense of coverage. This makes it irrefutable and therefore unscientific: more a matter of faith than of science.

Notes

1 I take this to be a matter of definition – hence my choice of it as opening sentence. It is a proportional equivalence I have used before (in Werth 1984: 11), and found very reasonable, as I still do. Much to my surprise, therefore, one review of the 1984 book (Burton-Roberts 1985) concentrated on tearing this statement apart: in his view, it is ‘superficially plausible’ but ‘conceptually confused’. It turns out that his criticisms are based on very different definitions of the four terms involved from those I advance, both in Werth (1984) and the present book. The difference is fundamental, and I return to it below.

2 This is actually an abbreviated proposition-in-context, corresponding to at least two possible discourses. We will ignore the distinction between sentences and propositions for the moment, but see section 7.3.

3 This is similar to the definitions of discourse and utterance given above, and I am grateful to Noel Burton-Roberts for noting the relationship between utterances and actions. However, there are crucial differences between our accounts: discourses and utterances are defined in the present work as, respectively, ‘language events’ and ‘language acts’, thus excluding the inarticulate cry of pain, the doodle, the snore and the footprint in the sand. Burton-Roberts does not restrict the distinction to language, nor does he, either in the space of his review article or in his later book (1989), make discourses events – rather, he seems to equate discourse with context.

4 I am indebted to Paul Gabriner for bringing this work to my notice.

5 From other viewpoints, however, the equation of the temporal and spatial – at least in this way – is doubtful. In Chapter 6, I suggest that time, conceptually, is a metaphor based on our experience of space (cf. also Fleischman 1989). Modern cosmology, on the other hand, suggests that space is an aspect of time, or that both are side-effects of mass.
6 This is a consequence of the constitutional principles which define a discourse as an act of communication. We will discuss these in section 2.3. They include the notion of ‘relevance’, as developed by Sperber and Wilson (1986), and discussed below in section 5.3.3.

7 In those cases where the writer is a character in his own text – and may even supply a generic reader – what we have is not a counter-example to the generalisation that the writer and reader must be outside their text, but a case of the writer using himself as a character. We might call this the ‘doppelganger effect’. Famous examples include Chaucer as one of the story-tellers in the Canterbury Tales, and Laurence Sterne in Tristram Shandy (1759–67). A particularly complex example is Kurt Vonnegut’s (1973) Breakfast of Champions (cf. section 11.2.1 for discussion).

8 Dan Slobin (1992) points out that, in fact, languages differ in their principal means of movement description. He distinguishes two language classes (based on a proposal by Talmy 1991), verb framed (e.g. Romance, Semitic, Japanese), and satellite framed (e.g. Germanic, Finno-Ugric and Chinese). The former usually produces motion descriptions like (2b), based on chains of verbs (e.g. Spanish Entré en el hall y pasé al comedor ‘I entered in the hall and passed to the dining-room’, Slobin 1992: 14), whereas the latter produces movement descriptions based on a rich prepositional system, as in (2a), and the English equivalent of the Spanish sentence above: I went into the hall and through to the dining-room. (See also Slobin and Hoiting 1994.) Both types of language, that is to say, must conceptualise these as pathways, but the verb-framed ones characterise them implicitly by way of connected actions, while the satellite-framed ones characterise them explicitly in terms of spatial connections.

9 Those of us who do not subscribe to the whole package of assumptions which characterise ‘mainstream (i.e. Generative) Linguistics’, nevertheless often find themselves called to the defence of the discipline in general. One is rarely in the position, however, of having the opportunity to make the necessary distinctions between Generative Linguistics and other schools. I am therefore happy to be able to do so here.

10 Hornstein (1990: 4) nevertheless has data coverage as one of the two ‘indices of success’ for a theory; the other is ‘some account of the logical problem of language acquisition’.

11 Appropriateness of form has to do with how sense should be signified: see Chapter 5 for discussion. The generative goal of ‘well-formedness’, on the other hand, is a purely syntactic measure. The view of the present book, and also of my earlier (1984) work, is that much of ‘well-formedness’ is actually ‘appropriate-formedness’, and is determined by discourse principles. What remains of well-formedness are then some rather low-level ‘housekeeping’-type rules.

12 Teun van Dijk tells me that, in fact, the term ultimately came from Janos Petöfi.
Chapter 2

Cognitive Linguistics and Text Linguistics

2.1 Cognitive Science

Gardner (1985: 6) defines Cognitive Science as 'a contemporary, empirically based effort to answer long-standing epistemological questions – particularly those concerned with the nature of knowledge, its components, its sources, its development and its deployment'. He goes on to list five features 'of paramount importance' in Cognitive Science:

- mental representations;
- the computer model;
- de-emphasis on emotion, culture and context;
- interdisciplinary study;
- epistemological concerns.

Certainly not all of these will be present in all accounts (and indeed in Cognitive Linguistics, including the present account, the third one is very much denied), but Gardner claims that all cognitivist work includes at least a majority of these features. As far as the present book is concerned, I will take mental representations and epistemology as central concerns.

Whereas Gardner bases his definition of the goal for Cognitive Science on ‘knowledge’, Osherson and Lasnik base theirs on ‘human intelligence’: ‘The exercise of intelligence is called cognition’, in their view (1990: xi). But ‘intelligence’ is rather strange as the objective of an approach: as the word is normally used, it refers to a property or ability of the human mind.¹ This is rather like defining astronomy as the study of gravity, or biology as the study of movement. It could be that intelligence is the defining or discriminating property of the human mind – but since it is also present, presumably, in the non-human mind, we either have to redefine intelligence, circularly, to human manifestations of it, or else redefine Cognitive Science to include non-human minds (which would be
possible, but is not a move made by Osherson and Lasnik). Moreover, it is usually used in the context of the evaluative measurement of mental facility (‘IQ testing’), most practitioners of which frankly admit that they don’t know what they are measuring (‘intelligence is defined operationally as that which intelligence tests test’, Gazzaniga (1988: 58)). It is of some wonder, then, that Osherson and Lasnik make it so central, particularly in view of the fact that so many of the concerns of Cognitive Science have self-evidently little to do with being smart (e.g. notably, vision, to which the whole of the second volume of their trilogy is devoted). We will assume, with Gardner, that cognition concerns knowledge rather than intelligence.

2.1.1 Cognitive Psychology

Cognitive Psychology, according to Gardner (1985: 10 ff.) was given its first impetus as a distinct approach by the 1948 Hixon Symposium, and particularly in the address of psychologist Karl Lashley. Specifically, the concept of the human mind was reinstated as a respectable research objective after some forty years of behaviourist banishment of such notions as mind, intentions and emotions as being unscientific and quasi-religious. Up to the end of the 1960s, a ‘standard model’ of the mind emerged, which Glass, Holyoak and Santa (1979: iii f.) describe as the ‘stage model’, or the idea that mental processing takes place in a sequential series of stages:

information from the environment first receives ‘preattentive processing’, which roughly corresponds to the basic processes of perception. Then the information is stored in a ‘sensory buffer’, which for a brief time records everything a sense organ detects. Much of the information in the sensory buffer is lost, but with the help of the process of attention some of it is transferred to ‘short-term memory’. Information is assumed to be retained in short-term memory by consciously rehearsing it, usually in a verbal form. Short-term memory is assumed to have a very limited capacity, so that some of its current contents will generally be lost when new information enters. But some of the information in short-term memory, with the aid of rehearsal, will go on to ‘long-term memory’. Long-term memory is assumed to be essentially unlimited in capacity, and it stores all our knowledge for an indefinitely long time without requiring conscious attention.

However, they also point out that subsequent work in the 1970s tended to disprove the sequentiality of this model. Its components
remained by and large standard, but the strict order of processing was increasingly challenged as information came in about the mind’s influence on its own processes, particularly in the areas of intention and expectation.

Glass et al. define Cognitive Psychology also as being centrally concerned with ‘the study of knowledge and how people use it’ (1979: 2), and they point out that this involves the study of ‘all our mental abilities – perceiving, remembering, reasoning and many others’. The central problem for cognitive psychologists, they say, ‘is to discover how knowledge is stored in our memories’, and this requires some representation of that knowledge. An important distinction they make along this dimension is that between an analog representation and an analytic representation. An analog representation of an item is a representation which in certain ways resembles that item, e.g. a map and the terrain it symbolises. However, the resemblance can in fact be quite abstract and based on cultural models or even metaphors (one reason for considering Gardner’s de-emphasis on culture to be wrong). Examples of this may easily be found in the expression of continuous properties such as speed, temperature or time along (or around) numerical scales. Mental representations which are analog are holistic (i.e. total) experiences which are stored presumably as perceptual wholes (e.g. the memory for faces, the taste of different wines) or complex actions (e.g. tying a shoelace, performing automatic movements).

An analytic representation, on the other hand, is one which bears an essentially arbitrary relationship to the item it symbolises. Most codes, including language, are analytic representations (on the whole), and in cognitive terms, the representation of propositional knowledge (roughly, factual knowledge denoting relationships such as ‘A is a B’ or ‘C has a D’, cf. Chapter 4) must also be analytical. This is why syntax is principally analytical, though at its core it displays analog characteristics, such as constituent order (cf. Givón 1979).

In his most recent work (e.g. 1993e, f), Givón suggests that grammar represents a cognitive process of automation. This is equivalent to the forging of strong neural pathways for high-frequency actions. Where this has happened in a language, the iconicity of equivalent analog behaviour is no longer essential. This suggests that we should posit a scale between the two extremes of (fully) analogical and (totally) arbitrary:
One fruitful line of research in Cognitive Psychology, which has helped to shape the modern discipline, has been based on the metaphor of the human mind as a digital computer. A typical example is the textbook by Lindsay and Norman (1977: 593 f.):

Computers are information-processing systems. They can manipulate information and make decisions. Knowledge of information-processing is essential if you are to understand the tools of the study of thought mechanisms. Now, before we begin, please note carefully that the mind is not a digital computer. But, although the machinery is different, when it comes to the abstract, scientific principles of information-processing, there are general rules that will apply, regardless of what device is being spoken of.

Thus, minds are not computers, but both minds and computers are examples of something more general: information-processing systems.

This approach has been fruitful for two reasons: firstly, it has provided a powerful, testable model, consisting of an overall structure for information-processing systems (viz. minimally, a memory, a central processor and an input/output device); secondly, computers have been used as test-beds for hypotheses about mental processes (cf. George 1970: 22). It has also shown that the serial architecture of the conventional computer differs in a number of crucial respects from that of the brain, and that this must lead to certain fundamental differences in processing between minds and computers. (Principally, minds do not seem to operate in the strictly serial way that conventional computers do, and furthermore they appear to initiate and monitor much of their processing in a way that, for a computer, is more associated with software, or even with the computer-user⁴.)

However, it has been one of the more remarkable phenomena of the last twenty years that computer technology has been developing at a fantastic rate. Central processor capacity has been doubling approximately every eighteen months, while all the other major components have shown comparable improvements. In such a climate, then, it is no surprise that attention has turned to serial processing itself. Basically, the serial problem is that the CPU is a
bottleneck, since everything has to be channelled through it. The standard way of attacking this problem is by making CPUs ever faster; however, an alternative architecture has also been experimented with, in which a massive array of simple chips, each carrying out just one or a small number of processes, is connected in parallel. The chips operate simultaneously, rather than one after another. This leads to a different kind of processing, known as parallel distributed processing (PDP) or connectionism.

PDP represents, in effect, a turning of the cognitive tables. Whereas the conventional computer was put forward as a model for the mind, having itself developed out of binary arithmetic and Boolean logic, PDP is itself based on the structure of the brain. The separate processors are rather like neurons, and the pathways between them are like synapses. In neuropsychology, this structure is known as the neural network, see Martindale (1991).

Neural networks have the following properties:

1. They consist of a set of nodes together with connections between nodes.
2. Nodes can be activated along a scale of intensity. Above a certain threshold, this is experienced as consciousness. Node-activation corresponds to short-term memory in the stage model.
3. Connections are also variable in strength, and may be excitatory or inhibitory. A degree of connection-strength over a certain threshold corresponds to long-term memory in the stage model.
4. 'Traffic rules' for the nodes, handling combinations of inputs, decay times, output strengths and in general, default settings for activation.
5. Ability to both 'learn' and to 'forget', the former in terms of connection-strengthening, the latter in terms of decay of activation.
6. A system-environment, structured into 'modules' (for specific tasks) and 'layers' (for differences of generality and specificity). Nodes on the same layer are inhibitorily linked (only one node may fire at a time), while those on successive layers are linked by excitation (firing one node causes neighbouring nodes to fire also).

The most significant difference from the central-processing model is that all the processing in PDP takes place in situ, and there is no concept of information being transferred from one 'place' to another. As Martindale says, it is by no means clear that such a concept would even be coherent, since it would involve the notion of a central
executive component making decisions, and carrying out the consequent operations – a brain within the brain, in fact.

For arguments against the connectionist account, see particularly Fodor and Pylyshyn (1988). They claim (12 f.) that there are two major ‘architectural’ differences between the two approaches, namely (i) the ‘classical’ view has a combinatorial syntax and semantics for mental representations, whereas connectionist accounts are based on spreading node-activation and connection-strengths; (ii) classical processes are sensitive to these structures, while connectionist processes are sensitive only to node-firing and connection-weight. They summarise their objections as follows (49):

What’s deeply wrong with Connectionist architecture is this: Because it acknowledges neither syntactic nor semantic structure in mental representations, it perforce treats them not as a generated set but as a list. But lists, qua lists, have no structure: any collection of items is a possible list.

And it is indeed the syntactic level which is the weakest part of Martindale’s otherwise excellent introduction (1991). However, it should also be said that Fodor and Pylyshyn base their criticisms on the simplest possible variant of connectionism (see their remarks in (1988: 15)). This means that they do not appear to consider item 6 in the set of properties given above, namely the structure of modules and layers. This is not an innate structure in the generativist sense, or a pre-existing architecture in what Fodor and Pylyshyn call the classical sense, but a structure of sets of forged connections, forged by repeated experience of the same events. The modules then provide frame-type configurations (see sections 2.1.4 and 4.4 below), while the layers provide hierarchical relationships such as ‘is a’ and ‘part-of’ (between successive layers) and paradigmatic relationships such as set-membership (on the same layer). Cottrell (1989) provides a more sophisticated syntax in this spirit.

Fodor and Pylyshyn’s polemic style should not conceal the fact that ‘classical’ architecture has its problems, too. The main one, apart from the executive bottleneck problem already discussed, is that the logic-based procedures of the classical approach are too deterministic. Waltz (1989: 57 f.) puts it thus:

It is not possible to specify completely the conditions for any sort of decision – including decisions on natural language understanding and parsing – in a manageable set of rules and heuristics. By inserting a sentence in an appropriate context, even extremely rare or unusual
structures and interpretations can be made to seem the most natural. [. . .] systems based on logic, unification and exact matching are inevitably brittle (i.e. situations even slightly outside the realm of those encoded in the rules fail completely, and the system exhibits discontinuous behavior). We see no way to repair this property of such systems.

In summary, the conventional theory of mind is arguably too rigid to allow for the subtleties of language in context, whereas the newer neural-networks approach is as yet too simple to allow for some of the complexities of human syntax.

2.1.2 Artificial Intelligence

The second of the core disciplines of Cognitive Science which I will discuss has come to be called Artificial Intelligence, a rather inappropriate name for the computer simulation of human mental attributes. Back in the days when a computer was a machine which took up a whole floor of an office-block, and required a corps of devoted servants to keep it cool, dust-free and operational, there was a great deal of optimism about the potential of such machines to imitate, and even improve on, certain human cognitive capabilities, such as natural language, translation, problem-solving, playing chess, and so on. These are what Clark (1989: 3 f.) calls ‘striking achievements’ in the human view, and reasonable computer simulations of many of these achievements have been developed. Reasonable, but not striking, for as Clark points out (3 f.), they lack ‘the smell of anything like real intelligence’. Clark’s explanation for this is precisely that such attempts have been based on the human explanation of mental faculties (which he calls ‘the mind’s eye view’ of mental behaviour), rather than on an approach which grows out of the specific architecture being employed (which he calls the ‘brain’s eye view’). Different architectures, such as the synaptic connections of the human brain, the central processing unit of a conventional computer, and the parallel distributed processing of the Connection Machine, require different procedures and perhaps even different metaphors. That the mind’s eye view is so prevalent should come as no surprise, however: as Haugeland (1981) points out, a central tenet of AI has been that formal systems can be identical despite being implemented over totally different architectures. The questions which have arisen in AI – particularly in the last decade – have concerned such questions as how formal and how systematic is human cognition, and whether the architecture of a system does indeed have an effect on the operation of that system.
Many historical threads have gone into the weave of AI as it is today, but most people in the field would trace its origins back to Alan Turing. Turing was not a computer scientist as such (the profession hardly existed in his lifetime), but rather a philosopher of science. What he did, though, was to set a research goal and a means of evaluating it. The goal was, to put it rather baldly, to find a thinking machine; the test was a very operational one: that the output of the machine solving some particular problem should be indistinguishable, in all important respects, from that of a human being solving the same problem. That is to say, if the answer were received in a way which disguised whether it was coming from a human or a machine, and it was impossible to tell from the answer itself whether it was human or mechanical in origin, then it could be maintained that, if it came from a machine, the machine was performing equivalently, at least, to a human. If the equivalent human performance required thought, then the machine’s performance was deemed to require thought too. ‘The operationalist would say that the computer *thinks* provided that it *acts* indistinguishably from the way that a person acts when thinking’ (Penrose 1989: 7). The larger question behind this is, of course, can you really detect the presence of thought by observing actions? But as Penrose goes on to say (1989: 11), ‘how else do we normally form our judgements that people other than ourselves possess just such qualities, except by conversation?’.

In the years since Turing died, though, computer hardware and software have undergone explosive development. Cognitive scientists (including AI people) have become considerably more sophisticated both in what they consider computationally possible, and in their observations about human cognition. One area of central importance, and crucial to the present book, is that of knowledge. Indeed, as we have already seen, the study of knowledge is central to Cognitive Science. Within AI, the question of knowledge is at its most obvious in the study of, and attempt to simulate, Natural Language Processing. But as soon as there is any question of *interpretation* in any cognitive process, then knowledge is required: in order to interpret and classify a visual signal, for example, you have to compare it with other signals stored in memory, particularly if only part of it is in your visual field, or if it is not quite standard for its type.

We will be looking at the question of knowledge in greater detail in Chapter 4, but in the framework of Cognitive Science, it is certainly evident that Gardner’s third characteristic of the field
(quoted at the beginning of the chapter), namely, de-emphasis on matters cultural, emotional and contextual, is simply incompatible with his fifth characteristic, epistemology – which he further sub-divides into: 'the nature of knowledge, its components, its sources, its development and its deployment'. Rather early on in AI, in fact, it became clear that in order to simulate human cognition, a machine would have to have a large knowledge-base at its disposal, together with sophisticated devices for the speedy and efficient retrieval of items of knowledge. A great deal of our moment-to-moment activity is founded on knowledge, in fact, so that if we want to understand this activity (including language), it is essential to find out how this knowledge is stored and deployed.

One device which has been suggested for doing this is the knowledge frame, or simply, frame – a notion usually accredited to Marvin Minsky (notably in a paper first published as an MIT AI lab report, and then in different versions in Winston (1975), Haugeland (1981) and Brachman and Levesque (1985), among others). The notion was further developed in AI notably by Roger Schank and various co-workers (e.g. Schank and Abelson 1977). As I will be using it subsequently (sections 2.1.4 and 4.4), the term 'frame' covers a number of similar ideas which differ in detail: 'scenes', 'scenarios' and 'scripts', to name just a few. Roughly, it is the representation of an area of experience, with all the necessary connections and crossreferences. The notion is of central theoretical importance in Cognitive Linguistics (see below).

The central interest of AI, as Birnbaum (1989) points out, is processing. In its total extent, the field takes in all kinds of mental processing, including vision, touch, smell, as well as combinations of these, such as identifying and grasping objects and navigation around obstacles. Our more limited interest here, however, is confined to Natural Language Processing (NLP) and the systems necessary to support that, including, notably, Knowledge Processing.

A predominant concern of NLP throughout its relatively brief history has been 'parsing', viz. the (automated) analysis of syntactic structure. The reasons for this are in my view not hard to find: firstly, the resemblance between natural language and computer programs has had a striking influence on theories of both, as we have already seen; secondly, and despite the protestations of computational linguists (e.g. Sparck-Jones and Wilks 1983; Birnbaum 1989), it is surely significant that this bias in AI work has precisely shadowed the identical bias in Generative Linguistics.
It might be argued that the same is true of semantic work: Semantics started becoming respectable in Linguistics, after a long absence, at about the same time that AI people (as well as certain philosophers, such as Richard Montague and H.P. Grice) were beginning seriously to grapple with problems of linguistic meaning. However, in this case, it seems to me, the influence might have been exerted in the opposite direction. Non-transformational approaches such as Generalised Phrase Structure Grammar began matching syntactic and semantic representations from the mid-1970s on, and often with the explicit motivation that the theory should be computable.

Central to any theory of semantics is the question of how meaning is to be represented. In a cognitive theory, this becomes: how is meaning represented in the mind? (Cf. section 2.1.3 below.) Here particularly, AI was in the vanguard of attempts to gain some insight into this, since it quickly became apparent that computers could in no way process natural language like human beings do, without also having at their disposal vast amounts of contextualising and background-providing knowledge – just like humans do. Semantic representation is usually called in AI 'Knowledge Representation', and according to the reasonably complete bibliography in Brachman and Levesque (1985), it dates as a research concern from as far back as the mid-1960s.

Probably the most basic issue in Knowledge Representation is: in what terms should the representation be couched? This debate has been fierce in Neurolinguistics and Cognitive Psychology, with the contenders being some form of propositional representation (perhaps based on classical logic), over against neural networks (which have a closer resemblance to neurological structure). We will not go into this sometimes hotly disputed area now, though I will occasionally refer to some of the questions this touches upon. The papers in Brachman and Levesque (1985) give a broad overview of the field.

2.1.3 Cognitive Linguistics

Cognitive Linguistics is the name which has come to be attached to a range of approaches originating with George Lakoff, Charles Fillmore and Ronald Langacker. As Langacker points out (1987a: 2), nothing like a definitive version has as yet crystallised. Nevertheless, a great deal of work has already been carried out, based on a general set of principles. Langacker states these as three central claims (1987a: 2–3):
1. Semantic structure is not universal; it is language-specific to a considerable degree. Further, semantic structure is based on conventional imagery and is characterized relative to knowledge structures.

2. Grammar (or syntax) does not constitute an autonomous formal level of representation. Instead, grammar is symbolic in nature, consisting in the conventional symbolization of semantic structure.

3. There is no meaningful distinction between grammar and lexicon. Lexicon, morphology, and syntax form a continuum of symbolic structures, which differ along various parameters but can be divided into separate components only arbitrarily.

Langacker goes on to say that ‘cognitive grammar reflects a growing intellectual trend in the analysis of language and mind, away from a mechanistic conception and towards a conception more appropriate for biological systems’ (p. 5).

Lakoff (1990) states the principles of Cognitive Linguistics at perhaps an even more fundamental level. He talks in terms of commitments: Generative Linguistics, like most contemporary linguistic theories, claims as its fundamental research goal the characterisation of the human language faculty. Yet its actual primary commitment is to a particular formalism. The primary commitments of Cognitive Linguistics for Lakoff (1990: 3) are:

1. characterizing the general principles governing all aspects of human language,
2. mak[ing] one’s account of human language accord with what is generally known about the mind and the brain, from other disciplines as well as our own.

I take the former of these to be the same as the stated research goal of Generative Linguistics. Generative Linguistics, however, is prepared to ignore or shelve certain aspects of language which are not susceptible to treatment using its preferred formalism. Therefore that commitment is secondary to its unstated commitment to the formalism. The result of consistently applying Lakoff’s two commitments should be a set of ‘cognitively real generalizations’ about human language, which might not match in any way the generalisations arrived at by traditional means, nor by Generative Linguistics.

The commitment to biological systems, and specifically cognitive systems of conceptualisation, storage and retrieval, imposes
certain requirements on Cognitive Linguistics. Notably, it attributes primacy to human experience, both physical and conceptual. Furthermore, it recognises that physical experience is ultimately perceptual, and that perceptual experience is ultimately conceptual. Nevertheless, it is physical experience which gives us our basic layers of expression, while non-physical experience is ‘mapped on to’ the physical by means of figurative devices: image-schemas, metaphor, metonymy. Thus the language we use for talking about non-physical processes, such as thinking, understanding and the like, is modelled on the language we use for physical processes. In other words, whether we are thinking of the language of physical experience occurring as natural language or as neural impulses, the language of non-physical experience will take the same form, whatever that might be. Note that no claim is being made either way about a so-called ‘Language of Thought’ (Fodor 1975).

Here is Lakoff’s summary of these relationships (1987a: 372):

On the experientialist account, meaningful thought and reason make use of symbolic structures which are meaningful to begin with. Those that are directly meaningful are of two sorts: basic-level concepts and kinesthetic image-schemas. Basic-level concepts are directly meaningful because they reflect the structure of our perceptual-motor experience and our capacity to form rich mental images. Kinesthetic image schemas are directly meaningful because they preconceptually structure our experience of functioning in space. They also have an internal basic logic [...] sufficient to characterize human reason. With such a dual basis for directly meaningful symbolic structures, indirectly meaningful symbolic structures are built up by imaginative capacities (especially metaphor and metonymy).

So far, then, we have a more or less programmatic statement of the relationship between the human language faculty and human cognitive processing. A very important aspect of this, as we have already seen, is the question of mental representations, to which we now turn.

**Mental representations**

There are two broad kinds of view on the question of what it is for a piece of language to mean something. The first, known as Realism, holds that there is a direct connection between the language and the thing in the real world that the language stands for. The second, called Representationalism, holds that what the language actually stands for is a concept in the mind, and whatever further relationship
there might be between that concept and something in the world is an entirely separate matter, over which there are many differences of opinion. Most cognitive scientists would espouse the Representationalist view, along with probably the majority of linguists (including particularly generativists). The Realist approach probably corresponds to the folk view of meaning, but strangely enough is also espoused by a number of philosophers – those who have trouble with the concept of ‘mind’ and therefore with associated concepts such as ‘mental process’ or ‘mental representation’.

The earliest, and most apparently common-sense, view of meaning, then, is the Realist one that it is a direct relationship between a word and a thing in the world: the meaning of cow is some cow in the world, and so on. The more sophisticated Representationalist approach had the word and the thing mediated by a ‘concept’ (later called a mental representation), but since the earliest version spoke of this concept as a ‘picture’, the notion of mental representation was roundly criticised, and fell into disuse, along with the whole subject of Semantics. Its revival coincided with the growth of the cognitive approach.

It is now commonly agreed (by those who accept them at all) that mental representations may be visual, auditory, tactile, etc., as well as more generally symbolic. However, this does not mean that there is a little projection screen in the brain upon which pictures are thrown, or a little sound-effects crew reproducing noises. In other words, the question of whether there are mental representations is distinct from the question of what precise form they take – and on the latter, very little specific information is yet available. It seems sensible to take the position that the electrochemical code into which all kinds of perceptual input are translated is also used to store and retrieve memories of this input, as well as forming imagined instances of similar inputs. This is presumably why we can see, hear, taste and feel in our dreams.

There are two kinds of fact which argue against the notion that our senses directly record reality in the way that a movie camera does, for example. Firstly, our senses are not necessarily 100 per cent reliable: people get drunk, they hallucinate, they become schizophrenic, or they simply make mistakes. Secondly, even when none of these pathological situations is present, perceiving is not a simple matter of receiving sense impressions, the way a magnetic tape receives sound impressions. Rather, it is a kind of problem-solving behaviour: we are constantly checking, cross-classifying, hypothesising, retrieving memories and making abductive assumptions
on the basis of incomplete evidence. This is how Jacob Bronowski puts it (1978: 43):

> even the perception of the senses is governed by mechanisms which make our knowledge of the outside world highly inferential. We do not receive impressions which are elemental. Our sense impressions are themselves constructed by the nervous systems in such a way that they automatically carry with them an interpretation of what they see or hear or feel.

The essence of the cognitive approach, then, is that the ‘cognising being’ is not merely a passive receptacle, but is on the contrary an active agent, constantly interpreting and achieving understanding.

Realism is the opposite position: that humans are passive receivers, rather like radios that are left on. The best-known recent version of Realism in the literature is ‘Situation Semantics’ (Barwise and Perry 1983). The essential difference between the Realists and the Representationalists is this: is meaning something which actually exists in the world, or is it an artefact of the mind? If it is a representation, then that clearly entails that it is an artefact in the mind, i.e. that in some sense the mind constructs meanings. The Realists say ‘No – meaning is there; we just perceive it’. Barwise and Perry are quite clear about this: they say that the world is ‘teeming with meanings’, they are there for us to see, and even if we were not there, there would still be meanings wriggling around.12

Thus, all Realists are also objectivists, in the sense discussed in Chapter 1. Unfortunately, this does not entail that all Representationalists are non-objectivists. This is because, as you will remember, representationalism actually concerns two views. The first says that there is a relationship between language and a mental representation; the second has to do with a relationship between that mental representation and the so-called ‘real world’. In particular, it is possible to hold the view that this latter relationship is objectivist, i.e. that the mental representations simply reflect what is ‘out there’. Basically then, conventional logic and most of Linguistics, including certainly Generative Linguistics, is based on the idea that, for example, categories of language and of thinking are objectively real.13 That is to say, a linguistic or conceptual category like ‘table’, for example, can always be defined as a set of necessary and sufficient conditions which may be identified objectively (i.e. outside language, in the world). The idea (which is very ancient, going back at least to Aristotle and developed further by the Medieval scholastic tradition) is that all tables have something in common,
their defining or criterial features; they may have 'accidental' features also, e.g. some tables are carved, others made of plastic, metal and so on. In modern times the common attributes have been expressed as 'features' such as <furniture>, <plane surface>, <supported above ground>. All objects (including abstractions) are similar, in this view, in that they possess a 'common core' of features shared by all examples of the object. Therefore, if this is indeed the case, then that common core of features for each object is there, irrespective of whether there are any humans around or not: they are objective phenomena which have nothing to do with human conceptualisation. The objectivist belief that such features are real attributes located in the phenomenal world is usually unexpressed, since it corresponds, as we have seen, to the common-sense or 'folks' theory of meaning (see also section 1.4 above). It is an assumption underlying most contemporary Philosophy, Psychology and Linguistics.

At this point, let us look at some terminology in this area. Objectivism, then, is the idea that linguistic (and other) categories correspond in a direct way to entities in the universe. Linguistic categories include, in this view, a set of necessary and sufficient conditions (along with other more specific conditions), corresponding to properties of the real entities in the universe. This is an extreme statement of the position – presumably nobody would actually claim to hold this, particularly when faced with clear counter-examples, as discussed presently. But the point is that the position is never ordinarily discussed; it is, rather, an absolute presupposition of the generativist approach.

One of the first cracks in this conventional position was made by Ludwig Wittgenstein. In his Philosophical Investigations (1953), he considered the example of 'game'. If objectivism is true, then all games ought to share a common core of meaning; there should be some defining conditions shared by all games. Wittgenstein pointed out that this simply was not the case. Look at games: there are no kinds of movement, no types of equipment, no purposes, which are common to all games, and which distinguish them from non-games. Wittgenstein commented that the best way he could think of for describing this shifting and changing set of relationships, lacking a common core, was 'family resemblances'. Members of a family may resemble each other in a host of different ways, and no feature or set of features will necessarily be common to all (though there may be dominant features, like the 'Hapsburg nose', for example). There is, in other words, a whole series of family
features, and each member has a subset from this set, without any of the individual features being obligatory. Family resemblances, being genetic, are in the world, of course, or at least in our representation of it: the Hapsburg nose is a very palpable feature of the Hapsburg face. But no Hapsburg face is exactly like another; no Hapsburg nose, come to that, is exactly like another. So we are left with resemblances, rather than precisely defined category-members.

Categories are themselves human artefacts. Human beings make categories, and they make the categories they need according to the requirements of the culture they live in. So different cultures make different categories. Of course, we all know that: as soon as you start learning a foreign language, you discover that the categories are different, very often, in that different things are grouped together.

For example, the Dutch word *koper* means a metal of some kind, but what is it in English? Most Dutch speakers will answer: *copper*. But this is not in fact necessarily correct. If you ask what colour this metal is, Dutch speakers will say that there are two colours of copper, yellow or red. So, in fact, this is not one, but two metals. Actually, *koper* corresponds to two words in English: one is *brass*, which is the yellow one, and *copper* is the red one. So if you just translate *koper* as *copper*, you will be right about half of the time. On objectivist assumptions, though, categories reflect the world. So is the world Dutch or English in the case of *koper* ~ *copper*/brass?

The problems for objectivism are not just in the area of Semantics, as American structuralists and generativists have always felt (both Bloomfield and Chomsky tried to marginalise Semantics). They equally affect, for example, syntax, anaphora, suprasegmental phenomena – areas which are normally considered part of the very heartland of Generativist Linguistics – since all of these areas are founded on the notion of classical, objectivist categories.

Cognitive linguists, though, say that language and thought are founded not on timeless categories made up of necessary and sufficient conditions existing independently of humans, but rather on human experience. Thus our view of the world and the things (categories) it contains, is founded on the way we humans interact with the world. Eleanor Rosch was perhaps, in practical terms, the pioneer of this notion in the early and mid-1970s. Among her seminal articles are Rosch (1973, 1975, 1978). Reviews of her work may be found in Lakoff (1987a), Taylor (1989).
Rosch herself is a psychologist rather than a linguist, working in the psychological tradition of experimental testing of hypotheses. She set out to test the classical, objectivist notion of a category as a concept consisting of necessary and sufficient features. She asked her subjects to rate certain kinds of object as to whether they were good examples of the category they belonged to, and to what extent. For instance, was a chair or a bookcase or a television-set a good example of the category furniture? Such a question, note, is not even conceivable, given objectivist assumptions; belonging to a category in the classical theory does not allow degrees of membership. But the results Rosch obtained showed that, psychologically at least, it made sense to rate entities this way. In the above example, chair and table are uniformly rated as central examples of furniture, bookcase considerably less so, and television rather peripherally.\(^{15}\)

This variability in response to different members of the same category has come to be called a **prototype effect**; central members of a category would then constitute its **prototypes**. Furthermore, cutting across the hierarchy thus revealed was another important distinction: it was found that the degree of specificity was also significant: an item like *chair* happens to be prototypical, but it is also perceived in a much more unified way than a term such as *furniture* or *artefact* or *entity*: humans interact with chairs using a certain fairly well-defined set of movements, can name the parts of chairs, can visualise their general outlines, and so on. At the same time, our response to more specific terms such as *pew* or *throne* is much more differentiated, in that to identify these, we have to scan them for very precise details. This is distinct from the prototype effects for the category at large. Thus, a peripheral item in the category furniture – *telephone*, for example – might certainly be just as unified as a central member, and might also have more specified sub-types (*walkie-talkie, cellphone*), despite its peripherality. Rosch called these three levels of specificity **superordinate** (e.g. furniture), **basic** (e.g. *chair, telephone*) and **subordinate** (e.g. *throne, walkie-talkie*).

There are nevertheless problems with this classification: natural kinds seem to provide a different kind of hierarchical division than man-made objects. Natural kind terms seem to require several more levels: life-form, family, genus, species, sub-species/breed. Thus, with mammals, basic level seems to correlate with genus (*cow, tiger, fox*, etc.), whereas for plants, reptiles, birds and fish (with some exceptions) the correlation is with life-form or family (*bush, lizard,*
bird, fish) rather than with genus (buddleia, gecko, sparrow, bream). However, these observations are culturally restricted – in this instance, to Western urban society.\textsuperscript{16} Other cultures, e.g. the Tzeltal (cf. Lakoff 1987a: 32 ff.) and even rural populations or gardeners in our own society, have for good experientialist reasons formed a basic level for certain classes of objects which is more specific, but not overdetailed (e.g. for the Tzeltal, not the life-form level tree, or the species level sugar maple, but the genus level, oak, maple, pine, etc.).

At first, Rosch herself and many others assumed that her results revealed both the actual structure of categories, viz. probabilistic sets of central members and increasingly peripheral members, and that prototypes themselves constituted the mental representation for the category as a whole. She later abandoned this construction (see especially her 1978 paper, and the documentation in Lakoff (1987a: 42 ff.)), on the grounds that it was an unwarranted conclusion from her findings. Nevertheless, other scholars continue to assume that prototypicality reveals actual category structure (e.g. notably, Taylor 1989: ch. 4).

2.1.4 Concepts and approaches in Cognitive Linguistics

In terms of concentration, there are two main ‘schools’ of Cognitive Linguistics at the moment: the ‘San Diego school’, led by Ronald Langacker, and the ‘Berkeley school’ (or perhaps, rather, schools) of George Lakoff, Charles Fillmore, Paul Kay and others. There is no unified approach; nor is there complete unity of principles; what the scholars working in this area share is a commitment to the goals and general methodology described above. I will now give the merest indication of the work being carried out by a handful of these people: Fillmore’s work on Frame Semantics (1982, 1985), the ‘Cognitive Grammar’ (earlier ‘Space Grammar’) of Langacker (1987a, 1987b, 1991), Lakoff’s work on metaphor (Lakoff and Johnson 1980), and Berkeley ‘Construction Grammar’ (Lakoff 1987a; Fillmore 1988; Fillmore, Kay and O’Connor 1988; Kay and Fillmore 1994).

Frames

Fillmore has been working on the concept of the semantic frame since the mid-1970s. Since this is a notion which plays a role in most of the other work I have mentioned, I will take it as
conceptually prior. I will be returning to a more extensive discussion of the notion in Chapter 4, so for now I will limit myself to a brief presentation. A frame is a sort of ‘experience space’. What I mean by that is that frames represent the distilled experiences of the individual and the speech community, centring on specific linguistic expressions. A linguistic expression, such as a word (and the bulk of Fillmore’s work has been at the lexical level\(^7\)), will evoke the whole range of experience which that item is normally involved in. The same item may be used outside the frame, or non-centrally within the frame, but these will then be non-prototypical or peripheral uses. Fillmore’s own definition (1982: 111–12) runs as follows:

any system of concepts related in such a way that to understand any one of them you have to understand the whole structure in which it fits; when one of the things in such a structure is introduced into a text, or into a conversation, all of the others are automatically made available. [...] words represent categories of experience, and each of these categories is underlain by a motivating situation occurring against a background of knowledge and experience.

### Cognitive Grammar

Langacker’s Cognitive Grammar uses the **image-schema** as its fundamental link between cognition and language. It is schematic in the sense that for the language of physical experience it is **iconic**, whereas with non-physical language it bears a **figurative** or **symbolic** relationship. An image-schema operates within a **space** which corresponds to the notion of a **basic representational domain** (cf. Fauconnier 1985); (Langacker 1987a: 150) compares this to the ICM of Lakoff. We may think of it as the ‘domain of attention’ for that particular piece of language. Within this space, the image-schema maps a relationship between a **trajector** (tr) and one or more **landmarks** (lm), corresponding, roughly, to nouns. We may think of them as, respectively, moving objects (both literally and metaphorically moving) and background elements. Semantically, though, they are **nominal predications** (designating things). **Relational predications**, on the other hand, may be either **atemporal** or **processual** – they correspond to verbs, adjectives, prepositions, etc. Some domains are based on more abstract spaces: an example would be the cognitive model of canonical action (1987c: 383), in which there is:
energetic interaction of discrete, mobile participants within a stable and inclusive setting, any fragment of which can be regarded as a location [. . .] In a canonical action, participant interactions assume the form of an action chain leading from an agentive energy source, through a possible intermediary with instrumental function, to an energy sink which undergoes a resultant change of state.

Such a frame may be realised prototypically, in which case there is an agent functioning as grammatical subject; the 'energy sink', or patient role, functions as direct object, and there are a number of non-central participants functioning as various oblique preposition-phrases and the like. Non-prototypical cases depart from this scenario to the extent they diverge from the notion of an agent-directed energy-flow. Thus (1a) is prototypical, while (b)–(d) are less and less so:

1. (a) In the kitchen, Seymour sliced a salami on the counter with a knife.
   (b) The wind blew the leaves about.
   (c) Joey saw a comet last night.
   (d) Line A intersects line B.

The work of George Lakoff also makes use of the notion of image schemas, but only as one of a set of mappings from cognition to language. Where Langacker is more concerned with a detailed characterisation of the cognition–language interface, Lakoff pays more attention to the philosophical implications of the approach.

Metaphor

Lakoff (1982, 1987a) shows that categories may be a variety of different kinds (he distinguishes eleven). These include radial and image schematic categories, as well as the classical type. Underlying categories are frames, or Idealized Cognitive Models, as Lakoff calls them. A metaphor essentially involves the mapping of one frame, usually physical, onto another, usually non-physical: it therefore allows a non-physical state of affairs to be understood in terms of a physical one. See section 11.1 below for a more extended discussion.

Construction Grammar

Construction Grammar refers to a range of approaches to grammar which define it in terms of the parallel syntactic, semantic and
pragmatic relationships linking constructions to one another. It is important to note that no special weighting is considered to exist *a priori* among syntactic, semantic or pragmatic information, nor is it accepted that any one of these areas of attention can function independently of the rest. Here is Fillmore's description of this approach (1988: 54):

... we treat grammatical constructions as syntactic patterns which can fit into each other, impose conditions on each other, and inherit properties from each other. Grammatical constructions define positions which require or welcome fillers with certain properties, and fillers of those positions can introduce constructions of their own and can impose requirements of their own on positions within the constructions which contain them.

Fillmore is here concentrating largely on syntactic connections, but in a paper which he co-authored (Fillmore, Kay and O'Connor 1988: 534), a broader viewpoint is maintained:

... a large part of a language user's competence is to be described as a repertory of clusters of information including, simultaneously, morpho-syntactic patterns, semantic interpretation principles to which these are dedicated, and, in many cases, specific pragmatic functions in whose service they exist.

For the kind of work being carried out within this approach, see: Kay and Fillmore (1994) on *What is X doing Y?* constructions; Lakoff (1987a: 462–585), a lengthy study of *there*-constructions;¹⁹ and Goldberg (1995), which, among others, examines ditransitives, causatives of various kinds and resultatives.

2.1.5 Some questions about Cognitive Linguistics

These different approaches to, or aspects of, Cognitive Linguistics raise two questions: (i) to what extent do they really contribute to the same objectives?; (ii) are there any areas of linguistic conceptualisation they do not cover? I can answer these questions rather simply: one of the features which all the approaches I have cited have in common is the frame (ICM, cognitive model). At the same time the notion of the frame is very unclear. Conversely, though all the scholars I have cited also work with syntactic data, Langacker bases his approach entirely on image-schemas, Fillmore and Kay work with a machinery of complex symbols, while Lakoff uses sets of postulates. Perhaps these are just notational variants of one another, but that remains to be investigated.
My second question also has a simple answer, not unconnected with the theme of this book. What appears to be lacking in the work I have been describing is an account of knowledge structure and of discourse context. Frames are supposed somehow to reflect knowledge structure, but in the practice of the cognitive linguists I have cited, this relationship is by no means clear – for two reasons. The first is the vagueness of the notion of frame itself, already commented on above. The second is that no attempt has been made in Cognitive Linguistics (unlike in AI) to characterise knowledge structure, so that even if we had a defined notion of frame, we could not relate it in any systematic way to knowledge structure. Langacker (1987a: 87), for example, mentions that semantic units are defined relative to knowledge structures, and that the latter can be analysed to whatever level of delicacy is required, but offers no methodology for doing this.

As far as a theory of discourse, or of context, is concerned, this is something which all these scholars, as well as people working in the generative tradition, mention as the repository of a good many answers to currently unsolved problems. Like democracy, discourse is universally assumed to be a Good Thing, but as also with democracy, very few are prepared to go out of their way to approach it. Indeed, even those who apply experientialist ideas most consistently tend to avoid direct confrontation with the horrors of context. For example, Langacker (1987a: 37 f.) is critical of autonomous syntax accounts in which such facts are ‘downplayed, ignored, or left for other components to handle in unspecified ways’, but immediately goes on to say that he offers no detailed analysis of contextual data himself, claiming only that they are ‘quite in line with the expectations engendered by cognitive grammar’. I will therefore try to repair this hiatus somewhat, by first discussing Text Linguistics, and how it should profitably be combined with a cognitive approach, and then the question of knowledge, which I will return to at greater length in Chapter 4.

2.2 Text Linguistics

Let me at this point redraw the distinction I drew earlier (section 1.1) between the terms ‘text’ and ‘discourse’, based on context. Thus a text consists of the language itself, without taking into account the surrounding context. A discourse, however, is a language event: it is the language together with the context which supports it.
Our ability to produce and understand texts has two main sources:

(i) formal \textit{textual signals} of various kinds, which show the textual function of the expression they are joined to;

(ii) \textit{semantic connections} of various kinds, which relate expressions both to each other and to the \textit{world} which forms the background for the text.

\textbf{Textual signals} (i) can signal:

(a) where in a text we are (e.g. \textit{firstly}, \textit{to conclude}, \textit{above}, \textit{the latter});
(b) which entity we are referring to (e.g. \textit{one}, \textit{this}, \textit{such a}, \textit{they});
(c) relationships between sentences (or, more strictly, propositions) (e.g. \textit{however}, \textit{moreover}, \textit{therefore}, \textit{but}, \textit{yet});
(d) relationships between the speaker and what he or she is saying (e.g. \textit{personally}, \textit{frankly}, \textit{actually}, \textit{from a historical perspective}).

\textbf{Semantic connections} (ii) are based on:

(a) the \textit{sense} of the words;
(b) their \textit{reference} to the world built up by the text (the entities involved, and the actions, states, processes and relationships they enter into);
(c) the \textit{world} of the text itself. This world is gradually specified by the ongoing discourse, and is constructed out of the combined \textit{general knowledge} of the speakers.

A \textbf{discourse} is, then, a combination of a \textbf{text} and its relevant \textbf{context}. Each discourse participant goes into a discourse-event with a certain amount of knowledge \([K]^{21}\) the propositions constituting his/her knowledge-base. Which of these propositions count as ‘relevant’ in the context is defined by the text, in this sense: the text itself consists of a set of propositions \([P]\). But these propositions have many notional links with other propositions which are unexpressed, but nevertheless present. Some of them \([P_E]\) are more or less directly connected with the expressed propositions as entailments. Others \([P_K]\), probably the majority, are pragmatically connected in that they relate the propositions actually expressed \([P]\) to speaker and hearer knowledge, \([K_S]\) and \([K_H]\). All of these notional links constitute, at the start of the discourse, areas of ‘potential relevance’ to the propositions of the text, and as the text proceeds, some of these areas are actually activated by the
text, while others are not activated. For the listener, the whole process is text-driven, while for the speaker, the discourse is the sole means by which the context he or she wishes to construct may be conveyed.

Given that in conversational discourse the function of the speaker typically alternates between the participants, we can see that the context in such a case is being jointly negotiated by the participants. This is still the case even in monologues and in written discourse: since any set of propositions 'put forward' by the producer has even then to pass through the filter of the recipient's knowledge, we may assume that there, too, an important element of 'negotiation' – albeit rather more private – is taking place.

The set of propositions actually expressed \( \{P\} \) contains a subset of deictic terms \( \{D\} \), denoting place, time, relationships with the speakers, nominated entities and knowledge relating to all of these categories. This deictic subset corresponds to what I have called the text world, and it defines the conceptual space into which the discourse refers. The set \( \{P\} \) of expressed propositions, together with their entailed propositions \( \{P_f\} \) and the propositions they activate \( \{P_k\} \) from the potentially relevant propositions in knowledge \( \{K\} \), all of these together constitute the Common Ground of the discourse. Thus the Common Ground (henceforth: CG) is equivalent to the set of actually relevant propositions in that discourse (see also 5.4.2 below).

The propositions expressed refer to, though they do not necessarily completely define, the situations which constitute the foreground of the text. A situation is a complex unit made up of entities in relationships; it takes its deictic framework from the context (specifically, the text world), although it may contain further deictic elements which serve to fine-tune the general orientation provided by the text world (notably such elements as tense, aspect and modality: see Chapter 7). The situations thus explicitly expressed must necessarily be 'possible situations' in the text world of the discourse: this means that they must at least be 'consistent with' the propositions defining that text world, but also, and more strongly, they must cohere with those propositions. The requirement of coherence is assured by a coherence constraint (cf. van Dijk 1972: 128 ff.; Werth 1984: 89 ff.), the reflex of which is information-flow. Information-flow regulates such surface-structure phenomena as constituent-order and sentence-stress (see Werth 1984).

The active context, then, together with the propositions making up the foregoing text constitute the CG, which is therefore defined as:
Common Ground (definition):

(i) at any given point in the current discourse, all those propositions which have been expressed and tacitly accepted\(^{29}\); together with:

(ii) any propositions evoked by (i) from general or mutual knowledge, though not necessarily expressed.

It follows from this that any possible information-unit P (where P may be any semantic element from a single semantic predicate to a whole text) may have just one of the following possible statuses:

(A) P is in CG, or
(B) P is not in CG, but is:

either (i) coherent with CG, in which case P is:

- either (a) a conventional assertion, and is incremented into CG with the normal conditions;
- or (b) an unconventional assertion, incremented relative to its propositional/attitudinal context;

or (ii) incoherent with CG, in which case P is:

- either (a) rejected as irrelevant;
- or (b) interpreted as a conversational implicature, and incremented as metaphorical, ironic, etc.

(A) is the case of all backgrounded information, including 'presuppositions' (but see Werth 1986, Werth 1993a, and Chapter 9 below). (B) covers all other information, both relevant in whatever way, and irrelevant. The distinctions (Bi) vs (Bii) and (a) vs (b) require a concept of coherence which is able to distinguish between semantic coherence (based on propositional content in CG and entailments thereof – i.e. not merely textual propositions) and pragmatic coherence (based on conversational implicature, matching of speech-act pairs, and other considerations).

2.3 Principles of discourse

Assuming that discourses are mutual attempts to negotiate a CG, such interactions are regulated by a set of meta-principles:

Discourse meta-principles:

(i) Communicativeness (informativeness): discourses should normally be assumed to be purposive, and to be efficient in prosecuting their purposes, unless there is evidence to the contrary.
(ii) **Coherence** (which subsumes ‘relevance’, cf. Werth (1981a)): except in pathological cases, entities, events and propositions are not introduced into the Common Ground superfluously. I might add that, *pace* Gazdar (1979), it is possible to introduce inconsistent propositions, providing (i) they cohere (are relevant), and (ii) they are also marked by one of the large number of disjunctive elements (*however, moreover, on the other hand*, etc.).

(iii) **Co-operativeness** (responsibility, authoritativeness and reliability): the participants in a discourse tacitly agree to jointly negotiate a CG as efficiently as is consistent with the other principles. Part of this efficiency comes from a joint understanding of the role of each entity in the CG, including the assignment of *responsibility* (e.g. in agenthood) and *authoritativeness* (e.g. in modality, propositional attitude and truth-assessment). These may be combined into an assessment of *propositional reliability* (see Chapter 5 on ‘authority’).

### 2.4 Cognitive Discourse Grammar

According to the distinction made earlier between ‘text’ and ‘discourse’, it is the latter term which is more appropriate to our present enterprise. A text grammar would have to confine itself to *verbal* output only. Any full explanation of human language has to take the context, both verbal and situational, of any language event in that language into account. I therefore propose that we dub such an undertaking Cognitive Discourse Grammar (CDG).

Let me now indicate what such a grammar should look like. What CDG essentially requires is for language to be viewed as a *phenomenon intimately bound up with human experience*. This is the fundamental principle of Cognitive Linguistics and of the new research programme which I am advocating, a programme which has the Chomskyan paradigm as its ultimate ancestor, but which deviates from it on the crucial issues of methodology and coverage. It therefore takes its basic data to be *discourses* rather than *sentences*, and it takes these to reflect certain *cognitive* rather than *abstract* systems (cf. Langacker 1987a, Lakoff 1987a, and section 2.1 above).

I will therefore show that a discourse is not merely a randomly generated series of sentences, but that it represents:
Discourse (definition):
A deliberate and joint effort on the part of a producer and recipients to build up a ‘world’ within which the propositions advanced are coherent and make complete sense.

It is deliberate in the sense that discourses, whether of the prototypical face-to-face variety or in the case of a writer writing for an unknown audience, are consciously engaged in: discourses are initiated purposefully (the meta-principle of communicativeness). This therefore excludes marginal cases like ‘automatic writing’ and ‘talking in one’s sleep’. It is joint because, even in those cases where the production of the discourse is done alone, the audience’s contribution is crucial. This contrasts with the assumption that the producer holds all the cards, and that the recipient merely passively processes the language which comes his or her way. Propositions are coherent if they fit their context; participants endeavour to process utterances in such a way that the propositional information they contain bears upon the information already present (the Common Ground). Finally, these propositions must make complete sense within the discourse. This means that they must be deictically anchored, i.e. they must refer into the world depicted by the discourse. I will show that in order to do all these things, participants need to be able to represent the notion of ‘conceptual background’ – which I call the text world (cf. van Dijk 1977; Werth 1984):

Text world (definition):
A text world is a deictic space, defined initially by the discourse itself, and specifically by the deictic and referential elements in it.

This has similarities with the concepts of ‘mental space’ (Fauconnier 1985), ‘frame’ (Fillmore 1985) and ‘idealised cognitive model’ (Lakoff 1987a) – for more detailed discussion, see Chapter 3. Deictic and referential elements are given by the discourse, and they specify such things as place and time details, the persons and objects present in this world, with their properties and interrelationships. These various elements, in their turn, activate frames: areas of memory which relate to areas of experience and knowledge encoded as complex conceptual structures. Thus a text world is specially generated ad hoc for its particular discourse; it activates further generalised situation-types which are stored frames, and which operate to ‘flesh out’ the indications contained in the discourse. In Chapter 4 below, it is suggested that frames are built up out of the repetition of ‘similar’ text worlds.
2.5 Cognitive Discourse Grammar: an illustration

The beginning of a story is particularly useful in my exposition since it is here that we can actually see the text world beginning to build up. Here is the beginning of a Hemingway short story entitled ‘The doctor and the doctor’s wife’.

1. Dick Boulton came from the Indian camp to cut up logs for Nick’s father. He brought his son Eddy, and another Indian named Billy Tabeshaw with him. They came in through the back gate out of the woods, Eddy carrying the long cross-cut saw. It flopped over his shoulder, and made a musical sound as he walked. Billy Tabeshaw carried two big cant-hooks. Dick had three axes under his arm.

He turned and shut the gate. The others went on ahead of him down to the lake shore where the logs were buried.

(Hemingway 1926/1964: 283)

Consider how the reader of this text comes to form an idea of the world which it depicts. He or she must separate that information which is plot-advancing from that which is world-defining. Let us first consider the latter. It consists of deictic and referential information:

World-defining elements:

(i) deictic information defines spatial and temporal relationships as clustering around a notional zero-point (which may represent the speaker’s viewpoint or that of some other entity);

(ii) referential information specifies the entities present in the text world together with their properties and interrelationships.

All the world-defining information in text (1) is listed in (2).

<table>
<thead>
<tr>
<th>Referential</th>
<th>Deictic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Dick Boulton</td>
<td>7: the back gate from (2)</td>
</tr>
<tr>
<td>2: the Indian Camp</td>
<td>8: the wood in(to) Ø</td>
</tr>
<tr>
<td>3: logs</td>
<td>9: the long, cross-cut saw through (7)</td>
</tr>
<tr>
<td>4: Nick’s father</td>
<td>10: two big cant-hooks out of (8)</td>
</tr>
<tr>
<td>5: his son, Eddy</td>
<td>11: three axes down to (12)</td>
</tr>
<tr>
<td>6: Billy Tabeshaw</td>
<td>12: the lake shore (3) BE at (12)</td>
</tr>
</tbody>
</table>

The deictic information establishes the place, time and deployment of the text world – or at least as far as the purposes of the participants require – while the referential items establish which entities are present. However, the latter have a second and very important function: that of evoking frames. The frame of a proper name like Dick Boulton does not give us a great deal of specific information
(only certain proper names are frame-forming, such as *Freud* or *Elvis*), but it does permit us to infer certain generalisations, such as that the bearer of the name is most likely male. *Indian* and *camp* in collocation, on the other hand, do have rich frame properties which inform our understanding of the text. *Indian* (in the relevant sense) carries an elaborate framework of information about Native American culture. Camp, similarly, occurs in a rather rich frame involving tents, outdoor living, fires, countryside, etc. The overlap of the two frames specialises the latter to *wigwams* or *tepees*, *buffalo skins*, *squaws*, *papous*, etc. (For the notion of frame-overlap, see Werth, 1997a.) We might think of this frame knowledge as providing the necessary background knowledge for ‘filling in’ or ‘enriching’ the bare references, or sometimes resolving ambiguity or vagueness. See Chapter 4 for more discussion of knowledge frames.

We can represent this information graphically. Like any text world, that of the Hemingway text may be represented as a blank space which gradually gets filled in and defined as one reads through it (Figure 2.1). Here, as in Chapter 1, I have used a largely pictorial representation. However, in later chapters, I will principally use language rather than pictures to symbolise the contents of worlds. The rectangle in Figure 2.1 represents the initial space, gradually specified for the deictic and referential elements given by the discourse (cf. section 1.1). The Indian camp is seen as a particular location with the woods around it – or at least between it and the gate. We can also place the gate itself and the lake shore. I have also indicated some of the frames that help to provide background knowledge.26

We can also trace the path (path a, given as (3)) taken by the characters in this world, including its source, its destination and other landmarks. (Note: it is more or less identical with the list of deictic elements in (2).)

3. Path a = From Indian camp; out-of woods; through gate;
   in(to) Ø; down-to lake shore.

As the discourse proceeds, the picture may be augmented or modified. Take, for example, the item *logs*, marked as (3) in list (2). In conventional logic, this is a ‘non-referential’ item, since nothing in its particular sentence/proposition guarantees the existence of any logs. It could be that no such logs exist in this particular world. But that conclusion would be based on the most restricted viewpoint possible. In our text, *logs* occurs as part of a purpose clause: this means that for Dick Boulton (the eventual
GATE
Where: wall or fence
Why: to enclose land
Function: entrance
Mechanism: hinges, handle, lock, key...

Indian camp
woods
reservation tepees
hunting
squaws
Cultural details etc.
INDIAN

CAMP
tents

LOG
Tree, wood, branch
Use: building, fires, railway-sleepers
Yule log, lumberjack, raft, cabin

Dick
Eddy
Billy

lake shore

Figure 2.1
agent of that clause) logs must exist in some sense in his mind, since his actions in the text world have only been undertaken on the premise that there exist logs to cut up. Notice that this means treating ‘Dick Boulton’ not as a mere token having certain grammatical and semantic functions in the abstract structure of the sentence, but instead as a fully operational *person* having purposes, mental representations and rationality within the world of the text. Given this premise for the character, then the reader must also assume, until given evidence to the contrary, that the logs exist.

Figure 2.1 represents the text world built up to the point reached by the text in (1). An earlier stage, however – say, just after the first sentence – would look rather different (Figure 2.2).

![Diagram of text world](image)

**Figure 2.2**

Thus, what is merely a component of an unconfirmed intention in a character’s mind at the beginning of our text, later becomes a nominated entity in the main text world. This unconfirmed intention is represented in Figure 2.2 as a *projection* (rather in the cinematic sense of the word). This will be the general mode of representation, in fact, for *sub-worlds* of all kinds (I will explore the properties of sub-worlds particularly in Chapter 8).
From the above discussion, we can see that within the text world, which is 'externally' specified by the discourse, there also exist **mental worlds**, which are 'internally' specified by the characters. These are also expressed in the discourse – but the significant point is that they have a different status from the propositions denoting the text world, since in the text world’s own terms, they are 'unreal' in some specific way. This status of 'irrealis' is traditionally recognised as leading to problems of referentiality, opacity, projectional, etc. (cf. Werth 1986, 1988a, 1993a and Chapter 9 below; see also Fauconnier 1985: Chapter 3). The belief-worlds of the characters may turn out to be consistent with the main text world, contradict it, or even be logically incompatible with it. In this story, the existence of the logs in the main text world is confirmed seven sentences later. We will presently see (Chapter 8) that there are other kinds of sub-world in addition to those of belief.

**Logs** is one of the few **indefinites** in the text. Indefinites have a variety of functions, the most common being the introduction of elements into the text world (see Chapter 6). This function is represented here by *two cant-hooks* and *three axes*; if later reference to these items were to follow, it would be with **definites**: *the cant-hooks*, etc. But by far the greatest proportion of noun phrases in the text have a definite article right from the start: *the Indian camp, the woods, the back gate, the lake shore*, etc. These are not established in the usual way, with an indefinite article, but are immediately definite, as though already established in the story (the so-called *in medias res* reading). This is actually the first time we have encountered the Indian camp or the back gate, but since their presence in the text world is presented as an unremarkable fact, we can assume that they are to be regarded as part of the expected background.

This phenomenon has been called **accommodation** by David Lewis (1979). It is a very common device in fiction, where it is used to introduce new information without fanfare, a useful possibility. It is also perfectly normal in ordinary language, whenever new information has to be presented deictically, as part of the background, rather than propositionally, and thus plot-advancing. See Werth (1993a) and below, section 9.3, for further discussion.

We have already seen that deixis is of central importance in the establishment of the conceptual landscape against which the plot-advancing propositions operate. These propositions are listed in (4) below. They introduce new information by asserting it, rather than by the back-door method of accommodation. See Chapter 7
for discussion of propositions in general and plot-advancing propositions in particular. The latter will subsequently be called by the more general term ‘function-advancing’.

4. 1: Dick Boulton came-along path a
2: 1 had purpose 3
3: Dick Boulton (was-to) cut-up logs
4: 3 was for Nick’s father
5: Dick Boulton brought Eddy and Billy Tabeshaw
6: Dick Boulton, Eddy and Billy Tabeshaw came-in
7: Eddy carried the saw
8: The saw flopped-over Eddy’s shoulder
9: The saw made a sound
10: 11 occurred as Eddy walked
11: Billy Tabeshaw carried two hooks
12: Dick had three axes
13: Dick turned
14: Dick shut the gate
15: The others went-down path a

Before we leave the machinery of deixis, I should mention the notion of the deictic zero-point, marked with a Ø in Figure 2.1. Imagine the scene depicted on film. Then, the deictic zero-point would be roughly equivalent to the position of the camera. Here, it represents the position of the authorial observer. The linguistic reality of the notion is demonstrated by the fact that even in this small fragment, the verbs are arranged deictically around this point: notice that the action is coming and bringing up to the zero-point, but going down from the zero-point (and would be taking rather than bringing, if this action were mentioned again). As readers, we mentally take up the position of the narrator at the deictic zero-point, and thus we see the characters approaching our vantage-point and then retreating from it.

Let us now look at the processes of interpretation. Apart from propositional decoding, which we will look at in Chapter 7, the most central of these is inference: I want to mention just two types of inference, at this stage. The first kind is what logicians conventionally mean by the term, namely a certain kind of logical relationship between propositions. Since this is strictly bound to logical deduction, we can call this the deductive inference. For example, if Billy Tabeshaw is another Indian, then we may logically infer that there are at least two Indians in this world, of whom Billy Tabeshaw is one. But deductive inference is too limited to tell us who the other Indian(s) might be. This brings us to the second type, which
has been called abductive (Peirce 1940; Anttila 1972; Andersen 1973). Abductive inference is based on presumed connections rather than strict entailments. Abduction crucially relies on what is often called ‘world knowledge’. It is a process of ‘folk reasoning’ based on incomplete and intuitive connections that allow us to conclude, for example, that the other Indian apart from Billy Tabeshaw must be either Dick or Eddy (and in fact both of them, since if either one of them is an Indian, given the fact that they are father and son, both must be). This conclusion is strengthened, but in no logical sense confirmed, by the fact that they have all come from the Indian camp.

These processes crucially depend on the fact that none of these entities is just a meaning-free token – every entity has a conceptual value by virtue of its appearance in one or more frames. Consider the back gate, for example, an indication of whose frame has been given in Figure 2.1: a gate is a certain type of object, but more significantly, it forms part of a larger entity in which it has a certain function. Gates do not occur except in fences or walls; fences and walls do not normally occur without land to separate or enclose; this in turn leads us to infer certain kinds of legal and social system. We may therefore abductively infer from the presence of such a barrier that the Indians are either entering protected territory or leaving it. We may surmise that it is more likely that the protection is for white property – the facts that it is the back gate and that it is outside the woods also help to suggest this. But this is all based on our knowledge of the world in general, and American social and cultural realities in particular. Notably, nothing in the text tells us any of this.

There is a third important kind of inference based on metaphor (see Chapter 11 for further discussion). Here is just a taste of the kind of inference this leads to. There is little overt metaphor in this text, and indeed Hemingway is usually acknowledged to be one of the most prosaic and non-metaphorical of writers. Nevertheless, there is a conceptual undercurrent to his work which partakes of the deeper sense of metaphor we will be distinguishing. Text (1) seems straightforwardly descriptive, using only directly spatial deictics. But consider: they came in through the back gate out of the woods. In and out are spatial deictics used of containers. The container is an important and widespread image in language: here, the path leads from one container, the woods, to another, the enclosure with the gate in it. The gate is presented as a special sort of container, a conduit or tube, which is passed through. It would
seem, further, that these two containers contain different worlds: the first contains the Indian camp and the second, presumably, is the white man's world of Nick and his father. In going through, rather than just in, the gate, the Indians are not merely entering the enclosure, rather, they are passing from one container to another. Thus the underlying metaphor reveals that the text world contains further, mutually exclusive, sub-worlds – in this case, because the items in and out form a mutually exclusive pair.

Figure 2.3 shows the two metaphorical sub-worlds as distinct spaces, joined by the gate-conduit. They correspond to a conceptual distinction representing a tacit division of the terrain itself into 'spheres of influence', which would be well known to any local inhabitant.

![Diagram of INDIANS' WORLD and WHITE MAN'S WORLD](image)

**Figure 2.3**

We may compare these metaphorically based sub-worlds with the belief-worlds of the characters in the text. The former are entailments of the metaphorical frames established by the spatial frames in the text. The latter are the contents of mental space frames triggered by such text elements as the predicates believe or want, or entailed by, e.g., purpose clauses or conditional clauses (cf. Fauconnier 1985 on 'space builders').
The rest of the story confirms that these deductions, abductions and metaphorical inferences are correct. Nick's father is white, and is the doctor of the title and the owner of the enclosure. Dick and Eddy are Indians from the Indian camp, along with Billy. The story concerns an argument between the white doctor and the Indians he has asked to cut up logs for him. This clash of cultural values suggests that the two worlds which our analysis has revealed constitute a deep conceptual distinction in the story. I did not set out to establish this; but in a cognitive approach, it is not at all surprising to find that human conceptual systems have layers of significance at different levels.

Before we go on to characterise the philosophical distinction between this more human approach to Linguistics and the assumptions underlying current practice in Generative Linguistics and formal Semantics (which, following Lakoff, I have been calling the objectivist viewpoint), it is important to spell out what the above analysis accomplishes that is so different from objectivist viewpoint analyses. For it may with some justice be argued that my analysis does not directly challenge any objectivist approach, since its level, its concerns, and what it assumes as data are all completely distinct from objectivist interests. This is superficially true. It seems to be concerned with a different area of data, with which the earlier theory does not concern itself. However, the new possibilities of explanation which are afforded include the older area of data, and notably, provide deeper insights into parts of the old data which were problematical or mysterious in the objectivist theory.

The kind of analysis I have carried out here is based on the following principles, stated informally:

(i) It takes its point of departure to be discourses, rather than sentences.
(ii) It is concerned with human processes, rather than formal systems (specifically, it is embodied and experiential).
(iii) As a consequence of (ii), it is cognitive in its orientation, rather than semantic (in particular, it takes non-semantic types of inference seriously).
(iv) As a consequence of (iii), it is explicitly related to the human conceptual faculty (involving representation, knowledge, beliefs, assumptions).

In the ensuing discussion, we will see that these factors do indeed form part of a crucially different approach to the objectivist view, and that moreover the cognitivist approach will subsume the objectivist one, and provide superior analyses in probably all cases.
2.6 Objectivist Discourse Grammar

This discussion would not be complete without some account of non-cognitive discourse grammars. There are in fact plenty to choose from – just as most of Linguistics uncritically accepted the objectivist assumptions until comparatively recently, the same applies to Text Linguistics. So it is in fact more instructive to look at more recent offerings in the field, which appeared after the main outlines of Cognitive Linguistics had been mapped out. They were not necessarily written in explicit contradiction of the cognitive viewpoint, but they do at least form part of the contemporary debate.

I will, therefore, briefly look at two fairly recent and rather influential contributions to this field, both of which qualify as objectivist, Seuren (1985) and Kamp (1984).

2.6.1 Seuren’s Discourse Semantics

Seuren, in fact, could reasonably have been expected to have fully embraced the cognitive approach.\(^{27}\) An enthusiastic supporter of Generative Semantics in the 1970s (from which Cognitive Linguistics can clearly be said to be descended), and at one time proudly claiming to be the only generative semanticist still left,\(^{28}\) Seuren nevertheless uses an approach which, though not standardly truth-conditional, is still truth-conditional, and therefore objectivist. (See Werth 1989 also.)

Seuren’s main concern is to develop the machinery of discourse domains and subdomains (1985: 15 f.):

The mental machinery in question is conceived of as a cognitive store containing the accumulated contributions made by successive utterances in the course of a coherent discourse. The store contains substores (subdomains) containing the information provided in the course of a discourse on what some specified person or persons are said to believe, hope, regret, know, etc., or on what is said to be possible, necessary, probable, regrettable, or characterised by whatever intensional sentential predicate. The machinery of stores and substores, or domains and subdomains, as we shall call them henceforth, is thus used to account for the intensionality phenomena in language . . .

Discourse domains must, furthermore, be thought of as having open access to available stores of background knowledge and to available knowledge immediately derivable from the context of use.

For Seuren, domains are addresses, and an address \(d_i\) is ‘an information store regarding intended individuals in any bit of the world\(D\) might be applied to. The store is built up by what every
new asserted sentence in the discourse says about the intended individual referred to by d,' (p. 29). In practical terms, then, domains mark the presence of a referent in the discourse, and store all information explicitly relating to that referent. Unlike conventional possible worlds, they are text-driven and therefore economical in the sense that no entities are present in the domain that are not actually called up by the text. This text-driven property seems to me to be sensible – indeed, it is used extensively in the present book. But Seuren’s version is over-restrictive: texts quite habitually evoke entities not only by direct expression but also through various kinds of inferential connections.

A very important modification to the machinery of domains, particularly in the context of our discussion of opacity (Chapter 9 below), is the notion of subdomains. This is designed to handle intensionality phenomena such as belief-contexts. What we have been calling ‘domains’ (D) up to now, are henceforth to be known as ‘truth-domains’ (D’). Subdomains are defined in terms of their predicates, specifically those falling under ‘the entailing predicates (e.g. imply, entail, so, therefore, apparently), as well as the factive predicates, and epistemic necessity (must) [. . . ,] all thought-denoting predicates, epistemic possibility (may), or and if’ (p. 398). The problematical complements of these predicates are transferred into subdomains rather than simply incrementing into domains, like other propositions. Subdomains turn out to be a kind of ‘pending file’ in which information from the contexts mentioned above is placed because it is unverifiable – but crucially, this is only in the terms of the sentence in which it occurs. Seuren has accepted the projection problem as a problem and attempts to solve it by using a discourse grammar.

But if one starts out with discourse grammatical assumptions, there is no projection problem to begin with. As I argued above (section 2.4), any linguistic entity is, in any specific occurrence, either already in the Common Ground of the discourse or not. There are no other possibilities.

As we well know, individuals and even whole societies can cherish not only false beliefs, but in fact false knowledge, since in a generally unacknowledged sense, today’s false belief is often yesterday’s certain knowledge (cf. 4.5 below for a more extensive discussion of this vexed question). To motivate the cherished philosophical distinction between knowledge and belief, one has to assume a Godlike ability to distinguish between truth and falsehood (cf. Werth 1988a). Since we can only be certain of this distinction in analytical cases,
it follows that either true knowledge can only be of analytical truths, all else being belief, or else the philosophical assumptions about knowledge being factive have to be abandoned. My position is that we cannot know anything very much (certainly very little of practical value) in the strict philosophical truth-related sense. So we are predisposed to accept information, in whatever form it is presented, as true until proven otherwise. Seuren’s approach, on the other hand, has to assume that some information has no truth value until some further corroborating information comes along. See, further, Werth (1989).

Seuren’s approach is objectivist in two ways, and has a third surprising deficiency:

(i) He bases his Semantics on truth-conditionality (albeit of an unconventional variety). This means that his idea of verification has to call on omniscience, rather than human understanding.

(ii) His discourse domains are minimal worlds (as opposed to the rich worlds advocated here), containing semantic values and place-markers (predicates, variables). They therefore tie in with human knowledge systems highly ambiguously, if at all, being severely underdetermined.

(iii) His viewpoint, despite everything, remains sentence-based. In particular, he has no notion of Common Ground, and therefore no notion of coherence.

2.6.2 Kamp’s Discourse Representation Theory (DRT)

Despite the above title, and Kamp’s references throughout his 1984 paper to ‘discourse’, what he is actually dealing with is, in our terms, text, i.e. the verbal part only. Even so, there are times when he has to step outside this restriction, though he does not appear to view this as an inconsistency or a weakness. On p. 6, for example, he mentions ‘deictic’ pronouns, i.e. those whose antecedent is in the situation, and thus outside his self-imposed restriction. He refrains from treating these in the paper, preferring to concentrate instead on ‘anaphoric’ pronouns, i.e. those with a textual antecedent. Nevertheless, he explicitly equates the two types in that ‘both . . . select their referents from certain sets of antecedently available entities’. But he shows no sign of realising that a fundamentally different approach would be required to incorporate both deictic and anaphoric pronouns.
Like Seuren, Kamp sets up models 'typically with small finite domains' (p. 1). His models are also truth-conditional, though he claims to be reconciling the truth-conditional approach to meaning with the user-understanding approach. His claim appears to rest on the assumption that a systematic account of semantic representations is necessarily a human-understanding account, so that if he combines a truth-conditional approach with a representational approach, he will ipso facto have managed to produce a model which is both logically conventional and psychologically plausible. His assumption strikes me as naive, however: a semantic representation can very easily be a notational variant of a sequence of truth conditions. It is not representations as such which make an approach cognitive, but the fact that they are experiential objects rather than mathematical expressions (see section 1.4).

Like Gaul, Kamp's theory falls into three parts:

(i) a generative syntax (reminiscent of Montague syntax in the event, although he remarks that any generative syntax will do (1984: 4));
(ii) rules from syntax to representations; and
(iii) 'a definition of what it is for a map from the universe of a representation into that of a model to be a proper embedding, and, with that definition, a definition of truth' (1984: 4).

This last feature refers to Kamp's characterisation of truth (1984: 2):

A sentence S, or discourse D, with representation m is true in a model M if and only if M is compatible with m; and compatibility of M with m, we shall see, can be defined as the existence of a proper embedding of m into M, where a proper embedding is a map from the universe of m into that of M which, roughly speaking, preserves all the properties and relations which m specifies of the elements in its domain.

So, if m is the representation of a discourse, and M is a model of the world which the discourse is about, then the discourse is true if every element of m has an equivalent in M, and the properties of and relations between the elements are the same in m and M.

Nevertheless, Kamp's M's are minimal models (he calls them 'partial') which contain only the elements and relationships necessary to back up the explicit context of his texts. They do not even contain, that is to say, information about the setting and participants in the discourse, let alone their shared knowledge.
As we have seen above, a real theory of discourse must contain some way of referring to context. However, DRT appears not to be such a theory. Kamp’s only mechanism for interpreting the relationship between separate clauses is to look at the syntactic structure which unites them. But if that syntactic structure is ambiguous or non-existent, as in the majority of discourse connections, then the theory is helpless. Moreover, DRT is, for all its claims about semantic representations, a typical objectivist approach:

(i) its goal is truth-conditionality,
(ii) its models are minimal worlds inhabited by predicates and variables.

What it most emphatically does not model is human understanding: there is no place in it for participant roles, setting, background knowledge, purposes, even inferences. Human worlds, even imaginary ones, are inhabited by people, not variables. The contexts of human utterances are rich and nuanced, forging multiple connections with memory and text. Like Seuren’s domains, Kamp’s DRs sacrifice all human complexity in return for mathematical modellability, a Faustian bargain which discards the essential qualities of the medium they are attempting to elucidate.

Notes

1 Cf. Goldman (1986: 283): ‘intuitively, intelligence consists in a “raw” ability to learn or perform other cognitive feats’; Gazzaniga (1988: 71): ‘If intelligence is anything, it is [the] capacity to offer reasonable explanations [of unexpected situations].’

2 That the relationship between cognitive abilities and intelligence is not merely a simple matching is clearly shown in Smith and Tsimpli (1993), an account of the enhanced linguistic abilities of an ‘idiot savant’ with an IQ of around 56, although his verbal scores were much higher. For conflicting ideas on the relevance of such cases, see also Haukioja (1993a, b), Fromkin (1993).

3 As Glass et al. point out, many textbooks are organised along stage model lines. We may cite Neisser (1966), Lindsay and Norman (1977), Sanford (1985).

4 This, of course, leads to philosophical problems of circularity and ‘ghost in the machine’ arguments: if we have to explain intentionality in terms of some entity controlling the way in which the mind works, then we have to ask whether this entity is distinct from the mind, then, and if so, what controls the way in which it works – and so on, ad infinitum.

5 Martindale takes these from Rumelhart, Hinton and McClelland (1986).
In fact, this is an idealised definition. Many, perhaps most, AI programmes are not actually implemented on a computer, but rather are simply written within computational parameters, i.e. so as to be implementable.

7 See above: a form of computer made up in effect of a large number of very simple computers which tackle a complex task by splitting it up into a large number of simple tasks and processing them simultaneously. By varying the properties of the simple computers (actually chips), the complex can apparently 'learn' (but see Lachter and Bever (1988) for a critical review of this claim).

8 This was a self-imposed requirement from early on in AI – indeed, it is an automatic consequence of the Turing principle, discussed above.

9 It has sometimes been charged that there is very little about cognition as such in most so-called Cognitive Linguistics (e.g. T. Givón, p.c.). Nevertheless, while such work as Langacker (1987a) does not overtly refer to much cognitive psychology, his approach is nonetheless broadly compatible with that work.

10 Image-schemas are simplified representations of common physical experiences, which are used to classify more complex physical or mental phenomena. Examples are: containers, lines, circles, spirals, surfaces, pushing, pulling.

11 In terms of neural-network theory, this code consists of node-activation and strength of connectors between nodes. Martindale (1991: 63 ff.) makes the point that nodes can be activated bottom-up (by sensory input) or top-down (by mental images and the like). Cottrell (1989) glosses these as 'input' and 'expectations'.

12 A useful collection of reactions to Situation Semantics may be found in the journal Language and Philosophy 8 (1985); see also Werth (1988a). A more recent version of Situation Semantics is Barwise (1989).

13 In fact, Kempson (1988a: 14 f.) argues that Situation Semantics and at least one objectivist-representationalist theory, Fodor's Representational Theory of Mind (Fodor 1981), are closely equivalent in many respects.

14 I thank Geoff Leech for this observation. I should make it clear that some categories are reasonably objectively definable (Lakoff 1987a) calls these the 'classical category'), but many, perhaps most, are characterisable only in terms of human use or human interaction.

15 In Rosch (1975: 229), chair ranks equal 1st, table equal 3rd, bookcase 22nd, and television 42nd (out of sixty items scored). Item no. 60 is telephone.

16 As exemplified by Hilary Putnam, for example. See his (1988: 24).

17 For a frame-semantic approach to a syntactic problem, see Lakoff (1987b).

18 A radial category has a central subcategory and less central subcategories understood as variants of it (Lakoff 1987a: 91); an example would be mother, in its most common sense, as opposed to adoptive mother, foster mother, stepmother, etc. An image-schematic category is one based on symbolic rather than propositional criteria; examples include path and container (Lakoff 1987a: throughout, and especially 416 ff.).
There are important differences in the approach to grammar espoused by Lakoff, on the one hand, and Kay and Fillmore on the other (Claudia Brugman: p.c.), notably in Lakoff's use of metaphor as a constitutive operation. Nevertheless, the similarities seem to me to be more significant.

Fillmore, in his infrequent forays into text linguistics (e.g. 1981a) seems to use this sense of 'text', though in at least one paper (1984), he seems to use the term more in my sense. The sense which I favour is also used by van Dijk (e.g. 1977), de Beaugrande (e.g. 1980), Enkvist (e.g. 1989).

This notation is intended to mean 'the set of propositions K'.

This is not to say that all discursive knowledge is necessarily propositional – it is not (cf. Chapter 4). However, it seems reasonable to assume that text-drivenness operates with propositional information. It is also an idealisation to pretend that the speaker and hearer necessarily share an identical set of propositions as the CG of the discourse they are engaged in. However, a practical assumption is that they share a sufficiently large set of propositions to enable the discourse to continue without breakdown.

This is essentially the same as Sperber and Wilson's (1986) notion of 'contextual effect'. However, their definition of 'context' is very perfunctory (see section 5.4.2 below).

The term 'referential' is not being used here in the narrow, sentence-based sense current in much Philosophy and Formal Semantics, as will presently be seen.

For many people, this may be derived from Hollywood Westerns – but the point is, whether this information is true or distorted, it does constitute a working frame for the concept which will be shared sufficiently for the discourse to continue; otherwise, the discourse will break down.

Van Dijk and Kintsch (1983: 308) put forward a very similar model: their equivalent of a text world is a situation model (see 3.2.4 below). Frames are also activated by what they call the 'specific constants' of the text, and this instantiation then activates the particular situation model required.

Indeed, he is on the editorial board of the journal Cognitive Linguistics. Nevertheless, Seuren (1985) does not comply with the experientialist assumptions discussed above.

Personal communication.
Chapter 3

Worlds, models, contexts

3.1 Worlds

A world, even in everyday language, is not just a ball of rock, gas and liquid spinning round some star somewhere, but is also used to refer to some complex state of affairs. When we talk about text worlds, we are indirectly referring to a particular philosophical theory, that of Possible Worlds, which goes back at least as far as Leibniz in the seventeenth century. In more recent times it was developed by the philosophers Saul Kripke (e.g. 1972) and David Lewis (e.g. 1973). See also Bradley and Swartz (1979) and Rescher (1975).

A possible world is essentially any state of affairs which can be conceived. A state of affairs is made up of sets of entities in relationships in connected places and times. It is similar to, but not exactly the same as, a situation. A situation is a particular kind of state of affairs, in which the place and time are held constant (or rather – since time is continuously progressing – are held in tandem). So a series of situations will make up a state of affairs. We will return to possible world theory in a later section.

In the ensuing sections and chapters, I will be outlining a number of different kinds of world all forming part of an event of language, namely, discourse worlds, text worlds and sub-worlds. It will be an important tenet of this approach that, despite having somewhat different functions, these various kinds of world are essentially similar. All of them introduce deictic and referential elements to define a level of discourse. The participants in a discourse-to-be will arrive at the broad outlines of the world they are discussing by clarifying between them a common topic for discussion, and this topic will be some state of affairs. If one participant (P, the producer) is describing some scene or event to the other (R, the receiver) – assuming that P knows a lot about the state of affairs and that R knows almost nothing – then P will be rather explicit
about the details which make up this particular state of affairs. This is what happens in most written discourses. If, on the other hand, the state of affairs is rather well known to both P and R, then the necessary information may be activated by as little as a single word.

Thus, there are two sources for the information which defines a state of affairs:

- The text itself. Elements of the text accumulate to build up a picture of the state of affairs.
- The knowledge of the participants. The discourse, to some extent already shaped by P's assessment of R's knowledge, triggers the appropriate areas of memory in R. These serve to define a state of affairs (in conjunction with information in the text itself).

Even in a written text, where the writer and reader are separated in time and space, the second of these sources is active. This is because the discourse itself is the key to both kinds of information, as we will subsequently discuss at greater length.

The information present in a given discourse is the product of both these sources: the overt meaning of the text together with information evoked by the text from memory. We may now ask: what is the structure of the information deployed in a discourse? This leads us into a debate about the nature of that information and where, if anywhere, it is located. This debate is briefly reviewed in the following section.

3.2 Models, mental models, mental spaces

3.2.1 Possible worlds

Despite the fact that a world is a location, the idea of possible worlds is not in itself spatial, though much of its attraction undoubtedly has to do with the fact that it is based on a locational metaphor. Brought in to solve a number of logical problems, possible worlds are basically a way of talking about possible states of affairs. Instead of talking about an undefinable abstraction, called 'Truth', the idea is to relate the concept to delineated states of affairs, known as worlds. Thus instead of calling some proposition 'necessarily true', it is said to be 'true in all possible worlds', i.e. inconceivable that it could be anything but true. Something that merely happens to be true, but might be otherwise, is 'true in at least one possible world' (i.e. this one). This does not, of course, guarantee that it is
true in any other world. However, it does reduce the tricky modal properties of ‘necessity’ and ‘possibility’ to the better understood logical quantifiers ‘∀’ (all) and ‘∃’ (at least one).

Attempts have been made, notably by David Lewis (e.g. 1972, 1973), to stipulate the properties and components of possible worlds. As components, they have ‘contextual coordinates’: time, place, speaker, audience, indicated object, previous discourse and ‘an infinite sequence of things’ are mentioned (1972: 175). It should be evident from our previous discussion, though, that there is a confusion of levels in this list: time, place and indicated object presumably belong to the designated world, whereas speaker and audience belong to the world within which the event of language is taking place. Previous discourse belongs to the knowledge-base of the participants, while the infinite sequence of things is an attempt to capture the notion of extension as a selection from all the values existing in the world (presumably the designated world, though Lewis does not make this clear). However, what Lewis is actually trying to do is find a place for various kinds of deictics (which he calls ‘indexicals’), and the contextual coordinates are merely labels for different deictic elements. As properties, Lewis (1973) cites the concept of accessibility, which he refines into a notion of ‘relative closeness’, broken down into connectedness (accessible worlds may vary in closeness to the world in focus), transitivity (if \( a \) is as close to \( b \) as \( c \) is, and \( c \) is as close as \( d \) is, then \( a \) is also as close as \( d \) is), and centring (the world closest to any world \( w \) is \( w \) itself). This amounts to a justification for being able to designate a world as being closer or farther away from another world, without providing anything like an explanation of what this would imply psychologically or functionally.

This, in fact, is where the whole possible-world approach goes wrong. Possible worlds contain just those elements which will make the truth-conditions of the propositions under scrutiny come out right. This means that they are both over-specific and underspecified. They are over-specific because they are ‘tailormade’ to a single proposition; they are under-specified because as worlds go, they are minimalistic, containing none of the complexity of anything speakers would recognise as a world. (I will return to this point presently.) Furthermore, the only type of structuring they show is taxonomic: different kinds of elements get different names. But as we will see in the subsequent chapters, some kind of analysis into different levels is also necessary. I will argue for a functionally based approach.
3.2.2 Model-theoretic semantics

A model is something like a possible world that is strictly defined, and this is both its strength and its weakness. Strictly defined means that it is extremely rigorous – you know exactly what is in it, you can define all kinds of relationships that exist there, and you can be absolutely sure whether they are true or false in the model, simply because you have predefined the model to make these things clear. But there is a very crucial difference between any logical model and psychological models. Logical models are concerned – as logic itself is concerned – mainly with possible relationships between logical functions. Logical functions (expressed in words) are items-like or and and if . . . then; logic is less interested in what is joined together by these functions – sentences, propositions, or elements having meaning. The semantics associated with such models is known as model-theoretic semantics, and largely stems from the work of Richard Montague (e.g. 1974). See also Partee (1975, 1976), and Dowty, Wall and Peters (1981).

In order to examine the relationships in model-theoretic semantics, a possible world or model must be defined so as to have, for example, a small number of strictly delimited elements. For example, there could be a number of persons in this world (let us call them Alice, Bill and Charles) and a number of possible properties and relationships between them (let us say slept and kissed, for example). There must also be some ‘syntactic’ rules: slept just requires one of these persons in order to give a truth-value, whereas kissed requires two of them to give a truth-value. Furthermore, there are ‘semantic interpretation’ rules: these rules will define the state of affairs in this world. It might be that not all possible combinations are permitted in this particular world: slept, let us say, can only be true if it is said of Bill, and is false otherwise (because in this particular state of affairs, Alice and Charles are awake, and Bill is asleep). By the same token, kissed might only be true in this world of a number of possible combinations: it could be Alice to Charles, it could be Charles to Alice, it could be Alice to Bill, it could be Charles to Bill, but it cannot be Bill to any of the others, nor any of the persons to themselves. The sequences which are not allowed are only interpretable in this world as false. The others are possible truths in this world. They cannot be necessary truths, or else they would be true for all worlds, and not require special interpretation rules in this world. Similarly, they cannot be always true in this world, since not all of the possibilities can occur simultaneously. So what
we have is a very clear model, with a set of syntactic rules which tell us what the possibilities are for such-and-such a kind of predicate, and we have a set of interpretation rules which tell us what might be going on in this particular world, what are the possible relationships in this particular world. Then given that model of a very restricted world, one can then start looking at the truth conditions for, say, ‘If Alice kissed Charles, then Charles kissed Bill’. In other words, given what you know about this world, you can then work out in quite a clear way what the truth conditions are for complex combinations of the sentences you are permitted to generate.

Notice that model-theoretic semantics is claiming nothing more than to be able to study the logical relationships obtaining, given a tightly defined model. What it does not do is to look at the assessment of actual truth in that world. It says that ‘Alice kissed Charles’ is a possible sentence in that model, but it does not give you any way of finding out whether it is a true sentence. It just refers to a set of possibilities, given a very tightly defined minimal state of affairs. I think this is where people who are interested in language and people who are interested in logic part company. Non-logicians tend to be interested in actual truth, i.e. what is true in an actual situation, rather than what might in theory be true. Knowing what is theoretically true might reduce the possibilities of what is actually true, but this never reveals the actual truth in a particular situation (see Barwise 1989: xiv).

This among other things means that when non-logicians are faced with the above description of a ‘world’ or a ‘model’, they find it trivial, because it is so minimal. As I said above, the reasons for its minimalism are clear and, in logical terms, reasonable. It is rigorously defined, so you know everything about it, and you can therefore deal with it totally transparently. Its big disadvantage is that it is nothing like any state of affairs that we are familiar with. Even the simplest real state of affairs is many times more complicated than that. So what we actually need, rather than a minimal world, or model, like that, is what has been called a rich model.¹ We need a way of talking about states of affairs in something like their normal richness and complexity, and we need a method of finding our way through that, i.e. a way of dealing with it in principle. This is why it is a question of discourse linguistics.

3.2.3. Mental models

The notion of mental model, insofar as it is distinct from some of the other approaches within Cognitive Science, has chiefly been
used and developed by psychologists. See particularly Johnson-Laird (1983) and Garnham (1987). I will presently discuss the former of these. Alongside this psychologists' account, however, I will also be discussing some of the prodigious output in this area of van Dijk (notably 1987).

A mental model is a conceptual space which we use to work out probabilities and inferences. Hall (1991), discussed in section 1.1.2, cites Anne Treisman's work on edges, borders and outlines (1986). This suggests that there is something like actual mental creation of 'feature maps'. If this is right, then central to perceptual processing is the notion of spatial modelling. Johnson-Laird assumes an actual mental representation as part of processing – not some abstract equivalent of a representation, but the representation itself. This, presumably, consists of some mental configuration which is parallel or homomorphous with the original situation. So we are talking about something which is not only in the mind, but is also very like a map^2 or a schema of the original experience.

Johnson-Laird gives a nutshell definition of a mental model as follows (1983: 10): 'human beings understand the world by constructing working models of it in their minds'. He later lists what these constructs are responsible for (1983: 397):

... mental models play a central and unifying role in representing objects, states of affairs, sequences of events, the way the world is, and the social and psychological actions of daily life. They enable individuals to make inferences and predictions, to understand phenomena, to decide what action to take and to control its execution, and above all to experience events by proxy; they allow language to be used to create representations comparable to those deriving from direct acquaintance with the world; and they relate words to the world by way of conception and perception.

Johnson-Laird shows that the processes of inference (for him the principal contribution of the discourse level) can be modelled in a non-formalistic way, using a transparent notation which is structurally similar to the state of affairs being modelled. (His principle of structural identity of models (1983: 419) makes this a requirement of the theory.) For this reason his examples are never of rich models (see previous section). Nor, despite several interesting forays into discourse (see especially 1983: ch. 14), does he offer models for texts. Nevertheless, it is evident that, unlike the more parsimoniously constructed model-theoretic approach, mental models offer the scope for defining rich worlds. Johnson-Laird shows this when discussing the primitive elements comprising mental models (1983: 414):
We... organise our experience in terms of temporal and spatial locations, within frameworks of what is possible and permissible, and within a nexus of causes and intentions. The semantic operators provide precisely the framework... around which we organise the general knowledge underlying the plausibility of discourse. Semantic fields provide us with our conception of the furniture of the world – of what exists – and the semantic operators provide us with our concept of the various relations that may inhere between these objects. Time and space are primitives that are merely simulated in mental models. Plausibility and permissibility depend on our capacity to construct models of situations that are alternatives to reality and to evaluate them with respect to our knowledge of the 'laws' of nature or morality.

I will assume, therefore, that text worlds are in fact mental models constructed in the course of processing a given discourse.

3.2.4 Context models

This idea is more explicitly developed in the cognitive-linguistic work of Teun van Dijk (especially 1987, 1988). Van Dijk uses the terms context model or situation model alongside mental model, and relates the context of their use to human memory processing, and specifically to short-term memory (STM), episodic memory (EM) and long-term memory (LTM). LTM contains general knowledge, including knowledge of rules, procedures, frames, scripts and so on. It also contains the particular context model which is under way, and is part of the EM. This is fed, by way of the STM, with the details specific to the particular discourse being processed. So van Dijk's approach makes it clear how information gets from the specific discourse to the context model; what is less clear, though, is how a specific context model generalises into frame-knowledge and LTM models. He is more explicit about this in (1988: 2):

Models, which are stored in episodic (personal) memory, consist of a fixed model schema, which features well-known situation categories such as Setting, Participants and Events. Besides information from the input text, models have instantiated information derived from more general knowledge, such as scripts, located in semantic or social memory. Models may also contain personal opinions of the reader about the situation, opinions which again may be instantiations of general, group opinions and attitudes. Conversely, scripts and attitudes may be derived from generalized models.
3.2.5 Cognitive space

Let us now move on from these more psychologically orientated approaches to look at some linguistic views of cognitive space. I am going to characterise this by first talking about so-called deaf and dumb sign language (SL). Fluent speakers of one or another SL for the deaf typically indicate a gestural space within which they can talk about relative location and time, for example. It has sometimes been claimed that this constitutes the basic difference between SL and spoken language. I would argue, however, that spoken languages do this too, in another medium with different tools, but it has just not been particularly noticed before. The SL frame will typically consist of a defined area in front of the signer, which is roughly the size of the body. Time is usually indicated in terms of behind, in front, and here. Various arrangements are then set up for the story that is going to be told, as though it were a room, say, with different objects in it. These may be concrete or abstract, but they are given their place in the structure, and that is where they remain until the signer needs to move them about. The signer can then gesture at these virtual objects, just as if they were real objects. Interestingly, then, we can find a well-worked-out forerunner for the notion of conceptual space in SL research probably a decade before it was looked at for ordinary spoken language. (See also Emmott 1997: chs 4–6) on the ‘contextual monitoring’ of blind people.)

Mental spaces

One such account, by Gilles Fauconnier (1985), is called Mental Spaces. The basic idea is that we conceptualise the world when we talk about it, and Fauconnier informally defines mental spaces as ‘domains that we set up as we talk or listen, and that we structure with elements, roles, strategies and relations’ (1985: 1). The mechanism for setting up these domains comes from ‘guidelines provided by the linguistic expressions . . . [which] will typically establish new spaces, elements within them, and relations holding between the elements’ (1985: 16 f.). Fauconnier calls such linguistic expressions space-builders; we will look at them more closely in Chapter 7.

Space-builders, contained in linguistic expressions, serve to construct the mental spaces within which the speaker is conceptually operating, and in terms of which the listener will optimally be able to interpret. In Fauconnier’s system, a space-builder establishes a
space which takes its origin from some parent space. This will often, but not necessarily, be the speaker's reality space. Linking each pair of parent and 'daughter' spaces (as we might call the derived spaces in each case) are connectors. Space-builders can establish spaces which differ from their parent along such dimensions as temporal (in 1929), spatial (in the factory), domain of activity (in Canadian football) or hypothetical (if A then—or Max believes—). To these, we might add that some spaces are metaphorically or metonymically connected with their parent (e.g. in John’s mind, beneath Mary’s easy-going manner).

Cognitive Linguistics

We have already mentioned some of the more substantial approaches within the loose federation known as Cognitive Linguistics (see section 2.1.3). There are many different versions and goals, but what all of this work shares is a fundamental commitment to the experiential approach, and especially its implications for categorisation.

Lakoff (1987a) lists eleven different types of category, including the classical kind, defined by necessary and sufficient conditions, the radial category for such examples as game, the prototypical category (for cases like bird, see Rosch (1973)), as well as the category of metaphor. Alongside these is the image-schema, which Langacker (1987a, 1991) uses extensively (cf. 2.1.3 above and 4.4 below). This is based on a space, forming the background or ground, against which occurs movement, which is change through space. It corresponds to a figure, something which stands out against the (back-) ground. Motion can be real, where there is also variation through time: you start off at one point in space at time 0, and then at time \(0 + 1\) you are occupying a different part of the space. As well as real motion, there is also, very importantly for language, abstract motion, in which time or space are not necessarily involved, since it has to do with conceptual relationships. Thus if you move a package from A to B, then real motion must occur; but if you move a meeting from Wednesday to Friday, no real motion takes place. Image-schemas show both real and abstract movement in essentially the same way: that is, they bring out their underlying similarity. Language teaching books typically use image-schemas to show meaning (for example: into, out of, up, down, around, behind, etc.), as well as time-relations. They show not only motion, real or abstract, but also such spatial notions as 'container', 'conduit', 'plane'.

The work of Fauconnier and Langacker described in this section and in 2.1.3 is an enormously important step towards what I have called 'a more human linguistics' (Werth 1990 and section 1.4). In principle, cognitive space theory applies equally to discourses and to single sentences. But, given the cognitive principles underlying both approaches, one would expect them to apply \textit{principally} to discourses, and only secondarily to sentences, since the latter are merely practical components of the former, and in cognitive terms do not actually occur without the other deictic components which make them part of discourses. The overriding traditional concentration on sentences, I would argue, is due to the fact that syntactically they display tightish, more or less recurrent patterns, and this has been taken as definitional.\textsuperscript{4}

Both cognitive space accounts display weakness at this point. Fauconnier, in fairness, does relate his system to discourse circumstances (e.g. 1985: 168, note 4):

The speaker–listener does not consider all the interpretations of a sentence and then discard the inappropriate ones. He sets up a space configuration starting from the configuration already available at that point in the discourse.

In practice, however, most of his examples concern isolated sentences (albeit sometimes with some declared context), and what he calls a discourse does not necessarily correspond to anything which a speaker would recognise as a discourse (e.g. 1985: 42, ex. 25):

1. The president is Reagan. Irving believes the president is Kissinger. He would like Brown to be the president. In the movie, Goofy is the president.\textsuperscript{5}

Furthermore, although his single-sentence examples are frequently preceded by some nominated context, Fauconnier has nothing like a theory of situations. Therefore, his mental spaces are rather like rabbits out of a hat. They are defined by 'space-builders', but there is no general theory of space-builders either. In summary, though Fauconnier's work on mental spaces is ground-breaking, the fact that it is essentially based on a sentence perspective makes it ultimately unsatisfactory as a fully integrated language theory.

Langacker's work, too, shows similar lacunae. True, he provides a place in his system for something he calls 'context' (see particularly 1987a: section 10.4). But I think it fair to say that this place remains largely unfilled, and the broad concentration of his work remains on the sentence (cf. the remarks in sections 2.1.4 and 2.1.5).
A genuine discourse grammar, though, regards sentences as elements which make sense only as part of a larger whole. Of course, a sentence such as (2) seems to make perfect sense on its own:

2. The man walked into the bank.

But in fact the sense it makes on its own is generalised, unanchored and ambiguous. It is generalised because it is simply derived from the meanings of the individual lexical items, together with their syntactic values; it is unanchored because it is deictically completely vague: we have no idea of which man, which bank and when and where this all took place; it is ambiguous because the lexical items walk into and bank happen to have more than one distinct sense. In other words, despite the general 'sensicality' of (2), the sense it makes is incomplete. It is a sense-schema rather than a meaningful sequence, by which I mean that, being unspecified deictically, it may be fitted into any context in which entities and events corresponding to the nominated situation exist – in which case, it will become specific, anchored and unambiguous for each such context. This can therefore only be handled in a grammar sensitive to context.  

Such a grammar is a Discourse Grammar, as characterised above in section 2.2. In a Discourse Grammar, a sentence such as (2) must necessarily form part of a larger context in which both the man and the bank have been introduced and to some extent defined for the purposes of the discourse. Similarly, the general time and place will have been stipulated for the discourse as a whole. Furthermore, since the man and the bank will have been sufficiently defined, the risk of ambiguity in the sentence is, for practical purposes, non-existent.  

With this general characterisation in mind, we may now go on to add further precision to the definition of Cognitive Discourse Grammar given in section 2.4. We may now stipulate that a CDG is one in which the units used are locally referential with respect to their current context. By this, I mean that contexts are characterised not in terms of empty logical elements, but rather as richly defined situations, complete with characters, and specified objects having actual relationships, carrying out concrete actions in adequately depicted circumstances. In a word, CDG is experiential.

3.3 The elements of context

The context of a piece of language (anything from a distinctive phonetic feature to the Encyclopaedia Britannica) is its surrounding
environment. But this can include as little as the articulatory movements immediately before and after it, or as much as the whole universe, with its whole past and future. Anybody wishing to make serious use of the notion therefore had better do some delimiting of its scope. The first distinction which is usually made is between verbal and situational context. Verbal context consists of the language surrounding a particular sentence or proposition — and we then have to decide how much or how little to consider on a given occasion. Situational context consists of the immediate situation and cultural background surrounding the language event under scrutiny.

3.3.1 Verbal context

The notion of verbal context has long been used in linguistics, from context-sensitive rules in phonology, morphology and syntax to the debate about the extent of verbal context in collocational studies. Indeed, even the very topical argument about context-free grammars (Higginbotham 1988; Pullum 1987) ultimately stems from the formalist desire to get away from dependence on context in Universal Grammar. No such wish will be entertained in this book. Quite the reverse, I will maintain that the presence of a context, and its active participation in any act of language, is a quintessential component of the theory. The question of ‘how far does context extend?’ will in practice not be a problem. The answer is determined by the nature of the element whose context is being examined. This is an empirical question: for example, phonetic context is presumably limited by the range of the phonetic influence which one element can bear on another (e.g. assimilation, vowel harmony, tone sandhi), whereas anaphoric context has to do with the notion of reference maintenance, and the rate at which an entity in short-term memory ‘decays’ unless its reference is maintained by anaphora. Verbal context can be studied with the same tools and units as sentence grammar — e.g. the proposition and the sentence, and all their parts.

3.3.2 Situational context

Situations, though, are traditionally held to be much too big and complicated to encompass in a single descriptive apparatus. The strategy to deal with this has therefore taken what may appear to be the obvious direction, namely simplification of the notion
of situation. One notable manifestation of this move is the Situation Semantics of Barwise and Perry (1983). In a way, Possible Worlds Semantics and Model-theoretic Semantics, discussed above, also represent a simplification of the notion of situation. The principal problem with all these approaches is that they simplify by reducing the content of their basic units in order to be able to formalise them rigorously. They are, thus, content-free by comparison with what people normally experience as situations and have no more contact with real situations than an algebraic formula.

However, there is another possible move in the effort to restrain the notion of situation, and that is to restrict it in some principled way. ‘Principled’, since an ad hoc restriction would amount to the methods of simplification mentioned above. We have already seen (Chapter 2) how a discourse encodes the particular situation it refers to in the form of a text. I will assume that a discourse-encoded situation is the only kind relevant to a theory of language. Accordingly, our restriction of the scope of the ‘raw’ notion of situation will be text-driven (see section 5.4.2).

This means that discourse producers encode the representation of the situation they wish to refer to, and the recipients draw their interpretations from the text so produced. The relevant situation is therefore precisely restricted in every case by the text which its discourse produces, and the discourse provides just enough detail to set up a text world and to activate the relevant areas of knowledge. No further details are necessary than are provided by the discourse together with information available from the frames accessed by participant knowledge. These processes will be further explored in Chapter 4.

3.4 Situations

I gave a general description of the notion of situation in section 3.3. I now define this more technically:

**Situations:**

A situation is an n-tuple of location, time, an entity-set and a function-set, such that a set of expressions from entities into functions holds at that location and time:

\[(l_j, t_j, \{e_n\}/\{r_n\})\]

The immediate physical situation is that situation holding when \(t = \text{time of speech } (t_0), l = \text{place of speech } (l_0), \text{ and speaker (s) and hearer (h) are in the manifest entity-set.}\) A discourse always takes
place in an immediate physical situation, but has as its topic a **text situation**, consisting of at least one **text world**, and probably several in a number of possible configurations. Text worlds also fall under the definition of situation.

It should be noted that, despite the superficial resemblance of this formulation to a model-theoretic definition (from which it was, indeed, ultimately derived), there are crucial differences. Firstly, the formulation maps on to a set of deictic expressions which jointly build up a **rich world**, i.e. one that is defined not only by the semantic content of the single proposition under scrutiny, but rather by the semantic and pragmatic content of the whole discourse so far, of which the proposition under scrutiny is the current proposition (and not the only proposition, except in rather rare cases). Semantic and pragmatic content here means both (a) semantic and pragmatic entailments, implicatures, etc., belonging to the single proposition under scrutiny, and (b) the range of knowledge evoked by that proposition in its interaction with the total knowledge evoked so far by the ongoing discourse (the **common ground**, cf. section 2.2 and Chapter 5). Secondly, in line with what I have said about the notion of a rich world, the entity-set consists of more than mere variables, minimally defined so as not to introduce any indeterminacy into the logical expressions. The entity-set in the present formulation is also characterised **richly**, i.e. it consists of fully defined **characters** (active participants) and **objects** (passive participants). The characters in the immediate situation are of course the discourse participants; the characters in the text world(s) are as fully rounded as the discourse allows, or provides for. (For a similar approach to the notion of character, see Emmott (1992, 1997).)

### 3.5 Language situations

Situations in linguistics are in fact of two broad kinds, both of them simultaneously represented in discourse. These are the **immediate** situation (the *discourse world*) and the **textual** situation (the *text world*). What they nevertheless have in common consists of the following elements:

(i) **Protagonists** (participants, characters, sub-characters)

The sentient entities at whatever level are **protagonists**, and are responsible for the assessment of truth, probability and co-operativeness at their level. At the level of the discourse world, we can speak of:
(ii) **Participants** (speaker, hearer(s), overhearder(s), . . .)

The speaker and the hearer occupy privileged positions in any discourse, shown by the referentially and anaphorically special features of terms referring to them. The term ‘overhearer’ is due to H.H. Clark (e.g. 1992: chs 6, 8, 9), and refers to non-participatory attendees, who may nevertheless be indirectly addressed. At the level of the text world, the sentient entities present are:

(iii) **Characters** (enactors, bystanders, . . .)

As we have already seen, characters are invested with the same privileges of rationality, etc., as participants. Some characters (‘enactors’) contribute actively to the text world, while others (‘bystanders’) are merely present, i.e. must be counted in the character-register of the text world (cf. Emmott (1992), from whom I borrow the term ‘enactor’; ‘bystander’ is equivalent to Emmott’s ‘primed covert participant’ (1994)).

At the level of the sub-world, the following terminology is available:

(iv) **Sub-characters** (sub-enactors, sub-bystanders, . . .)

These are again equivalent beings on their level. Apart from protagonists at each level, further elements must be taken into account:

(v) **Other entities** (objects, concepts, . . .)

The term ‘object’ should be understood widely here to include not only physical objects, but also masses, collections, forces, etc. The term ‘concepts’ covers all abstractions, emotions, etc. The term ‘entity’ covers protagonists, objects and concepts. We will later see (Chapter 11) that much of this language is actually metaphorical.

(vi) **Relationships** (holding between entities)

Relationships normally refer to predicate-functions in standard predicate logic, and we will occasionally find it necessary to analyse propositions down to this sort of level (see Chapter 7). On the whole, however, we will keep propositional relationships as ‘surfacey’ as possible. They will usually be equivalent to surface verbs, therefore, and may be metaphorical under the same conditions as entities.

(vii) **Qualities** (applying to entities)

Similarly, qualities will normally turn out as adjectives or adjectivals though logically they will normally correspond to one-place predicates.
(viii) **Place** (location of situation)
Place represents the basic property of deixis, i.e. spatial location with respect to the speaker. We will presently see, though, how this takes different forms in the two kinds of situation.

(ix) **Time** (when situation takes place)
Time is a secondary deictic property. Like place, it has different manifestations in the two types of situation. Participants, objects and concepts are collectively called entities, as we have already stipulated. They also bear different properties, however, according to whether they occur in immediate or wider situations.

3.5.1 The discourse world

The discourse world is the situational context surrounding the speech event itself. It contains all of those elements summarised in the previous section which are perceivable by (‘manifest to’) the discourse participants. The discourse world minimally contains the participants and what they can see, hear, etc. However, it must also contain what the participants can work out from their perceptions. This is an important point, since the discourse world cannot simply be a matter of sense input. Imagine, for example, that at a given moment, you are standing under a large, shady tree. You know it is a tree with absolute certainty. Yet, consider this: at no single moment can you see the whole tree, or even anything resembling what you might draw as a representation of a tree. What you can see, presumably, will include a close-up view of such things as bark, twigs, leaves, a branch or two, perhaps specific smells and sounds. In order to interpret and make sense of that input, we must be able to categorise and classify these ‘percepts’ (as psychologists call them). In order to do that, we must be able to call upon the knowledge we already have stored away from previous experiences of trees. This means we, the participants, have to be able to recognise qualities, both perceivable and non-perceivable, and infer relationships between things which we have previously been able to distinguish as entities (including also memories of approaching this type of object and seeing it from different viewpoints at different times).

In fact, the presence of the participants in situations is more than just important: they are actually crucial to the very nature of situations. Situations have to be defined, in other words, not as
mere collections of entities at a certain place and time, but rather as states-of-affairs conceived of by participants. ‘Conceived of’ includes perceived, remembered or imagined. Situations do not occur in a conceptual vacuum: they are given their situational status by an act of human will. We can conceive of situations without any humans in them – but we cannot conceive of unconceived-of situations. The very notion of situation, then, is an experiential notion, and any kind of theory of situations other than an experientialist one must be incoherent.10

This suggests, therefore, that our original definition of a situation has to be modified in order to stipulate this point explicitly. As it stands, the formula ‘(l, t, [eₙ]/[rₙ])’ could include as situations arrangements of elements which included inanimate objects but no sentient beings. I have argued, though, that such arrangements would not constitute true situations, since they would not be conceived (i.e. they must have at least one sentient entity at the discourse world level). This means that the formula has to stipulate the presence of participants, i.e. that entities (e) have to be defined as a set containing at least one participant (a producer) and an optional number of other participants and objects. This gives a revised definition as follows:

**Situations** *(revised definition)*:

A situation is an $n$-tuple of location, time, an entity-set and a function-set, such that the entity-set consists obligatorily of at least one participant, and that a set of expressions from entities into functions holds at that location and time:

$$(l, t, [eₙ]/[rₙ]), \text{ where } e = p₁, (p₂₋ₙ), (oₙ)$$

As we will subsequently see, situations can also ‘contain’ situations (e.g. discourse worlds contain text worlds), so that our formula must also be recursive:

$$S = (\ldots (S))$$

The main reason for being interested in the linguistic situation is that an event of language takes place there. The most common, probably the most prototypical, but certainly not the simplest, kind of language event is the *conversation*. In its basic form, this takes place between two speakers. We idealise this kind of event by assuming that speakers take turns – and in a general sort of way, this is true. But in actual fact, there is quite a lot of
overlap: people speaking at the same time, interrupting each other, finishing other people's sentences and so on. There are also pauses, hesitations, mistakes and other 'defects'. Nevertheless, conversation is governed by a fairly elaborate set of social, linguistic and psychological 'rules', which regulate not only turn-taking, but also how to pay attention, be relevant, be coherent and many other things. Good descriptions of the turn-taking rules may be found in Levinson (1983).

However, what is perhaps more important about conversation is that it probably represents our prototypical use of language: it is, in other words, the basic discourse-type – socially, historically, statistically. This is particularly important for the concept of negotiation. As we saw earlier, discourse is a joint venture for building up a Common Ground. The face-to-face, turn-taking, open-topic kind of activity we call conversation serves as the model for this process of negotiation, and may usefully be extended to non-prototypical language uses such as conversation-at-a-distance, monologue and written language.

A second important point, as we will see, is that all discourses have an immediate situation of production and interpretation, though only in our prototypical case does this occur face-to-face and here and now. This is what we have been calling the discourse world. We might relate this property to the Ancient Greek system of the Three Unities of Time, Place and Action. In fact, all discourses take place in some kind of discourse world, and this situation, or elements of it, affects certain factors in the language event, and may provide subject-matter for the discourse. There are cases, in other words, where the discourse is about the discourse world; there are other cases where the discourse world impinges upon the discourse, and in a sense interrupts it. Examples:

3. (a) Isn't this an awful place? Just look at that tasteless thing over there!
   (b) What I really like about Italy is the quality of the light – do you take sugar? cream?

In (3a), the discourse itself supplies certain details, but only an actual participant can identify the entities being spoken of. In (3b), the 'main' discourse – which is not about the discourse world – gets interrupted for a 'service message' from the discourse world. Again, a participant can see what is going on, whereas a non-participant has to infer as much as possible from background
knowledge. This raises some interesting points: first, in our prototypical conversation-type, anyway, the hearer H is processing both the discourse (which we have already established consists of the text plus the evoked context) and the discourse world. Thus H can see what the speaker S is paying attention to as well as being able to hear what S is saying, and draw any necessary inferences from it. A non-participant, though, does not necessarily share the visual input, and therefore has to rely exclusively on the text and what it evokes from background knowledge. In the case of (3b), this will be quite sufficient, given enough of a shared cultural background.

So, there are more than just immediately perceivable elements in any context of discourse. Speakers are not only equipped with their physical senses, they also carry a store of memories and knowledge, and are capable of imagining situations they have never experienced. They need this even in those cases where a discourse is exclusively about the discourse world. This is because, even in these cases, speakers need their memories and imagination to recognise all the entities present in the environment. This must include hidden or only partly visible entities (like the tree in our previous example), concepts that have to be inferred, etc. Having identified the entities, they have to grasp the relationships that exist or are stipulated in the discourse as existing between these entities.

3.5.2 The text world

Many, perhaps most, discourses depict situations distinct from the immediate one of the language event: this is because many of the features of the discourse world are perfectly evident to the participants, and often do not need to be put into words. Thus typical text worlds have to do with states of affairs which are deictically remote – in another place or another time. On the other hand, discourses about the discourse world itself, like (3a) above, while perhaps not typical, are by no means uncommon. Even in these instances, I suggest, it is also useful to talk of a text world: in this case, the text world is the conceptualisation of that part of the discourse world which is ‘in focus’ for the purposes of the discourse. In (3a), the thing would be the main entity in the text world, while in the discourse world it might perhaps be the most salient object, or merely something ‘manifest’ which becomes salient only when attention is drawn to it by the discourse. In the perhaps more...
common case, though, the text world is the conceptualisation of a state of affairs in the memory or the imagination of S and/or H— as, for example, the reminiscences about Italy in (3b). So in all cases, it makes sense to hold that there is always both a discourse world AND a text world.

The text world, as opposed to the discourse world in which the language event takes place, is the situation depicted by the discourse. It is, as we will see, text-driven, and is further fed:

- either by the experiences remembered by the participants, i.e. the contents of memory;
- or by speculations created by the participants, i.e. produced by the imagination.

The text world depends even more than the discourse world on knowledge, though knowledge informs both. In order to classify something as a member of some category, you have to know about the category and its members; this is equally true whether you are perceiving, remembering or imagining the same object.

We may think of the text world, therefore, as the ‘story’ which is the subject of the discourse, together with all the structure necessary to understand it. The terms ‘text world’ and ‘common ground’ (each already characterised in Chapter 2) are technical terms of the present approach, used to describe certain aspects of these elements.

3.6 Participants

As we saw in section 3.3, the participants include a speaker, a number of hearers, and perhaps one or more overhearers. This last category does not really play a functional role in discourse, and I will confine discussion to the first two, equivalent to the producer of the discourse and its primary recipient(s). With obvious adjustments, writer and readers may be included in this schema without difficulty. Assuming that writer and readers are not prototypical, though, I will often speak of S(peaker) and H(earer), a usage which has become rather standardised, as well as representing the prototypical case.

The roles of S and H are privileged in discourse, because they are the participant roles, whereas all other entities are just subject-matter. This has a number of direct effects on the language used to represent these roles. One is the special nature of the ‘1st
person’ and ‘2nd person’ pronouns used to denote the participant roles. They are distinctly odd as pronouns, being non-anaphoric and having no particular relationship with any noun phrase (they certainly do not ‘take the place’ of a noun or noun phrase in any way, as the traditional definition has it):

4. (a) (S = John Robinson)
   (i) I went to Italy last year. I spent most of my time in Tuscany, exploring the little villages.
   (ii) John Robinson went to Italy last year. @I, spent most of my time in Tuscany, exploring the little villages.

(b) (H = Mary Morgan)
   (i) I suppose you’re going to have one of your tantrums again. Well, don’t hold your breath!
   (ii) I suppose Mary Morgan is going to have one of your tantrums again. @Well, don’t hold your breath!

The (i) discourses are regular; the (ii) discourses are the result of treating participant pronouns as if they functioned with antecedents and as anaphors. Both sentences of (4a(ii)) are acceptable in isolation, but within the discourse are distinctly strange: it is possible, though unusual, for a speaker to refer to himself in the third person; it would be compounding the oddity to then switch to a regular first person pronoun. However, there are few grounds for holding that the pronoun ‘replaces’ or ‘is anaphoric to’ the proper noun in such a case. (4b) is even more strange: here, the addressee is in the third person, unusually, but the verb concord is undecided between 2nd and 3rd, while subsequent references to the same individual are by regular 2nd person pronoun. Again, the pronoun has no feeling of anaphoric relationship with the proper noun; rather, it reads as though some rather spooky identity-switching is going on, with Mary Morgan being a separate person from the addressee, while nevertheless having the addressee’s tantrums, and holding the addressee’s breath!

A second peculiarity is the status of assertions accredited to the participant roles. For 1st and 2nd person verbs of asserting (speaking, stating, reporting, claiming, etc.), the semantic relationship between agent (i.e. asserter) and verb is quite different from that between 3rd person asserters and the verb. Thus, with 1st person:

5. (a) I claim that the world is flat

the asserter of the embedded part (‘asserter E’) is also the asserter of the whole thing (‘asserter W’); this speaker therefore retains
'responsibility' for both. In 2nd person cases, asserter W is necessarily different from asserter E. In terms of a given event of discourse, however, this distinction is not as great as it might seem. For example, in:

5. (b) You claim that the world is flat

H is free – as a participant – to accept or reject what S reports as H’s claim. Thus, addressees are equally responsible for the contents of the Common Ground which they are participating in. This is because any Common Ground results not only from assertions by an S but also from at least temporary acceptance of these propositions by the H. In other words, the H of (5b) is free to reject the proposition attributed to him or her. 3rd person agents, however, have no such opportunity, since they are not participants. Thus 3rd person assertions:

5. (c) She claims that the world is flat

really do dichotomise the ‘asserter W’ and ‘asserter E’ roles, in that the speaker is always asserter W and a discourse participant, but asserter E, when 3rd person, is by definition not a discourse participant:

6. \begin{tabular}{ll}
\textbf{Asserter W} & \textbf{Asserter E} \\
(a) (S said:) & (I say that) time is relative \\
(b) (S said:) & You say that time is relative \\
(c) (S said:) & Einstein says that time is relative \\
\end{tabular}

The responsibility of asserter W is to make assertions co-operatively. Asserter E only has this responsibility when he or she has a co-operative function in the current discourse (i.e. is a 1st or 2nd person). Thus in (a), asserter W = asserter E, so the embedded proposition \textit{Time is relative} is deemed to be held true by the speaker. (If S is not confident of the truth of this assertion, then S must relativise it appropriately, e.g. by subordinating it to a predicate of lesser certainty, such as \textit{think} or \textit{claim}, or to an expression of probability, such as \textit{could be} or \textit{perhaps}. See Chapter 9 below for further discussion.) In (b), we may assume, asserter W is correctly reporting asserter E’s utterance, since the latter is there to contradict it if necessary, and asserter E, having a co-operative function in this discourse, is deemed to believe what he or she previously uttered and now accepts. It is, of course, the last case, (c), which forms
the basis of the classical notions of opacity, 'projection problem' and the like, involving verbs of saying and, more generally, verbs of 'propositional attitude', since assenter E, not being part of the discourse, bears no independent responsibility for sentiments attributed to him or her. Assenter W's responsibility extends only to the accurate reporting of what Einstein said, and does not embrace whether Einstein actually believed what he said. If, though, assenter W asserts:

6. (d) Einstein believed that time is relative
   (e) Einstein proved that time is relative
   (f) Einstein realised that time is relative

then W is committed to the factuality of Einstein actually having, respectively, believed or proved or realised the embedded proposition (without it necessarily being true in any absolute, omniscient sense either that Einstein did believe or prove or realise it, or that it is independently true). Note that assenter W is still not responsible for the truth of the embedded proposition – although the choice of propositional attitude predicate (claim – believe – prove – realise) each time comes a little closer to assenter W presuming that the embedded proposition is true.¹³

It is right here that the opacity problem is located. It is normally taken to be the case that prove and realise are 'factives' (Kiparsky and Kiparsky 1971), so that the truth of P can flow up into the main clause, and become part of the truth-conditionality of the whole sentence. By the same token, this is normally said not to be the case with say, claim or believe. We have already seen that this is to a large extent conditional on whether assenter E is a discourse-participant or not. We will also presently see that it is also to a further large extent dependent on the relationship between assenter E and the content of his or her assertion. However, before we go on to look at that question, let me just relate the participant functions we have distinguished to the types of situation given above. The S and H roles obviously form part of the discourse world, and this includes the assenter W role. Assenter E, however, is part of the 'storyline' and is therefore in the text situation, but also is a 'counterpart' of one of the participants in the immediate situation (discourse world). We will later look at the relationship between the participants in the discourse world and their 'counterparts' in the text situation (in Chapters 5 and 7). When assenter E is 3rd person, however, he or she has no role in the discourse world.¹⁴
Notes

1 As Groucho Marx might have said: 'Who doesn't need a rich model?'
2 However, as Grace (1987) rightly points out, the notion of 'mapping', if understood simply, is an objectivist metaphor: there is a common world out there, and human languages represent that world like a map represents a certain terrain. Treisman's view, though, is somewhat the reverse: we process our perceptions of the world rather like a map-maker; but the linguistic relationship is between language and our mental map, or model, and not between language and the world itself (which we can only in fact know via our mental model of it).
3 Short-term memory is used for the immediate processing of sensory input, say, of language, and is good only for a limited time-span, e.g. a few sentences; after that, it rapidly 'decays'. Episodic memory is the memory for connected series of situations, or events; van Dijk takes this as the essential domain of the mental model. Long-term memory is where our accumulated knowledge is stored (see Chapter 4 below), and EM is actually a special type of LTM.
4 In the preface to the second edition of Mental Spaces (1995), Fauconnier characterises the sentence as a set of partial clues leading the Recipient towards an interpretation.
5 In fact, this looks uncomfortably like examples I have used (e.g. 1984: 16) to show that sets of partially repetitious sentences, as commonly found in EFL exercise books, for instance, can give a pseudo-discourse impression. Cf. also Enkvist (1978), Johnson-Laird (1983: 356).
6 As used in this sense, the notion of 'Grammar' is much more determined by environment as compared with the familiar orthodoxy, that Grammar (UG – Universal Grammar) is ultimately 'wired in' in such a way as to define a class of possible grammars, and the child then selects a specific grammar from this class, derived from environmental evidence (particularly that supplied by other speakers). As this is conventionally interpreted, the UG '[probably] falls within the general framework of the so-called "Extended Standard Theory"' (Chomsky 1982: 4). No pragmatic rule has any part to play in UG, whether from the discourse or the knowledge-base. Yet it seems prima facie evident that this kind of information is among the primary data presented to the child, and that it does get incorporated into his grammar in the broader sense advocated here. Such a grammar would provide more conditions for determining UG, therefore restricting the class of possible grammars further. Although I do not study discourse from the viewpoint of its possible contribution to UG in the present book, it seems to me to be a perfectly respectable agenda for future research.
7 With respect to the conventions which have grown up around the sentence approach, including particularly various notions of syntactic autonomy and formal semantics, we may make the following distinction: the
sentence as a unit turns out to be a convenient level for the treatment of many syntactic processes, which appear to be reasonably tightly constrained at that level (e.g. most of Ross’s (1968) Island constraints, later metamorphosed into Chomsky’s (1982) Binding conditions, etc.). Even so, most of these, in turn, seem to be founded on semantic/pragmatic circumstances such as notions of deixis, emphasis and referential chaining. When it comes to the treatment of semantic processes, however, it would appear that the discourse is the natural domain; thus, reference is clearly a matter of the context of use, but so is sense. Although in a general way associated with lexical items, a specific sense is, as we have seen, bound to a particular context. The same is true of larger pragmatic processes such as implicature, relevance and speech acts.

8 This is not the definitive form of the formula. It will be modified presently.

9 ‘Manifest’ (Sperber and Wilson 1986) = capable of being perceived by a participant in the discourse. Note that, for the time being, ‘situation’ is defined in terms of spoken interaction. I will return subsequently to other types of interaction.

10 Similar conclusions for mathematics and the ‘hard sciences’ were reached in the 1930s by Gōdel, Heisemann, Bohr and Quantum Theory in general. See Bronowski (1978: ch. 4).

11 I interpret the last of these, Unity of Action, as equivalent to the notion of text world, as set out in Chapter 7. Unity of Action in terms of Ancient Greek dramatic theory, as I understand it, was a sort of Occam’s Razor principle: do not introduce unnecessary characters, unnecessary themes, unnecessary plot; keep the action consistent and directed towards the same goal. This, translated into the concept of the text world, is one of the common underlying principles of all text (cf. the coherence principle in section 2.3 above).

12 As in Werth (1984), the sign ‘@’ means ‘highly unlikely as a discourse continuation’. It is assumed that all necessary information is given in the example, i.e. there are no hidden surprises, lurking entities or dei ex machinarum. The asterisk means ‘unlikely as an isolated sentence’, or what is usually called ‘ungrammatical’. Subscripts ‘i/j’ have their usual meaning in work on anaphora, i.e. they signal same or different reference.

13 These comments treat the case of the embedded proposition being contingently true, as do all the main accounts in the literature. When it is analytically true, however, other unexpected interpretations arise when it is embedded under one of these troublesome predicates:

(i) Einstein claimed/believed/proved that ‘Albert’ has six letters.

All of these suggest that in fact there is something questionable either about the embedded proposition or about Einstein. If the analytically true embedded proposition carries a Gricean implicature in normal use
(since it violates the maxim of relevance, presumably), then this carries over to the embedded meaning:

(ii) *Einstein claimed/believed/proved that boys will be boys.*

14 We will look at the question of *pragmatic anaphora*, however, in Chapter 10.
Chapter 4

Knowledge

4.1 Knowledge in general

In section 2.1, I attempted to characterise the relationship between knowledge and discourse. We must now ask: what is knowledge, and where is it manifested? The first point to make is that the view of knowledge which will be central in this book is a cognitive view. The only kind of knowledge which I will be talking about is the kind represented in the individual speaker’s mind. Notions like libraries being repositories of knowledge, or databases accumulating knowledge will not figure here (although I will borrow the computer term ‘knowledge-base’ to refer to an individual’s information-store). Figure 4.1 shows the relationship between the knowledge-bases of the individual participants in a discourse, and their subdivisions into mutual (or private) knowledge and general (or public) knowledge. The intersection of speaker-knowledge and hearer-knowledge (both consisting for a large part of sets of propositions) is crucial in the interpretation of discourse.

![Figure 4.1](image-url)
The **informative mode** of language involves the transfer of propositions from exclusive speaker- or hearer-knowledge into shared knowledge. This means that communication consists of the transfer of knowledge ‘possessed’ by only one of the participants into their *shared* knowledge area, i.e. into the knowledge of all the participants. Put simply:

<table>
<thead>
<tr>
<th>A knows some item of information</th>
<th>A tells it to B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Now both A and B share that information</td>
<td></td>
</tr>
</tbody>
</table>

This process is called **incrementation** (see section 5.3.3 and Chapter 10 for a fuller account). We will shortly review the kinds of information that might occur as mutual or as general knowledge, but it should be said that these are not qualitatively different, but rather socially different. The distinction is simply quantitative, in a sense: more members of a community know public knowledge than private knowledge. (For the notion of community, see Clark and Marshall (1981).)

Mutual knowledge is the *result* of incrementation, i.e. it happens within the shared and jointly negotiated environment of the discourse under way, or it has already happened as the result of some previous discourse. This saves it from the problem of infinite regression pointed out by Schiffer (1972), Clark and Marshall (1981) and Sperber and Wilson (1986). I would claim, therefore, that mutual knowledge does in fact play a role in discourse, but as a result rather than part of the process. As for the process of discourse interpretation, Sperber and Wilson (1986: 38 ff.) argue that *mutual manifestness* is sufficient to explain the degree of shared cognitive environment needed for H to pick up allusions made by S. Speakers and hearers do not operate on the basis of mutually known facts, but rather on assumptions about each other’s **cognitive environments** (i.e. ‘the set of facts manifest to an individual’, where *manifest*, as we have already said, means ‘potentially available to a person’s awareness’). Thus, an S who says:

1. I’ve been inside that church

of a distant church in a mutually manifest landscape (Sperber and Wilson 1986: 43 f.), is operating under the reasonable assumption that H will be able to identify the object in question. S does not,
in particular, have to assume that H actually shares prior knowledge of the church. All that S needs, in fact, is reasonable confidence that H will be able to make the necessary connections between the discourse initiated and the manifest cognitive environment. It must be said, though, that any facts which come into the cognitive environment as a result of the discourse are known rather than just manifest, and may be used in subsequent interpretation as part of the CG. Thus Sperber and Wilson are talking about the process of interpretation leading up to incrementation, whereas the notion of CG deals with incrementation and after.

4.2 Types of shared knowledge

We may divide shared knowledge into a number of subcategories, as shown in Figure 4.2.

![Figure 4.2](image)

4.2.1 General knowledge

General, or public, knowledge consists of all that information which is in principle available to all individuals by virtue of their membership in various larger social groupings. It follows, then, that there are degrees of generality in general knowledge, from species knowledge (that which is instinctive or determined by general environmental characteristics) through national, local and family knowledge down to individual knowledge. For practical purposes, it is convenient to impose a lower boundary on the extent of social units admitted to general knowledge (cf. Clark and Marshall (1981) on ‘community knowledge’). In practice, this is determined for any particular discourse by its participants and purposes. For example, the ‘same’ proposition (e.g. concerning the position of the sun on midsummer’s day) may be common knowledge in one culture, and private, hieratic knowledge in another. Control of information (i.e. the privatisation of knowledge) has long been an instrument of repressive government, while conversely its democratisation has in recent times led to the overthrow of dictatorial systems, not only
in the world of politics, but in the business world too. Consider, for example, the shift of power that has accompanied the spread of the personal computer, the fax machine and the photocopier (and also, to some extent, television, although there the information still tends to be controlled by a small number of people).

Perhaps it is useful, therefore, to talk about public knowledge that is widely known, public knowledge that is available but not widely known (since it is difficult to access, or arcane), and (what should be) public knowledge that is kept from the public by a power group. One of the important variables in this system is the composition of the 'public', which shifts according to what sort of community is in focus. As I think of myself at this particular moment, I belong to the human race, the English-speaking peoples, I am a European, I am British, I am English, I am a Londoner, I live in Belgium, I am a resident of Antwerp, I work in the Netherlands, in the University of Amsterdam, in the English Department, I am a linguist, I am a member of several wider families and of one nuclear family, and so on. All of these are communities which include me as a member (and there are of course many others: I have not even begun to talk about circles of friends, professional associations, etc.). At some point in that list of social groupings, the community knowledge available to the group will switch from being clearly public (general) knowledge to being clearly private (mutual) knowledge, with some rather unclear transitional cases.

Cultural knowledge

Cultural knowledge is all the non-linguistic information available to individuals or groups living in a particular society. It is partially structured, open-ended and contingent. Partial structuring of cultural knowledge is largely the province of frames (for which see section 4.4 below). That it is open-ended is fairly self-evident, resulting both from its lack of complete structuring and from the fact that new information is generated constantly. It is contingent in the sense that for at least its largest part, it could have been otherwise; it is not logically necessary, or 'analytic'. So, for example, knowledge of masonic ritual is structured in a FREEMASONRY frame, let us say, which for outsiders will contain only very incomplete and stereotyped information. An individual in the lowest echelon of the organisation will have a somewhat richer frame, while individuals at progressively higher ranks (i.e. sub-groups of the freemasonry social grouping) will have progressively richer frame-knowledge.
This knowledge is only structured, however, to the extent that the contents of the frame hold together systematically. I assume that some proportion of the information is like this, but that there is also a lot of ‘incidental knowledge’, which comes from personal experience, happenstance and the like. The frame is also open-ended in that there is always room for, and indeed, the real possibility of, more information. Finally, it is contingent because nothing is predetermined in these rituals, nothing is fixed by natural law.

Linguistic knowledge

Linguistic knowledge (the subject-matter of linguistic theory) is the type of general knowledge underlying the use of language. It is structured, systematic and analytical. It is a central tenet of Generative Linguistics that the linguistic system is an autonomous cognitive ‘organ’ made up of distinct sub-systems which in principle are separate (the modular principle; cf. Chomsky 1982, Fodor 1983). I will be assuming almost the opposite position, however: that the links between cultural and linguistic knowledge are multifarious and complex, that all cognitive systems are interlinked, in that all may provide input for each other. This is not to deny that among cognitive systems, the language system is very special: for one thing, it goes in both directions – we use it for both input and output of information – whereas the other systems tend to be input only. It has a very close relationship with the central cognitive mystery of consciousness – indeed, Bronowski, for example, suggests that consciousness is engendered by language (1978: 38). There is little doubt therefore that language is responsible for much that is uniquely human. But this does not necessarily mean that language in and of itself therefore has to be unique as a cognitive system. Nor is the argument that language is an autonomous system very plausible, given the self-evident fact that it must work in close co-operation with memory, both long and short term, the various sense-processing systems and the motor and muscular systems.

4.2.2 Mutual knowledge

We have seen that mutual knowledge is a result of the incrementation process which keeps discourse going. Mutual knowledge consists, in principle, solely of knowledge shared by, and available to, the participants in the discourse under scrutiny. It may come from the discourse so far, or from previous shared discourses. In
practice, this kind of knowledge may be available to others (though by its nature the group sharing such knowledge will always be small, say a family or group of friends, people working together in the same place, etc.). This is essentially, then, private knowledge, i.e. the distinction is socio-cultural, and has little or nothing to do with semantic factors, such as the type of proposition or the nature of its contents.

**Perceptual knowledge**

Perceptual knowledge is confined in this account to that part of knowledge which is derived from mutual perceptions of the immediate situation. This is because such knowledge represents the very first stage of perception (the short-term memory stage), whereas later stages display more or less processing into permanent memory, and hence are more accurately thought of as experiential knowledge (see below). Perceptual knowledge comprises those elements of the immediate situation which potentially may figure in the discourse, i.e. what have already been defined as the manifest elements. As I showed in section 3.3.1, such knowledge must be complemented by stored elements of classification and backed up by processes of inference (see section 2.5), or interpretation is impossible.

**Experiential knowledge**

We may now consider that part of mutual knowledge which consists of shared experience. Shared experience (of which the immediate physical situation is a subset) consists of the intersection of the experiential knowledge of the participants (see Figure 4.1).³

To spell this out: it consists of situations in the memories of S and H in which they mutually know that they have both (directly) participated, or with which they mutually know they are both connected. ‘Connection’ is indirect participation: i.e. the connected person has a relationship to the situation other than as a direct participant in it. For example, when A has participated in some situation X, and B is linked to A and knows of the participation, then B is connected with X:

2. (a) Bill's son Jeff climbed the Matterhorn  
   (b) \( (t, \text{Matterhorn}, \text{CLIMB} \mid \text{SON-OF} (\text{Jeff, Bill}), 1) \)\( \text{X} \)
Bill did not participate in climbing the Matterhorn, but through his relationship with somebody who did, he is connected with the event. An alternative form of connection: if B is a participant in a situation X' which is similar to a situation X, then B is connected with X:

3. (a) Mary climbed the Matterhorn, and so did Bill
(b) \((t, l_{\text{Matterhorn}}, \text{CLIMB} (\text{Mary}, l))_X \& (t, l_{\text{Matterhorn}}, \text{CLIMB} (\text{Bill}, l))_{X'}\)

Note that neither participation nor connection implies responsibility. Merely witnessing a situation is also a form of participation, while knowing a witness is a form of connection. Neither of these necessarily implies responsibility for the event witnessed, although it is not ruled out, e.g. by being an ‘accessory’ to a crime, before or after its execution.

Another important caveat is that to count as mutual knowledge, all shared experience has to have been established as such by S and H. Thus, A and B could have participated in the same situation without knowing it:

4. (a) Bill and Mary were both in the Anti-Nuclear demonstration.

Thus, for all but the most salient or persistent of situations, mutual knowledge has to be established. As was already pointed out in section 4.1, establishment of mutual knowledge is effected by means of the discourse. Further examples of this with various possibilities:

*Participation by both:*
(b) Bill is Mary’s cousin
(c) Bill went to Mary’s wedding
(d) Bill and Mary climbed the Matterhorn together

*Bill, connection; Mary, participation:*
(e) Bill knows Mary’s sister
(f) Bill knows someone who went to Mary’s wedding
(g) Bill’s friend climbed the Matterhorn with Mary

*Connection by both:*
(h) Bill and Mary each know Laura
(i) Bill and Mary both enjoy scuba-diving
(j) Bill’s friend knows Mary’s cousin.

Nevertheless, the distinction between participation and connection is not clear-cut, but is, as one would expect, fuzzy and probabilistic. It partly depends on the salience of the entities in a situation, which may in turn depend on the number of similar entities present. Compare:
5. (a) Bill lives in the same apartment/house/street/city as Mary

With *apartment* and *house*, Bill and Mary are likely to be coparticipants or ‘co-connectants’, but this likelihood diminishes as the shared space increases. In the case of *city*, their connectedness may well be highly diluted or non-existent. However, this will depend upon the particular function which is being predicated (or, in other words, the probability of their being mutually aware of their coparticipation or co-connection). Take each of (5b)–(5e) as a continuation of (5a):

(b) They're complaining to the Council about their rents
(c) They’ve registered in the local housing department
(d) They moved there quite recently
(e) They recently got married.

4.3 Modes of knowledge

Cutting across this categorisation of knowledge depending on its provenance and content, there is also a distinction as to the mode in which knowledge is expressible. I distinguish two main *modes* of knowledge, the **propositional** and the **functional**. Propositional knowledge tends to be consciously acquired and retrieved, while functional knowledge is on the whole unconscious, and often impossible to explain or describe.

4.3.1 Propositional mode

All four kinds of knowledge may be propositional, i.e. they may consist of a set of propositions, expressing ‘facts’ of various kinds. For example:

6. **Cultural:**
   (a) Belgium is a kingdom
   (b) Boris Yeltsin is the President of the Russian Federation
   (c) Cars have to be insured
   (d) Electricity is dangerous
   (e) Everything’s becoming more expensive.

7. **Linguistic:**
   (a) Utterances exhibit coherence
   (b) $S \rightarrow NP \ VP^4$
   (c) A bachelor is an unmarried male adult human
   (d) People normally use language co-operatively.
8. **Perceptual:**
   (a) There are three chairs in this room
   (b) The Mercedes is closer and travelling faster than the Ford
   (c) There is an echo in this building
   (d) The church in the present discourse world is manifest to all participants.

9. **Experiential:**
   (a) Speaker went to hearer’s wedding
   (b) Speaker and hearer climbed the Matterhorn together
   (c) Speaker and hearer both know a third person C
   (d) Things thrown into the air eventually fall back.

4.3.2 **Functional mode**

All four kinds of knowledge may also be functional, i.e. they may consist essentially of a set of *acts*, directed towards some specific goal, or undirected. Acts may be physical (the prototypical case, acts which are also *actions*) or they may be conceptual (involving mental activities). In the following examples, the physical functions are marked P and the conceptual ones C (some – particularly the linguistic type – have aspects of both):

10. **Cultural:**
   (a) P: Tying a shoelace
   (b) C: Deciding whether strata are oil-bearing
   (c) P: Driving a car
   (d) C: Diagnosing an illness.

11. **Linguistic:**
   (a) P: Articulating an utterance
   (b) P/C: Making a request of someone
   (c) C/P: Formulating a report
   (d) P: Uttering a warning.

12. **Perceptual:**
   (a) C: Checking that it is safe to cross the road
   (b) C: Listening out for the postman
   (c) C/P: Checking on the quality of a wine
   (d) C/P: Noticing details of your interlocutor’s appearance.

13. **Experiential:**
   (a) C: Recognising faces
   (b) C: Remembering places one has visited
   (c) C/P: Learning to drive
   (d) C/P: Understanding spatial orientation (up, down, out, etc.).
Unlike driving itself, as a mastered activity, learning to drive is essentially a complex sequence of conceptual and physical acts that must be mastered through experience; however, once mastered, driving becomes a holistic skill which is part of one’s socio-cultural activities. Foreign-language learning is presumably similar, though even more complex, since it also crucially involves linguistic propositional knowledge.

The functional mode may in many cases (and perhaps in principle) be turned into the propositional mode, i.e. it can be made explicit (as in ‘Knowledge engineering’ and ‘Expert Systems’, for example). Much of the teaching of any skill is an informal expert system; examples: driving, sports coaching, playing a musical instrument, foreign-language teaching.

As we have already seen, the knowledge of any individual is too vast for all of it to be deployed each time we need to use memory resources, when participating in a discourse, for example. There is, in other words, an enormous retrieval problem. This is known as the problem of knowledge partition, i.e. dividing one’s total knowledge up into usable chunks. A number of important questions arise at this point, therefore:

- How do we apply what we already know to a particular discourse?
- How do we access the knowledge store for the appropriate knowledge?
- How do we sort through that whole mass of knowledge to find just those propositions which are relevant?

The short answer to these questions is: the system is text-driven. This means that the language input determines which knowledge is to be retrieved by the hearer – what we may call ‘invoked’ knowledge. For the speaker S, the knowledge-store is presumably somewhere near the root of the process, and the discourse produced by S reflects those areas of knowledge which are activated on that occasion. We will see in subsequent chapters how central the properties of the discourse are in the processes of knowledge invocation, world-building, information management and syntax. I will also be suggesting precise mechanisms which make up the property of text-drivenness (see particularly section 5.4.2).

4.4 Knowledge frames

In Werth (1984: 42 ff.), I gave a synopsis of the origin of the notion of frame, and related terms such as ‘scheme’, ‘scene’, ‘plan’
and ‘scenario’. The term ‘scene’ was defined as a ‘schematic outline of a situation-type’, and I postulated that speakers build up a repertoire of scenes which encapsulate their expectations about how particular situation-types will turn out. This, it was surmised, accounted for ease of processing as well as providing a basis for the theoretical notion of ‘possible situation’. The term ‘frame’ was due originally to Marvin Minsky (1975), and has been extensively researched and developed within the AI domain by Roger Schank (e.g. Schank and Abelson 1977), E. Charniak (1977), D. Bobrow and Terry Winograd (1977), and many others.

Since the 1970s, however, the general notion has undergone further development. It seems to be the term ‘frame’ which is once again in favour. Charles Fillmore, in a series of papers (1982, 1985) has elaborated the concept of Frame Semantics, largely applying his ideas to lexical meaning. George Lakoff, particularly in his (1987a) book, has developed similar ideas mainly with application to the notion of categorisation, under the name of Idealized Cognitive Models. Minsky (1986) uses the notions of uniframe (‘a description constructed to apply to several different things at once’ (p. 121)) and transframe (which is something like a verb frame or a script in that it may be thought of as a set of instructions for enacting a particular event).

The obvious first question to ask is: ‘What is a frame?’ The answer, unfortunately, is far less obvious – both Fillmore and Lakoff mainly rely on exemplification in order to characterise the notion, but both fight shy of actually attempting to define it. Minsky presents it in his 1988 book in terms of a hypothetical mental structure, containing many sub-structures (‘agents’ and ‘agencies’, depending on the level of complexity) and connections (‘K-lines’). Let us first review some of the examples in the linguistic literature, so that we can achieve some sort of intuitive understanding of the concept. (We have already looked briefly at both Fillmore’s and Lakoff’s work in section 2.1.) Here are some of Fillmore’s examples:

14. The word breakfast has to be understood within a certain cultural frame. A dictionary definition might mention that it is the first meal of the day taken after the main period of sleep early in the morning, and an encyclopaedia might add that in Anglo-Saxon culture it consists of such foods as fruit-juice, cereal, bacon and eggs, toast, marmalade, and tea or coffee.

15. The word bachelor has to be understood in the frame of the ‘normal marital situation’, which contains the following properties: (in Western culture) adults normally get married; this happens in
their 20’s; they normally stay married for life; marriage is exclusively heterosexual. Like all frames, this is a ‘folk model’, which encapsulates a traditional, stereotypical set of cultural expectations. Within this frame, a bachelor is of an age from his 20’s up to the upper age-limit of sexual activity; he is unmarried, and has never married; he is male and heterosexual; he lives in normal society.

16. Shore vs. coast: these items tend to appear in a water-bound, and a land-bound frame, respectively. Compare We got to the shore as quickly as possible with We got to the coast as quickly as possible. The first entails travelling across water (the sea, a river), while the second entails travelling across land. Something that is on the shore is viewed from the water, while something that is on the coast is seen from the land. (Contrast bank, which is frame-neutral, for this frame.) Sailors will have shore leave. A related kind of distinction pointed out by Fillmore is land and ground, the former possessing a land-as-opposed-to-sea perspective, while the latter has a-land-as-opposed-to-air perspective.

The frames in question, however, may be very complex objects, as the following additional points show:

14’. However, an early-rising agricultural worker might call his second meal breakfast (his first being something rather minimal); or somebody working on a night shift might eat after work around dawn, and call it breakfast; or somebody might sleep through until three o’clock in the afternoon, and call the meal eaten then ‘breakfast’ (compare the restaurants which advertise ‘Breakfasts sold all day’); or somebody might eat the leftovers from dinner, and yet call it breakfast if it satisfies some of the other stipulations.

15’. Beyond the frame described so far, there are two stereotyped subframes which bachelor activates: (i) the dishevelled, unkempt appearance stereotype (‘in need of a woman’s touch’); (ii) the promiscuous lifestyle stereotype (‘the gay young blade’ – before gay got its present sense, of course – see below). The frame perhaps best explains the prototypical examples, and those not too distant from the centre. It also explains why bad examples are peripheral, e.g. Roman Catholic priests, teenage boys, octogenarians, tramps, Tarzan, gay men with or without partners, transvestites, transsexuals, heterosexual males with permanent ‘live-in’ companions, unmarried women, divorcés, widowers, men whose wives are on holiday, etc. The same frame provides assumptions about related vocabulary: husband, wife, mother-in-law, etc.

16’. There are problem cases here, though: both a coastguard and a coaster operate on the water, though arguably are directed from the land (while coasting seems to be a land-bound motion); a
longshoreman operates on the land, though is concerned with bringing ashore sea-cargo; foreshore seems to me to be seen from land, while coastline perhaps rather from the sea. On the land/ground distinction, you might describe a penguin as hatching its eggs on land, since it is otherwise a water-pigeon, whereas you might say that an ostrich spends its life on the ground, in contrast to normal birds, which fly. A pilot who is not allowed to fly is grounded; a fish brought out of the water is landed. The back-up staff for flying crews is a ground crew. Again, there are problems: the frames are not water- (or air-) tight, but seem to allow variation. Thus, both flying birds and aeroplanes land when they come down, instead of *grounding, as one might expect. A ship or boat (but not, as far as I am aware, a water-pigeon) can run aground, which is abnormal, as opposed to the special terms docking or mooring, etc., which are normal (and which refer to what is beside rather than beneath the vessel) – although you speak quite normally of grounding a small boat, in order to ‘park’ it. Presumably this has something to do with the fact that a large ship does not actually contact the ground except in abnormal cases, whereas small boats do, quite regularly. Nevertheless, a ship can send out a landing party, but not a *grounding party, which is not the expected term. A possible explanation is that landing is viewed from a people frame (passengers, crew), whereas grounding is seen from a vessel frame (plane, ship).

Fillmore comes up with many such examples, and from them we can perhaps arrive at some kind of intuitive understanding of what a frame is. It seems to be something like an ‘area of experience’ in a particular culture. In the terms developed in the present book, as well as by Fauconnier, Langacker and others, we might say that a frame is a cognitive space, mapping out an experiential category. On the evidence of Fillmore’s lexical examples, frames are not rigid categories, but are somewhat fuzzy-edged; they certainly-overlap with other frames, and allow what appear to be exceptions (though conceivably these might turn out to be the effect of an overlap). Nor are they, on the whole, anything like classical categories, since no single list of necessary and sufficient conditions could ever come close to defining the frames we have looked at (cf. the discussion of prototypes in 2.1.3). Indeed, they resemble situations much more than they resemble, say, word-definitions. I will attempt to firm up this very general characterisation presently, but first let us look at Lakoff’s ICMs.

Lakoff also prefers to explain by exemplification, although, in addition, he positions the notion philosophically. In Lakoff (1982: 48 f.), he lists a number of characteristics shared by all ICMs:
• they are structured wholes ('gestalts')
• they use natural (i.e. experiential) categories, not classical categories
• as well as propositional content, they may contain image schemas
• they provide holistic frames for situations.

Taking Fillmore's example of bachelor, above, Lakoff explains its relationship to an ICM in the following way (1982: 50):

An idealized cognitive model may fit one's understanding of the world either perfectly, very well, pretty well, somewhat well, pretty badly, badly, or not at all. If the ICM in which bachelor is defined fits perfectly and the person referred to by the term is unequivocally an unmarried adult male, then he qualifies as a prototypical member of the category bachelor. The person referred to deviates from prototypical bachelorhood if either the ICM fails to fit the world perfectly or the person referred to deviates from being an unmarried adult male.

Under this account bachelor is not a graded category. It is an all-or-none concept relative to the appropriate ICM. The ICM characterizes representative bachelors. The gradience of representativeness arises from the degree to which the ICM fits our knowledge (or assumptions) about the world.

Lakoff explains ICMs, therefore, as experiential models of (part of) human life, which direct and influence human understanding of aspects of the world, as mediated through human perceptions and cultural knowledge.

4.4.1 Frame relationships

Useful and ground-breaking though it is, the work of Fillmore and Lakoff does not allow us to reach a clear idea of what actually constitutes a frame/ICM. However, the rich exemplification given by both scholars does permit us to achieve some sort of intuitive comprehension of the notion. In addition, Lakoff's more theoretical remarks enable us to situate ICMs as experiential models, as opposed to the absolutist deductive models of the objectivist tradition. By contrast, the work done within the AI tradition tends to present frames in terms of computational procedures. But the components and mechanisms of these intriguing objects still remain uncertain and obscure. In this section, therefore, I want to spend some time thinking about the internal constituency of frames.

I have already tentatively suggested that the resemblance between frames and situations might be worth looking at. We saw in Chapter 3 that situations have a basic structure of entities in time
and place, bearing relationships to each other and having properties. Complex combinations of these give events and indeed more complex situations. Take, for example, the kind of thing reported on by newspapers as a ‘situation’:

17. **Dealer’s dead loss**

A Naples man who kept cocaine in his mother’s tomb was arrested yesterday by drug agents posing as cemetery workers, police said. The known dealer was caught red-handed as he lifted the marble slab and reached inside for two envelopes containing cocaine. (Reuter) *(The Guardian, 14.5.1992)*

This situation contains a cast-list of **characters** (see section 7.2.3 below): a Naples man, his (presumably) dead mother, drug agents posing as cemetery workers; a set of significant **objects**: the tomb, the marble slab, the envelopes; a **time**: yesterday (relative to the date of the newspaper); a **place**: Naples (presumably). There are **relationships** between many of these entities: the Naples man is related to his mother, the mother occupies the tomb, the man kept cocaine in the tomb, the drug agents caught the man, the man lifted the marble slab, the man reached into the tomb for the envelopes, the envelopes contained cocaine, the agents arrested the man. Many of these entities or events have **properties**, moreover: the man is from Naples, the agents are posing as cemetery workers, the agents are in the drug squad, the man was a dealer, the slab was made of marble, the catching was red-handed (*in flagrante delicto*). This situation also has metalinguistic properties: that the man was a dealer is known (being a known dealer is not a property of the person who is a dealer, but has to do with his context, and specifically those around him – in this case, the police). There are four levels of reporting: firstly, the story comes from the police (*police said*); secondly, it was wired by Reuters; thirdly, it was reported by (a journalist writing for) *The Guardian*; and, finally, we must also include the present retelling, which adds the fourth level. Thus we have the actual events in Naples; these are related by the police, who are at least connected to the events, if not actual participants in them; this is in turn related by Reuters, who presumably have no connection either with the original events or their relating by the police; the Reuters story is in its turn published by *The Guardian*, and is finally used as an example by me (see Figure 4.3 below).

There are certainly frame effects in there too: the **tomb** frame must contain some cultural information about burials, death customs and connotations – for example, the fact that there is a
Figure 4.3

marble slab on many tombs. The fact that the agents were posing as cemetery workers presumably aided their invisibility, which fact is part of the GRAVE-DIGGERS sub-frame, involving their (low) social prestige. The COCAINE/DRUGS frame must contain social, legal, political and medical information — much of it of the folk-type pointed out by both Fillmore and Lakoff. For example, the report does not point out that possession of cocaine is a crime, and that that is what the arrest was for; this is part of the requisite frame knowledge. Our Martian on the Clapham omnibus (not possessing this frame knowledge) could just as well assume, for example, that keeping things in tombs (other than bodies) is an offence.
Both of these points – the metalinguistic sequence between the actual situation and the text, and the fact that an essential part of the frame lies in the knowledge of the participants – demonstrate rather clearly that a frame is not merely an actual situation. Whatever a situation actually is, it surely is not something out there in the world which exists irrespective of human intervention. A tree may actually fall over in the forest with or without any human observers, but what transforms this into a *situation* is the fact that it has been conceptualised as such by a sentient being. The very notion 'situation', in other words, is the consequence of human conceptualisation – it has been framed by human cognitive processes into a complex category of human experience. This is how we can actually entertain the idea of a tree falling down in the forest, whether in our presence or our absence.

The content of this kind of frame, at least, is clearly propositional (see 4.3.1). However, as both Lakoff and, especially, Langacker point out, there is another very important type of frame which is functional (see 4.3.2 – particularly the discussion of experiential knowledge). This includes what they both call the image-schema, which is founded on non-propositional actions, both physical and conceptual. The basic image-schema concerns movement through space, with metaphorical extensions to 'movement' through time and other domains. Indeed, if, as I will argue in section 7.3.3 below, even propositions seem at a more abstract level to consist of *pathways*, the image-schema type of frame may be the conceptually more basic of the two.

4.4.2 The genesis of frames

Another way to approach the nature of frames is to consider how they come into being. If, as Lakoff says (section 4.4 above), frames are generalised (‘structured' and ‘holistic’) and experiential (‘natural’), there is a conceptual problem here: human beings do not experience generalisations. Generalisations are the result of abstract cognitive processes applied to material gained from experience. We have, then, a conceptual gap here: if frames are the generalisations, what are the experiences they are derived from? Presumably one kind of possible answer would be 'actual situations'. We have indeed seen that there is a relationship between frames and situations. But we have also seen in the previous section that frames cannot be actual situations. The relationship is not between the
frame and the actual real-world phenomena, but between the frame and a *conceptualisation* of the actual real-world phenomena.

We must now consider what and where this conceptualisation is. If a frame/ICM is a generalised context, then it should presumably be a distillation from repeated experiences (which may be first- or second-hand, the latter mediated by language, film, etc.). The single experiences which make up the set from which the frame is distilled are situations which, as we have seen, represent actual phenomena. These situations will not be identical to each other; but they must be *sufficiently* similar to count as recurrences of something previously experienced. At a certain point (perhaps after as few as two such experiences), they fuse into a *situation-type*. It is to the situation-type that a frame is related – indeed, perhaps situation-types are rudimentary frames. For situation-types represent the beginnings of the necessary process of generalisation.

Many situation-types, of course, are based on what we might call pure, unmediated experience – observation, participation, not involving any other mediation except that of cognitive processing. Examples would be our protocols for recognising objects, spatial orientation, moving from A to B, or carrying out basic physical actions, and these presumably constitute our most deeply seated frame elements. However, many – perhaps most – of the situation-types we recognise involve language in a fundamental way. In fact, what I want now to put forward is an idea which most of the rest of this book will explore: The relationship between functional and propositional knowledge (or image-schemas and propositional frames) is nothing more or less than *the relationship between cognition and language*. By language, I really mean the mental representation of language, and by cognition, I am referring to non-linguistic conceptualisation.

If we follow this proposal through, we can make a reasonable link between the suggestion in the previous section about the relationship between propositional and functional knowledge. Functional knowledge is derived from our physical interaction with our environment; propositional knowledge is a higher extension of functional knowledge: it is based on the image-schema, which is a functional notion, but it extends the possibilities of conceptualisation from the physical to the abstract. Most experienced phenomena,¹¹ that is to say, can be reported on propositionally. In addition, the propositional capacity also allows the expression of domains which are not directly experienced, but rather imagined, remembered or stipulated. It is the propositional process to which I now want to turn.
If a frame represents a generalised context, what, then, represents a specific context? In general, I think we can say that the piece of language, i.e. the set of propositions, expressing a specific context, also represents it. Thus a particular situation gets expressed as a particular set of propositions. By the normal semiotic process, this set of propositions has a 'stands for' relation with the situation it expresses. When the speaker comes across another situation which is 'similar enough' to the first, he or she is free to categorise them together as a situation-type. Thus the same – or a very similar – set of propositions will also stand for the second situation. As the situation-type gathers more variations, it becomes enriched into a semantic and pragmatic complex. But is it yet complex enough to be considered as a frame? I would answer to this: 'not yet' – there is a crucial component still missing: what we earlier called cultural knowledge. The discussions of Fillmore and Lakoff which we looked at in section 4.4 made it clear that frames/ICMs were in some sense areas of folk-knowledge, and included snippets of social, legal, medical, psychological, etc., background, which functioned to put the central concepts of the frame into some sort of human perspective. The situation-types whose origins I have been discussing have been much simpler and more straightforwardly experiential. So, how do we get from simple situation-types to complex frames?

Of course, it may be that complex frames are just collections of simple situation-types, in which case nothing more would need to be said. However, we would still need to know why a particular frame consisted of that particular set of situation-types and no other, so we would still need more than that set to define that frame. What we need, evidently, is not just a mechanism for getting from conceptualisations to situation-types, but a mechanism that will also match situation-types with relevant areas of cultural (and indeed other) knowledge. But of course we already have that – it is the discourse. As we saw in Chapters 2 and 3, discourse consists of the conjunction of the propositions actually expressed (together with their inferences) and the knowledge evoked by those propositions. When a situation is expressed in propositions, each one is also accompanied by relevant information from the participant’s knowledge store. We can therefore see that when this happens often enough to set up a pattern, we get a frame. But each individual time it happens, we get a text world, or the representation of a specific context for a particular discourse.

A frame, then, is a distillation from a pattern of text worlds, representing complexes of situation-types and background knowledge.
This means that we can study the nature of a frame by studying cases of the text worlds which have gone to make it up. And in fact, of course, this is what happens: someone like Fillmore will in practice study the frame around a concept such as bachelor by considering typical discourses in which it occurs. Because these discourses are usually entirely conceptual, rather than specifically textual, though, they are not thought of as discourses, but instead as some kind of mental experiment. Nevertheless, they are discourses within the definition of the present book, since they bring together linguistic expressions with relevant background knowledge.

4.5 Knowledge and belief

I will now pass on to the most vexed topic in this whole area of debate, namely the question of perception and belief, and their relation to knowledge. The central question here has always concerned the so-called ‘propositional attitudes’, and in what way they affect the meaning of their immediate context.\(^\text{12}\)

The propositional attitudes include all those predicates which denote mental states or acts. They are called ‘propositional’ because, apart from having their own content (in some sense), they also take propositional content as an argument. Traditionally, they are held to fall into two classes, represented by know and believe. Philosophers maintain that you can only rightfully ‘know’ that which is true,\(^\text{13}\) whereas you can ‘believe’ anything at all. (‘Believing something does not count as knowing it unless what is believed is in fact true’, Quine and Ullian (1970: 6); ‘You cannot know a fact that is false, although you may believe it’, Halpern (1986: 5); ‘… nothing can be known and false’, Sperber and Wilson (1986: 40).) Linguists, on the whole, have gone along with this picture, even inventing the term ‘factive’ to denote much the same property (Kiparsky and Kiparsky 1971). Thus factive predicates are those whose complements denote ‘facts’: apart from know, they also include realise, regret and notice. The non-factives, apart from believe, include think, claim and maintain.

Belief is usually characterised as a lack, on the agent’s part, of the information necessary to verify the state of affairs which is being entertained. This is either because this information does not exist (i.e. is false, or at least unverifiable), or because it exists, but the agent simply does not possess it. Knowing, on the other hand, is usually held to involve the possession of information, in
the defined sense. Yet this does not, it seems to me, adequately account for cases like the following:

18. (a) I know my Saviour liveth

(b) I know the world is a globe spinning in space – but somehow I don’t believe it

(c) I don’t believe we’ve met

(d) I know you’re just gonna love this play

(e) I don’t know that I agree with your version of events

(f) I believe that’s checkmate.

To take these in turn, (18a) involves an unverifiable situation – despite the matrix verb, it is actually a question of belief. Nevertheless, it manages to suggest the depth of the speaker’s conviction, whereas the equivalent with believe is much more measured and ‘sensible’. (18b) draws a distinction between rational acceptance and emotional acceptance, the former identified with know and the latter with believe. Thus (18b) gives the two verbs the opposite connotations than was the case in (18a). (18c) superficially expresses a lack of belief that P; in fact, it conveys ‘I know we haven’t met’, expressed politely. (18d) expresses what is perhaps ‘illegitimate’ knowledge: it is in fact a conclusion drawn from past behaviour, and projected on to future events classified as essentially similar to the past events which brought about that behaviour – but clearly, any information about this is lacking. It should, perhaps, be a belief-sentence, but know expresses the intensity of the conviction – as in (18a). (18e, f) might be polite, self-effacing or ironic; they are unlikely to be literal in the philosophical sense of ‘I cannot verify the truth of P’.

What we seem to have, then, is an alternative picture of know and believe that is not regulated by the presence or absence of the verifying information in the mind of the speaker. Instead, it is characterised by the lengths to which S is prepared to go in order to vouch for the embedded proposition. (This is the ‘relativising’ function I referred to earlier.) No doubt the presence or absence of verifying information will in many cases lead to the use of one or the other form, since it will contribute to the agent’s certainty towards the proposition entertained. But there are other possible sources for such certainty, not all of them logically definable. I therefore think it important to make the point that in all cases, the claim of knowing P is a declaration of readiness to defend P, of conviction that P. Believing, on the other hand, suggests in some cases an emotional rather than intellectual attitude towards the
information, and in other cases a polite or ironic distancing which suggests a lesser degree of conviction. In all cases, I would argue, the precise connotation attaching to know or believe depends on the content of P, and not on any absolute semantic properties of know or believe itself.

If we then negate the verbs in such cases, what happens is that we remove the conviction, in the case of know, and either deny the emotional commitment or lower the degree of conviction still further, in the case of believe. Other verbs behave in a broadly similar way: realise, doubt, claim, deny, suspect, suppose (cf. Werth 1986, 1987, 1993a, and Chapter 9 below).

‘Belief-contexts’ resolve into two kinds of phenomenon, therefore: genuine propositional attitude propositions, and relativised propositions. In Chapter 9 I will propose a machinery which can naturally distinguish between these cases.

Notes

1 In any case, the problem has really to do with the meaning of the word mutual itself, which, being self-referential, lends itself to paradox. On self-reference, see Hofstadter (1979), Bronowski (1978: ch. 4).
2 I have been greatly helped in this and subsequent sections in Chapter 4 by suggestions from Shi Xu.
3 As Geoff Leech has pointed out to me, there is also that type of experiential knowledge which we share by virtue of inhabiting the same world and using the same perceptual organs, knowledge-processing systems, etc., e.g. the knowledge that something thrown into the air will fall back to earth.
4 However, the propositional/functional distinction is not clear-cut – not surprisingly, since all propositions can be represented as procedures (as in computer programming), while much functional knowledge is in principle storable in terms of a complex set of propositions (cf. so-called ‘Expert Systems’).
5 Fillmore was using the related notion of ‘Verb frame’ as early as 1968.
6 However, as van Dongen (1993: 20 f.) points out, Fillmore’s frames are structured propositionally, whereas Lakoff’s ICMs can be image-schematic, metaphorical or metonymic, as well as propositional (see Lakoff 1987a: 68).
7 Coast has an interesting history: it is apparently yet another case of a topographical term metaphorically derived from a body part (L. costa ‘rib’, ‘side’) – cf. Rubba (1990). This seems to have given two polysemic directions of derivation: (i) the side of a body of water, and movement along this (sea-coast, coaster (ship), etc.); (ii) the side of a hill, a slope, and movement down this (roller-coaster, coasting (along)).
Lakoff defines 'situation' as 'an otherwise fragmentary understanding of either the real world or some imaginary or fictional world'.

See also the critique of Lakoff's argumentation in (1987a) by van Dongen (1993).

Similarly, to answer the old conundrum, 'does it make a sound or not?', in falling over, it will collide with other objects, and some of this energy will move into the air in wave form. However, this is only interpreted as 'sound' if there is a sentient (and hearing) perceiver.

I do not dispute that there may be certain phenomena which remain ineffable (or impossible to describe in language), as the philosophers call it (see Katz 1972). But their existence in no way affects the relationship between functional and propositional knowledge which I have outlined here.

Cf. the brief discussion in section 3.4; see also section 8.3 and Chapter 9 below.

Thomasen (1986: 230) calls this a 'modal idealization', 'guaranteeing that $K$ will hold for each logically valid first-order sentence', (where $K$ is the know-operator). A cognitivist version of this, I suggest, would be that these senses of know and believe are the prototypical or 'folk' senses, i.e. they represent the basic frames around these terms.
Chapter 5

Common Ground (CG)

5.1 The construction of context in discourses

In Chapter 3, we looked at context in a fairly neutral way, concentrating solely on its components and processes. In the present chapter, we will look at how the context of a given discourse is actually used. The definition of ‘context’ used here is restricted: I will not be talking about such uses of the word as ‘the context of the Hundred Years' War’ or ‘Shakespeare in his context’. ‘Context’, rather, will be used exclusively to refer to the relevant situational background(s) for and in a particular discourse. Like all other parts of the discourse process, the context is constructed by the participants into an agreed set of ‘facts’, which we call the Common Ground (CG).

The notion of context is of some venerability in language study (as are some of the excuses made for postponing its investigation). The obstacles it presents certainly are formidable. To be of any use at all, the notion has to be able to encompass all the extralinguistic information necessary to produce and comprehend a discourse. Notice the important qualification here: ‘necessary to produce and comprehend a discourse’. One of the problems with the many unsuccessful attempts to capture the notion of context is that they have assumed that they have to define (in principle, at least) all the information available to the speaker or hearer, which has to mean all the information which might possibly occur in the culture. But this is no less than all the knowledge available in principle and in fact to the whole human race! Small wonder, then, that so many people have fought shy of attempting to deal with the notion in any systematic or methodical way.

Substituting the notion of necessary knowledge for possible knowledge (as we did in Chapter 4) may seem to be mere wordplay, since the task would still appear to be overwhelmingly complex. I claimed above, though, that if we clear up exactly what kind of context we
are talking about and where it operates, we can then define with much more precision what should be meant by ‘necessary’ as I have used it here. This is, presumably, similar to the operating procedure at other linguistic levels: in order to study the phonology of a language, the phonetician has first to sort out the ‘significant’ (i.e. linguistically relevant) human sounds from those not entering into the language system – burps, hiccoughs, etc. The morphologist has to distinguish meaningful elements from accidental sequences (even conventionalised ones, such as cries of pain and the like). The syntactician has to differentiate between ‘acceptable’ uses and ‘illegitimate’ ones (such as mistakes, false starts and so on). What counts as significant, meaningful or acceptable depends, of course, on the appropriate context at each level: at the phonological level, this would be the oppositional paradigm and the syllable phonotactics; at the morphological level, it is the morphological paradigm (declensions, conjugations) and the word sequence; while at the syntactic level, it is the syntactic paradigm (the grammar, in one of its several senses), and the sequence of sentences (the text).

Let us now examine the notion that the context is constructed. The common-sense view is presumably that the context is self-constructing, either in the sense (i) that it is just there, or (ii) it builds up as an automatic side-effect of the discourse. The first of these possibilities suggests that the context of a discourse is automatically the immediate situation. As we have seen, many discourses do not concern the immediate context of situation, but rely rather on the memory of past situations or on totally imaginary situations. Even in those discourses which do concern the immediate situation, the contents of the latter are not simply ‘just there’: firstly, the participants select from what is there; secondly, the participants actively interpret the situation, often, indeed, imposing an interpretation. The second possibility was that the context just builds up as an automatic side-effect of the discourse. The context is, indeed, discourse-conditioned, or to use the preferred term in this book, text-driven. However, we should not overlook the crucial role of the participants, who negotiate the relevant context by means of the discourse. Thus the context is the desired result of this joint venture, rather than being a mere by-product of an impersonal process of discourse formation.

It is in this latter sense that we can hold that the context is constructed. The speaker selects a topic, which the hearer is free to accept or reject. This topic may spring out of the immediate situation, but if it does, the participants select only a subset of the
entities manifest in the situation, and these entities are identified and categorised by the participants, using memory and inference. More likely, perhaps, is that the topic will come out of memory or imagination, and it is perhaps even clearer that these sources require joint negotiation. If the memory is in the participants' mutual knowledge of previous shared experience, then negotiation may be minimal, assuming that the hearer agrees to make this particular memory the topic. If the memory is exclusively in the speaker's mind, then the hearer may want to clarify unclear details, explore further implications or simply ask for more information, all of which are part of the negotiation process. Precisely the same applies if the speaker's source is imagination: the hearer may well wish to negotiate for further information. If all is satisfactory, then this (set of) propositions gets incremented into the CG, which as we have seen is the specific context for a particular discourse. The same process applies to all subsequent propositions, except that they are also tested for coherence, which we will talk about presently.

5.2 Common Ground – general character

While a text world is being built up (for a detailed account of this, see Chapter 7), a topic of discussion is also selected. This consists of some situation or situations falling naturally within the text world, and, like the text world, consists of a set of propositions; it is defined, that is to say, as a body of information. This body of information, just like that which defines the text world, comes from two sources:

- textual information, and
- background knowledge.

We can think of the information which constructs the text world as being background information, while that which constitutes what the discourse contributes is foreground information. I will subsequently distinguish these in Chapter 7 as 'world-building' and 'function-advancing' information, respectively.

Background and foreground together make up the common ground (CG), which is, then:

**Common Ground:**

the totality of information which the speaker(s) and hearer(s) have agreed to accept as relevant for their discourse.
An important point about the CG is that it is constantly shifting as the discourse proceeds. New information is constantly being added, and often old information is modified or decays in the light of later propositions.

5.3 How the CG operates

5.3.1 An Example

Here is an example of how we build up the CG for a text:

1. Clare Russell came into the Clarion office on the following morning, feeling tired and depressed. She went straight to her room, took off her hat, touched her face with a powder puff, and sat down at her desk.

   Her mail was spread out neatly, her blotter was snowy and her inkwell was filled. But she didn’t feel like work. She pushed the mail away and stared out of the window. The sun was already hot and the streets looked dusty. Fairview wanted rain badly. There was a burnt up, frowsy look about the small straggly town.

   (James Hadley Chase 1944/1975: 59, quoted in van Dijk 1977: 98)

Let us assume the position of a reader encountering this for the first time (which is essentially the same position as that of a hearer hearing the spoken equivalent of (1) as it is being said). Let us also suppose that a stage in the interpretation of the discourse consists of finding its constituent propositions, which, let us assume, will include something like (2) and (3) below:

2. (a) CLARE-RUSSELL ENTER CLARION-OFFICE MORNING-AFTER-x

   (b) [CLARE-RUSSELL] FEEL TIRED-AND-DEPRESSED'.

Our generalised frame-knowledge, which is part of our ‘community knowledge’ (Clark and Marshall 1981), tells us that Clare is a female name, Russell is a common English surname and that the Clarion is probably a newspaper name or, less likely, an insurance company name (for example). Office, too, has several possible senses at this stage of the interpretation (‘a room for clerical work’, ‘a building for clerical work’, ‘a government department’). Sentence 2 is about ‘she’. If this is to be connected to sentence 1, then she must refer to one of the NPs of sentence 1: the only reasonable possibility, of course, is ‘Clare Russell’. The several occurrences of possessive her, on the other hand, need refer back only to she, although they could refer to another female entity entirely.
Nevertheless, using the discourse principle of coherence (section 2.3), which is a modern version of Occam’s Razor, we may determine that the occurrences of her here, with a very high probability (which I will not attempt to quantify), refer eventually to Clare Russell also. Sentence 2 introduces her room, her hat, her face, a powder-puff and her desk, and propositionally looks something like:

3. (a) she GO TO her-ROOM  
    (b) [she] TAKE-OFF her-HAT  
    (c) [she] TOUCH her-FACE WITH POWDER-PUFF  
    (d) [she] SIT-DOWN AT her-DESK.

To understand how these simple propositions fit the context established so far, we need to possess certain further bits of frame-knowledge. Clare has a face by virtue of being human, but she has a hat, a room and a desk as a matter of choice or circumstance. Furthermore, we know that a desk is often a feature of a working-location of a certain type, of which an office (in sentence 1) is an example. But we also know that she is in her room, and that rooms can contain things like desks, as well as things like beds and wardrobes. If we put these various inferences together, we most likely conclude that the room is part of the office, and the office must obviously, then, be something larger than a single room. This then suggests that it is a whole building, or perhaps a suite of rooms, used for some commercial or official purpose – which adds further weight to the hypothesis that the Clarion is a newspaper.

Appealing to frame-knowledge again, we know that sentence 3 introduces items forming a ‘desk-scene’. From the predicates used, we may infer that these items were fresh and ready for use – their use presumably constituting part of the function of Clare Russell when in her room. This inference explains the form of sentence 4: BUT she didn’t feel like work. The connective but here opposes the readiness of Clare’s environment with her own unreadiness (for reasons already signalled in sentence 1). Another, less obvious, signal of the network of inference going on here is the reduced salience (which in speech is realized as reduced stress) of the word work, cf. (4a). Full stress on this word will give not ordinary ‘new-item’ accentuation (4b), but contrastive stress (4c), which would hardly be appropriate in this context:

4. (a) but she didn’t FEEL like [work]³ (although she should have)  
    (b) @but she didn’t feel like work (= first mention: It was a nice day . . .)  
    (c) but she didn’t feel like WORK (so she played cards instead).
This provides us with firm evidence that work is part of a network of inference, and not a freshly-introduced item (see Werth (1984: ch. 6), for detailed argumentation).

We have made rather a painstaking analysis of only four sentences of passage (1), in order to reveal the types of connection and reasoning which underlie even the simplest of discourses. Even in these four sentences we encounter an impressive array of different devices, among which are:

- **cohesion** (or anaphora – referential connectivity): Clare Russell – she – her, Clare Russell – Ø, she – Ø;
- **collocation** (lexical connectivity): office – desk – mail – blotter – inkwell;
- **connection** (‘logical’ connectivity): the use of but;

We make sense of these connections ultimately by relating them to the larger systems of world-knowledge (i.e. frames) with which we conceptualise our world, a process which I will look at more closely in section 5.4. We can at this point, however, make a composite diagram of the text world for the discourse and the frames which impinge upon it. From now on, though, I will mainly be using verbal rather than graphical notation in these diagrams. We will start by listing the world-building elements, and then below them, the function-advancing elements (Figure 5.1). The bold rectangle represents the text world with its contents. The propositions set out in (2) and (3) are here shown as path-expressions (to be explained more fully in Chapter 7). The frames shown on the left are, for the purposes of this demonstration, highly selective, both in their number and their contents. The NAME frame is a list of lists, since names are not subject to grammatical regularity. The NEWSPAPER frame is in fact much more complex, since it classifies an important element of our culture. Furthermore, no attempt has been made to relate any of the collocations (shown here in bold) within the NEWSPAPER frame, and all of them would themselves be at the centre of (overlapping) frames. Similarly, the ROOM frame has been used merely to present the main competing senses of the word; no other frame-information has been given.

On the right-hand side, the INFERENCES box provides another aspect of the knowledge-extension which is triggered by the discourse. Fuller details of the inferencing process may be found in Fig. 5.4.
**Notation:** WB = world-building elements; FA = function-advancing elements; t = time; l = location; c = character; o = object; in text world: downward arrow = pathway; sideways arrow = conjunction or modification. Side boxes: on left: frames; on right: inferences.

**Figure 5.1**
At the more local text level, we have the constant task, as participants in the discourse, of processing the flow of information into the CG. Werth (1984) was largely devoted to examining these processes, which are derived from the concepts of given and new information (see Chafe 1976; Prince 1981). These form the basis of the process of emphasis, which is responsible for a good many lower level (syntactic, phonological) configurations. Now, however, I want to look at the processes which operate, as it were, in the opposite direction. These are coherence (and the related – I will argue subsidiary – notion, relevance) and incrementation. We may define these as follows:

Coherence:
the relation which any proposition in the CG of a discourse has with at least one other proposition in the same CG.

Incrementation:
the process of adding the current proposition to the CG.

5.3.2 Coherence

Most scholars in the field of discourse study (with the exception of Relevance Theorists, see section 5.3.3) agree that the basic constitutive principle of discourse is coherence. There is less agreement, however, on what exactly constitutes coherence. One source of the confusion is the occurrence in similar contexts of the derivationally related term ‘cohesion’. This probably stems from the very influential usage of Halliday and Hasan (1976) who use ‘cohesion’ to cover three types of textual connectivity: lexicogrammatical (covering collocation, substitution and ellipsis), referential (covering the various kinds of ‘phoric’ relation), and conjunctive (dealing with connectives of various sorts). The latter two, Halliday and Hasan grouped together as ‘semantic’ (1976: 322 and following), though it is evident that much of the context of semantics, even taken fairly narrowly, is not included in Halliday and Hasan’s approach. Thus, they have nothing to say about connectivity based on implication, partial synonymy or metonymy. As for the term ‘coherence’, they do not use it at all. (Hoey (1983) follows the same usage, though it is not a central part of his argument.)

Another tradition, which does use the term ‘coherence’, is the European school of ‘Text Linguistics’, exemplified by J.S. Petöfi (e.g. 1974) and Teun van Dijk. The latter’s earliest work (1972) attempts a (somewhat premature) formal semantic account of a
coherence constraint. This is based on the notion that coherence consists of one of a small number of logical relationships (equivalence, inclusion and membership) between successive propositions underlying a text. The constraint thus ‘passes’ as coherent those propositions which display one of the relationships with its predecessor, and filters out those propositions which do not. Coherence in this account, then, is seen as a semantic relationship (and ‘semantic’ is defined narrowly, as was the orthodoxy in the early seventies). The constraint was meant to handle only meaning relationships between propositions, but its main lacunae were that it had no account at all of reference, and only a limited view of semantic relationships. So, although it could presumably cope with synonymy, hyponymy and hyperonymy, there are many other semantic relationships which it was unable to account for, including implication (entailment), antonymy of various kinds, partial synonymy and metonymy, all of them very common in natural discourse. Furthermore, by itself it would pass as coherent any text which was in fact a succession of pairs of propositions, each pair cohering, but the second member not cohering with the proposition preceding the pair, and the first not cohering with the proposition following the pair (cf. Johnson-Laird (1983: 357) on ‘second-order approximations’). One such text might be:

5. May I come to your lecture? There’ll be nothing new in it for you. Nothing would please me more than to buy some shoes. I wouldn’t buy those, if I were you. If you were me, how would you react to the company’s offer? It’s about time the company did something positive for you. I didn’t realise how late it is! You’d better fly, I think! I would, but the flight’s been cancelled.

It was for this reason that van Dijk subsequently introduced the notion of ‘macrostructure’ (especially in van Dijk 1980), to control both the global and the local coherence of a text. The other gap, that of reference, or interpretation in a model, he repaired with work on mental or situation models in the late 70s (cf. references in Chapter 2).

Nevertheless, van Dijk’s early work laid the foundations for a basic distinction – between coherence as semantic, and cohesion as syntactic – which is at the root of most of the contemporary approaches to the connectivity of discourse. Naturally, as our understanding of both semantics (and its interaction with pragmatics) and syntax has deepened, depending on the exigencies of the theory one favours, the precise definitions of the terms have varied. In
particular, the notion of coherence has changed from a superficial matching of overt syntactic features to a powerful concept incorporating the situational context and evoked knowledge (see, e.g., Werth 1984). Criticisms of the notion of coherence, chiefly emanating from Relevance Theorists (e.g. Blass 1985, 1990; Blakemore 1987, 1992), however, on the whole fail to appreciate that 'coherence theory' (as they call it) has moved on, and it is as futile to criticise the modern notion of coherence in terms of the theories of the early (or even later) 1970s as it would be to criticise Relevance Theory in terms of Grice's Maxim of Relation. Consider Blakemore's version of the distinction between coherence-based accounts and relevance-based accounts. Coherence, she says (p. 111) 'is defined as a relationship between linguistic units – that is, utterances or the segments of a text'. 'By contrast,' she goes on, 'relevance is defined in terms of a relationship between propositions.' But, as we have seen, it was really only Halliday and Hasan (who never actually used the term 'coherence', in fact) who based their account on purely linguistic units (in the sense of overt linguistic elements). Other, even earlier, work (van Dijk 1972; Widdowson 1973) is firmly founded on semantic or pragmatic units: van Dijk on the proposition, Widdowson on the speech act. Blakemore continues, incorrectly: 'the context used in establishing the relevance of a proposition is not, as in coherence-based accounts, simply characterised as the co-text of discourse, but as a set of assumptions stored in memory'. In fact, as we will presently see, the real distinctions between the notions of coherence and relevance lie not at this level, but at the level of implementation of the theory.

We will return to a more detailed review of Relevance Theory later in this chapter. For now, I will attempt to draw some generalisations about the field of discourse studies-cum-pragmatics as it appears in the early 1990s. Ignoring certain details, it is striking how much agreement there is, in fact, between text/discourse linguists such as van Dijk, de Beaugrande, Hobbs, Widdowson and Emmott, cognitive psychologists such as Clark and Johnson-Laird, cognitive linguists such as Langacker, Lakoff and Fillmore, AI people almost unanimously, pragmatists such as Bosch, semanticists such as Seuren, van der Sandt and Gazdar, and even relevance theorists such as those cited above. All seem now to be agreed on the role played by general knowledge in the production and interpretation of language, and the importance of the notion of situation, including the immediate situational context. Most are agreed that whatever precise form the system takes, it is mentally represented, so
that knowledge, situations, contexts are mental constructs rather than reflections of an outside reality. Most would also agree that, however we explain discourse connectivity, it is supplied by speakers and hearers by evaluating hypotheses formed on the basis of their knowledge of the meanings involved, and it is not, on the contrary, inherent in the discourse.

Returning to the nature of coherence, it is of some interest to compare some of the many approaches which subscribe to the coherence/cohesion distinction, to see just what variations they introduce. De Beaugrande (1980) and de Beaugrande and Dressler (1981) make cohesion a matter of overt connectedness in ‘surface text’ (defined in the latter work as ‘the actual words we hear or see’ (p. 3)), while for them coherence concerns the mutual accessibility and relevance of concepts and relations underlying the surface – what they subsequently summarise as ‘underlying content’. A similar kind of view had already been taken by Widdowson (1973, 1979), and was followed by Coulthard (1977) and Stubbs (1983). Another variety of this view occurs in Charolles (e.g. 1989). Charolles argues that coherence is not a property of the discourse, but is constructed by the participants. (Similar notions are advanced by Petőfi throughout his work.) Lundquist (1989) puts forward a knowledge-based definition of coherence (‘an adaptation of new knowledge (i.e. new relations) to established knowledge, as an act of relating new ideas to old’ (p. 124)). Thus, she too subscribes to the idea that coherence is not inherent in texts, but is a construct.

Strangely enough, the term ‘coherence’ hardly ever gets used by American discourse scholars. One notable exception to this generalisation is Hobbs (e.g. 1979), who also supports the ‘constructed coherence’ proposal. He also points out that cohesion is logically and in practice subsumed by coherence, a conclusion also arrived at in Werth (1984), which shows that in fact all textual connectivity is underlyingly semantic. The definition of coherence I developed there shows another important variation. Rather than being based on propositional links in the text, it is based on propositional links between the text and the Common Ground, which, as we have already seen, is all and only the information necessary to interpret the discourse, and therefore consists of all the propositions underlying the text so far, together with all knowledge evoked by the discourse up to that point. However, as the definition at the end of the previous section shows, there is an important difference between my (1984) view and that proposed here. In Werth (1984) I used a coherence constraint which, though incorporating more
recent insights, such as Common Ground, was a direct descendant of van Dijk's original (1972) rule. This being so, its conditioning contexts were a generalisation of the same three logical relationships (equivalence, inclusion and membership), though I was prepared to add others to van Dijk's list, and also to include pragmatic relationships. But this meant that the result was rather fuzzy for something that pretended to be a constraint. Furthermore, I came to realise that what binds the elements of a text together was better expressed in terms of functional relationships rather than logical ones. As is well known, the logical operators are too absolute for natural language, while pragmatic operators have never really been satisfactorily defined in logical terms (owing presumably to their incorrigibly fuzzy nature). Consequently, I have replaced the logical/undefined pragmatic conditions of (1984) with the functional conditions: synonymy – full or partial, antonymy, hyper-/hyponymy, metonymy and metaphor.

These meaning-relations may be defined in terms of frames. In general, we may say that they all require some kind of comparison between two, or possibly more, frames. Synonymy between meaningful linguistic elements (ranging from complete to some degree of partial identity) involves the overlap of frames. Complete synonymy (which perhaps does not in practice exist) would require total identity between two frames (except presumably for their core items). Partial synonymy ranges from almost complete identity down to some practical cut-off point where the overlap is of diminished significance; however, it is in this range that the interesting cases of meaning-similarity (rather than meaning-identity) occur. Antonymy (which is perhaps the most complex of these relations (cf. Lyons 1977: Ch. 9.1–3 and Werth 1984: 87–9)) presumably involves one frame having a negative counterpart of one or more features of the other frame. Hyponymy requires one frame being part of a hierarchical structure in the other frame. Metonymy (probably the most common of all the meaning-relations) is, broadly, a relation of belonging. This ranges from part-whole (‘inalienable possession’) as in John's foot, through regular possession (ownership), e.g. John's car, and the possession of a property (a red car), to some looser association of contiguity, common (cup and saucer) or occasional (the floppy disk and the pen on my desk at this moment). In frame terms, metonymy represents an association between frames which may be well attested and relatively frequent within the knowledge-base, or may be rather uncommon and the result of happenstance, in which case the frame-relationship is
tied to a particular set of circumstances which may possibly not
generalise into an enduring frame property. Finally, metaphor is
the mapping of one frame (typically denoting an abstraction, and
hence very underdetermined) on to another more concrete frame
which is therefore much more determined.

Before we leave this section, I will provide the reader with an
eample of the coherence constraint at work. For obvious reasons,
I will use the updated version of my 1984 constraint (p. 90):

**Coherence constraint:**

\[ \forall p, \exists c <D <c, p> & F <p, c>],

where ‘p’ = a proposition, ‘c’ = the CG, ‘D’ = a single discourse,
‘F’ = one of the functional conditions, full or partial synonymy,
antonymy, hyponymy, metonymy or metaphor.

The Coherence Constraint says that for any proposition there is
a Common Ground (CG) relating to the same discourse as the
proposition under consideration, and this proposition bears one
of the functional conditions with respect to that CG. This has
the effect of filtering out all non-coherent propositions. However,
the fact that the constraint is stated over the CG, rather than
over the verbal context, ensures that evoked knowledge, as well
as stated propositions, enters into coherence relationships. This
means that a proposition can cohere with an inference or part
of an evoked frame. The development of the notion of discourse
worlds, text worlds and sub-worlds undoubtedly requires a number
of modifications of detail in this constraint. I will deal with this
presently, however, when comparing the notion of coherence to
that of relevance.

In Werth (1984), I also proposed a mechanism, called **Emphasis
placement**, to convert coherence into surface structures. This in
effect worked on the fact that the Coherence Constraint partitions
propositions into two parts: a cohering part and a non-cohering
part (this follows naturally from the Informativeness principle – cf.
section 2.3). The cohering part corresponds to **Given** information,
while the non-cohering part corresponds to **New** information. The
latter is non-coherent in the narrow sense of the constraint, but in
a broader sense, investigated in Werth (1984: Ch. 6.5), it retains
lexical compatibility. There are three categories of emphasis, one
Corresponding to New information (called **Accent**), and two to
Given information. The first of these two categories exhibits what
I call **positive coherence**, in that it applies to items which are
essentially the same as their coherence antecedent; this is known as **Reduction**. Reduced elements cohere by means of any of the functional conditions, except antonymy. The second cohering category is **Contrast**, which exhibits negative coherence, and is based on antonymy (viz. denial, contradiction, oppositeness), but none of the others. Emphasis placement is implemented by a set of rules (1984: 105) which I paraphrase below:

**Emphasis placement:**
1. Mark each Predicate item in a proposition as Accented (A)
2. If a predicate positively coheres, change A to R(educed)
3. If a predicate negatively coheres, mark it C(ontрастive).

We can try this out on the proposition given in (4) above (see p. 121):

```
[SHE]  NOT-FEEL LIKE WORK
A       A       A (by rule 1)
R       R       R (by rule 2)
C       (by rule 3)
R       C       R
```

The process begins by marking all predicates (i.e. content items) as A. The second rule reduces all Given material: *she* as an anaphoric pronoun refers back to *Clare Russell*; *work* refers back to an inference from such frames as the *office* frame and the selection of 'work-place' from the *room* frame. It is therefore Given, though based on an inference rather than some sort of repetition of content. *Feel* is also marked R at this point, again by inference: since she is at her workplace, where she is paid for working, and is not under duress (she is not a slave or an unpaid volunteer, we may presume), then the assumption is that she does her work willingly. Rule 3 makes antonymous elements Contrastive: note that *feel* is negated. The Contrast is therefore with the suggestion that she *should* feel like work (see above). For further argumentation, the reader is referred to Werth (1984: chs 6-7).

5.3.3 Incrementation and how it works

**Incrementation** (or *updating*) was earlier defined as the process of adding the current proposition to the CG. The term, so far as I am aware, was originally due to Karttunen and Peters (1979), though the notion itself must be considerably older.
In text-processing, each Current Position (CP) is linguistically interpreted, the final stage of which is the coherence mechanism which relates the ‘raw proposition’ to the inferencing mechanism and the knowledge-base, and specifically, knowledge of the accumulated CG. **Incrememntation** then adds the CP to the current CG, together with the additional ‘annotation’ of evoked knowledge. We will look again at this last part of the process presently, in section 5.4. A further problem, specific to the present model, is ‘When does a Text World get updated?’ We will look at this in some detail in Chapter 10.

The traditional answer to the question ‘On what grounds does a proposition get incrementated?’ was usually ‘Its truth-value’. True propositions get incrementated, false ones do not. Let us now, therefore, take a look at the notion of ‘truth’ – though as with much of the present approach, however, this will be from an unconventional viewpoint.

**Truth and its assessment**

What do we mean by ‘truth’, and why is the concept important? Firstly, most philosophical reasoning, including all conventional logic, is based on the idea of truth. In concrete terms, this means that any philosophical or logical proposition can have just one of two possible values: true or false, 1 or 0. These values, together with the conditions for reaching them, are often then regarded as the meaning of the sentence. But there are many possible sentences for which no such value can be determined:

6. God is Love  
7. My wife is the most beautiful woman in the world  
8. Abortion is right/wrong  
9. George is a genius  
10. Do you love me?  
11. Open the window.

(6) involves the equation of a non-referential (or controversially referential) entity with an abstraction. (7)–(9) are all value-judgements, so true only subjectively. (10) is a question, and (11) a command, and conventional logic applies only to declaratives. On the whole, conventional logic ignores these completely (though there are some non-conventional logics which attempt to tackle some of the problems they raise). Obviously, though, since these are perfectly normal, meaningful and grammatical sentences, linguistics cannot afford to ignore them.
I will assume, therefore, that truth or falsity may be a part of the meaning of a sentence in a given text world, but that it is not all there is to meaning. If it were, then all true sentences would have the same meaning, and all false sentences would have (another) same meaning, while all sentences like (6)–(11) would be meaningless. I will also assume that the meaning of the terms ‘true’ and ‘false’ is not necessarily either obvious or constant.

We have, nevertheless, not yet answered the question ‘What is truth?’. There must be nearly as many answers to this as there are logicians and philosophers (not to mention theologians). One very influential answer was by Alfred Tarski (1944), with the misleadingly simple equation:

12. The proposition ‘Snow is white’ is true if and only if snow is white.

This says that the truth is its verification in the real world. Of course, not every sentence is capable of being verified (cf. (6)–(11) again), and there are many propositions which seem to be clearly enough true or false, but which are abstract or imaginary, so they cannot be verified in the real world either.

A more recent idea is truth in a model. A model is more or less a possible world (see Chapter 3), and so is something like our text world. Given a rich enough definition of ‘model’, such as is given in the present work (though not in model-theoretic semantics, for example), this solves the problem with abstract or imaginary sentences, and indeed several of the (6)–(11) sentences, since the text world, or model, is defined by the discourse, and a proposition is true if it is one of the propositions in the Common Ground of the discourse, or if it follows from one of those propositions.6

Thus, given a text world containing proposition (13), all of examples (13)–(15) are true in that text world, while (16) is false in that text world:

13. Hobbits are round and fat, and live in holes in the ground.
14. Hobbits exist in this text-world.
15. Hobbits are living creatures.
16. Hobbits are thin.

There still remain a number of very serious problems with this concept of truth in a text world, however. One of them is the question of indeterminacy, which has to do with the problem of assessing a given proposition for truth in a text world. It is not always possible to give a ‘yes’ or ‘no’ answer (i.e. ‘true’ or ‘false’). Consider the Hobbit world; the following propositions seem
reasonable, but it is not always possible to give a definite assessment of their truth:

17. Hobbits are stocky
18. Hobbits are like moles
19. Hobbits are jolly and like to tell jokes

In cases like this – and in any text world, there are very many like them – it simply is not possible to give a straight ‘yes’ or ‘no’ answer. The answer has to be qualified in terms of **probability**.

**Probability**

This suggests a more realistic approach to the assessment question. If instead of ‘true’ we talk of *100 per cent probability*, and for ‘false’ we say *0 per cent probability*, then obviously there are many possible degrees of truth and falsity between these two extremes. We do not have to use numerical values like percentages; English provides a number of terms along this scale (see Figure 5.2). The assessments are based on reasoning which is itself based on certain evidence or facts (also shown in Figure 5.2).

<table>
<thead>
<tr>
<th>100%</th>
<th>Certain (True)</th>
<th>Probable (Likely to be true)</th>
<th>Possible (Could either be true or false)</th>
<th>Improbable (Likely to be false)</th>
<th>Impossible (False)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EVIDENCE AND RESULTS OR LOGICAL NECESSITY</td>
<td>DEGREES OF EVIDENCE</td>
<td>NO CLEAR DECISION CAN BE MADE</td>
<td>DEGREES OF NEGATIVE EVIDENCE</td>
<td>NEGATIVE EVIDENCE OR LOGICAL IMPOSSIBILITY</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 5.2**

Against this scale, we can measure various interpretations of the notion ‘true’ – for the term is not immune from usage variation. The mathematical/logical sense is strictly binary: if a proposition is not true, then it is false (though there do exist accounts which are ternary, e.g. the earlier Strawson (1950) and Seuren (1985), and some with an even greater range of values, e.g. the ‘fuzzy logic’ of Zadeh (1965)). This means, for the predominant binary value, that only the values 100 and 0 per cent are valid. Now, quite apart from the vast range of ‘meaningless’ propositions which opened this section, even the undisputed cases of Truth, it seems to me,
exhibit evidence of variation along this scale. Truths are divided into necessary (or analytic) and contingent (or synthetic) truths. The former supposedly cannot be otherwise than true (or 100 per cent probable), under any imaginable conditions. However, they include different sorts of proposition: some are simply linguistic tautologies (Cats are feline), others are logical tautologies (P or not-P), mathematical expressions (2 is a prime number), physical 'laws' (The gravitational attraction between two massive bodies is proportional to the product of their masses divided by the square of the distance between some point in each mass). These do not all have an equal hold on truth, however. Many linguistic tautologies are actually definitional, and definitions are only as good as the theory they occur in, or, more subtly, only as good as the level of accuracy they are aimed at. As an example of the first, consider Wood is composed of phlogiston and ash; and of the second, France is a hexagon, or An atom is the smallest element of matter. Even full linguistic tautologies are subject to modification by cultural changes: cf. A wife is a woman, in times when sex-change is medically not even particularly rare, and Dead = not alive, when medical science has been forced to distinguish between 'brain death', 'heart death', 'irreversible death', and so on. Physical laws are similarly subject to change in the light of new theories or discoveries: the example given above is Newton's law of inverse squares, which was superseded by Einstein's theory of relativity. Even so, it still counts as a reasonable truth down to a certain level of specificity. Mathematical expressions are supposed to be exact and immune from changes in circumstance: maths is the objectivist theory par excellence. However, at the heart of maths, there are inconsistencies which are known but ignored by professional mathematicians. One example (Woods 1992: 88–9) concerns infinitesimal numbers: The infinitesimal both is and is not equal to zero. Division by an infinitesimal requires that the latter cannot be zero. On the other hand, infinitesimals must be discounted in the final calculation, so they must equal zero. This all suggests that 'Analytically True' often means 'true at this moment, or in the present state of our knowledge, or for present purposes', which is significantly different from the rigorous objectivist picture of analytic truth as an immutable property of certain propositions, irrespective of physical circumstance or human interaction.

Contingent truths, on the other hand, are susceptible to circumstances. Thus, the inclusion of contingent truths into logic opens up logic to the inclusion of context. Contingent truths are cognitively respectable, since they are subject to human experience and intervention. This means that the seditious definition of 'Analytically
True’ given above as ‘true at this moment, or in the present state of our knowledge, or for present purposes’ is (part of) the normal definition of ‘Contingently True’. Many so-called ‘Analytic Truths’, in other words, are really contingent. But this makes it difficult to place either contingent truths or those analytic truths which are subject to the same qualification at the 100 per cent probable end of the scale, since their probability is strictly limited to a certain period or set of circumstances. For these reasons, the use of the terms ‘true’ and ‘false’ in the present book will be confined to their use in ordinary language, where ‘true’ = ‘typically the case’, and ‘false’ = ‘typically not the case’. We will subsequently look at another approach which considers possibility in terms of force: how compelling the conclusion is, given the force of the argument (cf. Talmy 1988; Sweetser 1990; and section 11.1 below).

Authority

A second problem has to do with the fact that, in practical terms, it seems not to be sentences, or even propositions, which have truth-values or probabilities, but utterances, i.e. propositions in contexts of situation. (A model-theoretician might refer to these as ‘functions from propositions to models’.) This means, as we saw in the previous section, that the truth or probability which we loosely attribute to a proposition has actually to be assessed relative to certain properties of the context it is in. One of these we have not yet discussed is speaker-reliability vis-à-vis the subject-matter (i.e. not absolute reliability in any sense, but rather authoritiveness with respect to the topic at hand). Parallel to the scale of probability, then, there is a scale of reliability. This has to do with the level of authoritateness which a speaker has vis-à-vis his or her subject (Figure 5.3).

100% ................................................................. 0%
Highly authoritative Fairly authoritative Middling authoritative Low authority No authority

Figure 5.3

So, an important factor in the assessment of how far asserter W (cf. section 3.6) is justified in taking responsibility for the truth of the embedded proposition is the degree of authority possessed by asserter E. Consider (20a,b,c) (with characters from a TV puppet show):
20. (a) Miss Piggy claimed that time is relative.
(b) Kermit believed that time is relative.
(c) Beaker proved that time is relative.

Clearly, in case (c), for example, asserter W would be suspending critical judgement within the context of the show. Otherwise, one would expect some sort of sentence disjunct, or dissociation from the ‘real world’:

(d) Beaker proved, at least to his own satisfaction, that time is relative.
(e) In a sketch on the Muppet show, Beaker proved that time is relative.

Apart from the roles conferred by their discourse function, the participants will certainly have a number of other social roles and properties simply as individuals. Whether or not these also play a part in any given discourse will depend on whether they are in the mutual knowledge of the participants (see Chapter 4), and whether those particular social roles or properties have any connection with the Common Ground of the discourse (see above).

Social Network theory (see particularly Milroy (1987)) was primarily developed to explain certain asymmetries in the relationship between social class and language usage. A social network is the configuration of all the social connections a given individual has with other individuals, their connections with further individuals, and so on. Connections may be uniplex or multiplex, and a particular network may be more or less dense, depending on the number and type of connections it has.

Another notion from social psychology I would like to refer to is the notion of power (see, for example, Brown and Gilman 1968, Fairclough 1989). Power, as Fairclough points out (pp. 3–4), can be exercised by a variety of means, ranging from physical coercion to ideology (the ‘manufacture of consent’). It arises out of the perception by an individual or community $U$ (for ‘Underdogs’) that a particular individual or group $P$ (for ‘Powerperson’) has the right or the qualifications to dominate the rest of the community in some specified domain. That perception can come about through coercion exercised by $P$, through the fact that $P$ has some special ability or knowledge desirable to $U$, or through $P$’s successful deployment of an ideology. One important property which depends, in a complex way, upon such considerations is the notion of personal authority. I do not mean by this anything like ‘charisma’ or ‘animal magnetism’.
individual's authority to assert a given proposition. The factors that contribute to this in any given case are not necessarily related to an individual's relatively fixed social or professional status – unless that status happens to be relevant to the CG of the discourse.

I would like to suggest that these notions of authority can be described - and to some extent explained - by combining the theory of social networks with the notion of power. If we consider any connection in a network to also exhibit a power relationship, we get three possible types of connection: (i) unequal power (→ or ←); (ii) equal power, with respect to a mutual connection (e.g. power over a third person) (↔); (iii) equal power, with respect to each other (viz. equal lack of power) (—). Consider, for example, a multiplex connection between two individuals X and Y, with four roles, r₁, r₂, r₃ and r₄

role₁: X is Y's superior at work.
role₂: Y is a computer expert who X depends on.
role₃: X and Y are the parents of child C, over whom they have equal authority.
role₄: X and Y are members of a gym club: neither has authority over the other.

We can see from this example that authority is not inborn, an indissoluble property of an individual, who therefore 'has it' by virtue of being who he or she is. Rather, it is a function of the particular role relationship which is in force during the discourse itself. Thus, as an amateur gardener of somewhat patchy accomplishment, I might exercise authority on the subject of gardening in my role relationship with Joe Bloggs, a lifelong inhabitant of a high-rise in Hackney, whereas in my role relationship with, say, the Head Horticulturist at Kew Gardens, my gardening authority is as zero. The notion of authoritiveness,⁹ and how we deal with it, will turn out to be particularly important in solving problems associated with so-called 'propositional attitudes'. (Cf. Chapter 9.)

Relevance

A third problem also arises in connection with the relationship between propositions and their contexts. This is the relevance problem, which has received a great deal of attention in recent years, particularly from the school associated with Dan Sperber and Deirdre Wilson (e.g. 1986); for a discourse-grammatical view, see also Werth (1981a).
Relevance Theory, as it has come to be called (apart from Sperber and Wilson (1986), see also Blakemore (1987, 1992), Blass (1990)), substitutes for the formal, objectivist minimalism of semantic approaches an ambitious and all-embracing programme which takes its departure from the Co-operativeness Theory of H.P. Grice (1975). Sperber and Wilson, which I will take to be the principal statement of Relevance Theory, substitute for Grice’s Co-operative Principle and its maxims, and associated machinery, something called the ‘principle of relevance’ (Sperber and Wilson: 158):

**Principle of relevance:**

*Every act of ostensive communication communicates the presumption of its own optimal relevance.*

An **ostensive stimulus**, which is a stimulus which is intended to be perceived as relevant, e.g. a gesture, a loud sniff, an act of speech, all in an appropriate context, makes it manifest that there is the *intention* of relevance (Sperber and Wilson: 156). The principle of relevance makes this a little more precise: it communicates the presumption of its own *optimal* relevance. To track this notion further, Sperber and Wilson breaks it down into two determining factors: 'the effort needed to process it optimally, and the cognitive effects this optimal processing achieves’ (Sperber and Wilson: 156–7). These two factors occur in an inverse proportion: effects must be enough to make the effort worth while; effort must be never more than the minimum needed to achieve the effects. Relevance, therefore, turns out to be a kind of cost–benefit analysis, with the effort as the cost, and the effects as the benefit.

Here is a brief example of what I take to be the kind of analysis they propose:

21. MEG: Was it dark?
PETEY: No, it was light. (Pinter 1960: 10)

The answer ‘no’ is highly relevant, since it provides the full information required by the question, yet takes very little processing effort. The expansion ‘it was light’, however, is of very low relevance, and is perhaps completely irrelevant (though how one is supposed to assess degrees of relevance is not made clear). This is because it adds no, or little, further information at all, since in this context *light* and *dark* are polar opposites (the slight possibility that Petey could have said ‘It was twilight’ makes me hesitate on the degree of relevance). Nevertheless it does, of course, take up some processing
effort – maybe not much, but certainly more than the amount of light it sheds (as it were).

It seems to me that something important gets lost in here, namely, the **meaning**. We know that ‘It was light’ is irrelevant, since its meaning has already been covered in Petey’s answer. Nevertheless, it is not as irrelevant as the answer ‘It was amazing’ or ‘It was pink lace’ (having no semantic connection with the question) would have been. Another important factor which receives surprisingly cavalier treatment in the Sperber and Wilson approach is the **context**. Thus, Petey might have answered ‘No. It’s summer’, where Meg would presumably know what season it is, but Petey would be using this fact to explain why it was not dark. These two omissions add up to a virtually complete embargo on the notion of **discourse** as it has been defined earlier in the present volume. Let us therefore look at these factors, as handled by Sperber and Wilson; we will see that their approach often leads to incorrect or absurd conclusions.

They characterise context as follows (Sperber and Wilson: 139):

The assumptions left over in the memory of the deductive device from the immediately preceding deductive process then constitute an immediately given context in which the next new item of information may be deductively processed.

Or, in other words, whatever information remains in the mind after the preceding proposition has been processed. They point out that the context at this stage is not fixed, but can be ‘extended in different directions’. (Sperber and Wilson: 140) Strangely enough, Sperber and Wilson claim (p. 141) that they are arguing against the context as being **uniquely determined**, when in fact what they have argued against is its being **predetermined**. Their argument for this consists, in fact, of showing that a single conversational opening may be continued by any one of a number of possible outcomes (Sperber and Wilson: 133–7). Obviously, such an approach, while it may help to elucidate various possibilities of whatever is under scrutiny, has no more than very limited value as an instrument of discourse analysis or discourse explanation – since no **single** coherent discourse is being examined. But since they have chosen to vary their examples in this way, they cannot claim to have said anything about the context being uniquely determined. They have shown that it is not predetermined, i.e. that it may vary as the discourse proceeds. Their finding, thus expressed, is clearly true, but I strenuously disagree with their claim that the context is not uniquely determined for a particular discourse.
So, the context for Sperber and Wilson is those propositions and all implicatures arising out of them which happen to be in the hearer's head at the time of speech. Now, this is fine in a limited way, and it works just as long as the next utterance does follow on from the previous one. In other words, relevance theory can handle those easy cases where an utterance follows straightforwardly on from the one before. But what about new topics? Or what about new sub-topics? Or what about deliberate changes of subject, which was one of the things that the original theory of Grice did have something to say about? Some of Sperber and Wilson's own examples show this up. Consider the following (p. 120):

... take \( \{C\} \) to be the set of assumptions you have in mind while reading this sentence. Suppose we were now to tell you,

\[
[(1)] \text{5 May 1881 was a sunny day in Kabul.}
\]

They argue that since \( [(1)] \) is unlikely to express any assumption having a contextual effect on \( \{C\} \), 'it is intuitively obvious that the assumption expressed by \( [(1)] \) is irrelevant in \( \{C\} \)'. Against their conclusion, I want to make the following points: \( [(1)] \) is a typical narrative beginning – in this sense, it provides its own \( \{C\} \). Indeed, as we will later see, it is a typical world-building element. Now if I were holding a set of assumptions \( \{C\} \) in my head, and you uttered \( [(1)] \), I would simply assume you were starting a new discourse, or changing the topic in the old one, and were about to tell me a story (whose overall relevance would hopefully connect back to what we were previously talking about). I would assume, in other words, that \( [(1)] \) was globally, rather than locally, relevant. Of course, I might turn out to be wrong, but the point is, I would not immediately dismiss \( [(1)] \) as irrelevant, as Sperber and Wilson do. It might still be argued, I suppose, that this merely means that among the assumptions I entertained in \( \{C\} \), there was one about narrative beginnings.\(^{10}\) A much more likely explanation, however, is that my assumption about narrative beginnings was simply part of my general knowledge store, and that this was not activated until \( [(1)] \) was uttered. This is the important concept of text-drivenness which has no equivalent in Relevance Theory (see section 5.4.2 below). This means that Sperber and Wilson's claim about the relation between relevance and contextual effects (p. 121) is simply wrong:

... we want to claim that an assumption which has no contextual effect in a given context is irrelevant in that context. In other words, having some contextual effect in a context is a necessary condition for relevance.
This is wrong not because there is no relationship at all between context and relevance — there is, and it is mediated by the discourse itself — but because their statement of the relationship is hopelessly narrow. Here is another of their examples (pp. 159–60):

Communicators take risks and sometimes fail, and addressees expect such failures to occur occasionally. For example, if Mary knows that Peter buys every book by Iris Murdoch, and she sees the latest one being put on display in the local bookshop, it would be reasonable for her to say to Peter,

[(63)] Iris Murdoch’s new book is in the bookshops.

It may turn out that Peter already has this information, in which case utterance [(63)] will in fact be irrelevant to him. However, it would still have been perfectly appropriate, and the presumption of relevance would have been communicated in good faith, because Mary has at least tried to be optimally relevant.

This seems to me to be a faulty conclusion. It still seems reasonable to say that [(63)] is relevant to Peter even though he already has the information. Surely, if asked, Peter would agree that the information is relevant even in these circumstances? What it is not is news — and that is what the Sperber and Wilson notion of context restricts relevant utterances to: new information which connects up (in an unexplained way) with the assumptions in {C}. Another possible addressee, though (let us call him Paul, to make the 1960s singing group complete), might have no interest in Iris Murdoch whatsoever. Paul, interestingly enough, would find [(63)] irrelevant whether he knew the information or not!

Let us now turn to the question of the relation between meaning and relevance. The principle of relevance, as we have already seen, guarantees that an utterance carries with it the intention of relevance. What it does not, and could never, guarantee, of course, is actual relevance. My own explanation for this would be that actual relevance is a function of the relationship between the content of the utterance and the Common Ground (CG). In Werth (1981a), I argued that relevance was actually the same as coherence. My view today would be more or less the same: relevance and coherence are simply alternative terms for a relationship between the CP and the CG, consisting of a meaning-relation between elements of each.11

Sperber and Wilson’s explanation of the relationship between meaning and relevance is altogether more obscure. Firstly, they rarely use the term ‘meaning’ as such. Nevertheless, their general
claim in the preface is to ‘show [. . . ] how the principle of relevance is enough on its own to account for the interaction of linguistic meaning and contextual factors in utterance interpretation’ (Sperber and Wilson: vii). Their broadly cognitive approach (much of which I would agree with, in fact) leads them to consider the phenomenon of meaning in terms of cognitive processing. The basic comprehension process involved is non-demonstrative inference, or, in other words, inference-by-hypothesis-formation (rather than by logical deduction or decoding, both of which give non-fuzzy answers, and which therefore cannot apply to the case of language interpretation). Such a process is applied by the addressee to the speaker’s utterance, which, as we have already seen, is a type of ostensive communication. This being so, the addressee may at least be certain, by the principle of relevance, that the speaker intends to be relevant. However, what we must now assess is how the addressee decides on whether the utterance actually is relevant, which must involve determining its meaning and matching this somehow with the right context.

Firstly, say Sperber and Wilson (183 ff.), the correct propositional form of the utterance must be identified. They take the cases of disambiguation, reference assignment and what they call ‘enrichment’. For ambiguous utterances, specifically ‘garden-path’ sentences, Sperber and Wilson make the point that the first interpretation is by no means guaranteed to be the correct one. Their suggestion is that the correct propositional form is the one which is consistent with the principle of relevance. This means, they say, that at every stage of the process, ‘the hearer should choose the solution involving the least effort, and should abandon this solution only if it fails to yield an interpretation consistent with the principle of relevance’ (p. 185). For reference assignment, they advocate scanning the context to find an entity which, when substituted for the anaphor, will yield a propositional form consistent with the principle of relevance. Enrichment is a process of propositional completion of utterances which are not ambiguous, have all references assigned, and yet still remain indeterminate. Examples include the genitive, which corresponds to many different possible relationships (possession, ownership, creation, association etc.), syncategorematic adjectives such as good, items like too, some, etc. Again, Sperber and Wilson suggest that enrichment consists of finding that interpretation of the tricky element which will yield a propositional form consistent with the principle of relevance. See further discussion in note 5 on p. 178.
Now, let us assume that all disambiguation, reference assignment and enrichment have been carried out, and we have a propositional form before us consistent with the principle of relevance. Do we still need to consider the meaning of the whole utterance? Sperber and Wilson’s answer would be, ‘No – we have already done that, as part of the process of testing for relevance’. An utterance not requiring disambiguation reference assignment or enrichment, that is to say, would go through an identical process in order to yield a propositional form consistent with the principle of relevance. This is because the notion of ‘contextual effect’, central as we have seen to the assessment of relevance, must contain the meaning of the expression. The contextual effect of an expression P must be the interaction between the meaning of P and the context of P. We have already seen that Sperber and Wilson’s treatment of context is extremely crude. But we may now try out their kind of analysis, nevertheless, on a more complex text:

22. LADY BRACKNELL: . . . What are your politics?
   JACK: Well, I am afraid I really have none. I am a Liberal Unionist.
   LADY BRACKNELL: Oh, they count as Tories. They dine with us.
   Or come in the evening, at any rate. Now to minor matters. Are your parents living? (Wilde 1899/1954: 267)

Jack answers Lady Bracknell’s first question negatively, though this is hedged by really. This entitles us to assume that he has no politics, that he regrets this (at least politely), and that this is a somewhat cautious or qualified answer. There might be additional cultural assumptions, relative to the setting of the play, which concern the social and cultural presumptions surrounding political opinions, etc., but these are not available to us without special knowledge of the period. Nevertheless, his answer seems to give quite a lot of meaning (three whole assumptions, if that is how it is quantified), without a great deal of processing effort beyond that required for the sentence itself. It clearly counts as an answer to the question, so no special contextual pleading is required. He then goes on to say: ‘I am a Liberal Unionist.’ Given Sperber and Wilson’s method, how are we to deal with this? It certainly seems to be a non sequitur, or some kind of deliberate contradiction. So presumably we then have to say that, as a proposition inconsistent with its context, it is irrelevant. This is where there is a good deal of vagueness in their account: for what is it that tells a hearer to stop there, cut his or her losses, so to speak, or go on trying to extract further assumptions? Sperber and Wilson’s solution, as we
have seen, is to say that you continue in a way that is consistent with the principle of relevance: in this case, assume that the utterance bears the presumption of its own optimal relevance until you can think of no possible interpretations which will make it relevant to its context (or until the effort outweighs any possible meaning it might contribute). In this case, it seems to me, you simply have to know (or assume) that this is ironic. If you assume this, then you have to add to the sense of the proposition, further possible assumptions, such as: being a Liberal Unionist amounts to having no politics, Liberal Unionists have no policies, Liberal Unionists have no power, and in fact an open-ended set of further possibilities. On the other hand, in order to get this indeterminate number of extra assumptions, you have to do quite a lot of extra processing, because of the ‘garden-path’ nature of the context. So is this sentence highly relevant, moderately relevant, barely relevant or irrelevant? I must confess I do not know — nor do I see how you can work it out. (Sperber and Wilson’s method aside, we should surely want to say that the utterance is both relevant and ironic, but it does not seem possible to arrive at a method for determining it within the RT approach.) The real question is: how do we know that Jack’s answer is highly ironic, whereas Petey’s answer in (21) is just plain moronic? The answer presumably lies in the complexities of the context, an area in which Sperber and Wilson’s account is severely deficient.

Lady Bracknell’s ensuing remarks all require a high cost in reprocessing. We have just spent a considerable amount of processing effort on assuming, among other things, that Liberal Unionists are unimportant as a political party. Oh, they count as Tories then forces us to reconsider our previous assessment. We have to assume, I think, even in the absence of specialist knowledge about late Victorian politics, that the Tories are an important party: in order to ‘count’ as X, X has to be noteworthy:

23. (a) 70% counts as excellent.
(b) ??45% counts as mediocre.

The latter hardly seems to be a typical use of ‘counting as’. So having, at some cost, reassessed I am a Liberal Unionist as implying that the Liberal Unionists are nothing much, we are then being invited to equate them with a powerful political party. No sooner have we gone through this painful process, than Lady Bracknell shifts ground again: her next utterance changes the whole assumed basis of the discussion. We are not talking about political power
after all, but social hierarchies. *They dine with us.* So it is on this basis that they count as Tories – retrieve the previous assumptions, then. Add the assumption that what matters in this conversation is the social status of the parties; and so far, despite their assumed political impotence, the Liberal Unionists are at least the social equals of the Tories. But not for long: Lady Bracknell makes another of her wrenching changes of direction. *Or come in the evening, at any rate.* Once again, the hapless Liberal Unionists are assigned to the also-rans of society, but this time on a social, rather than political, basis.

Now, social status, in those circles where it is important, is usually judged first on family background, next on other interactions with the world: education, profession, politics. Lady Bracknell reverses this assumption: *Now to minor matters,* she says. *Are your parents living?* This, too, then, requires some lightning shuffling of assumptions, and presumably correspondingly higher processing costs. The contextual effect is extraordinarily difficult to quantify, I would say. Presumably an ironic interpretation gives you more of it, but how much more, and how do you measure it? Relevance Theory gives the appearance of being a rather exact approach: it claims to be able to evaluate relevance by carrying out a cost–benefit analysis. But since it provides no way of assessing either cost or benefit with any precision sufficient enough to make the comparison, the appearance belies the reality.

But, fortunately, we do not have to carry out a cost–benefit analysis to understand the meaning of this passage, nor to appreciate its irony. Using an incrementation model we can see that each proposition is assessed in terms of the interaction between the sense and assumptions it brings with it and those contained in the CG of the discourse up to that point. These can always be revised and re-revised: the CG is constantly being updated. The irony occurs, I suggest, in the mismatch between the assumptions already in the knowledge base (in the political, social and family frames, among others), and the modifications which need to be made in order to incorporate Lady Bracknell’s propositions coherently and co-operatively into the CG. We can see how this works because there is an explicit role for context and knowledge in the model. Relevance Theory has no real place for either of these crucial areas, nor can it really accommodate them, since it has no concept of discourse or conceptual representation.

It is perhaps worth pausing for a moment to review the actual process in such a discourse grammar of relevance-formation in
an ongoing discourse. In section 2.2, I talked about three sets of discourse-specific propositions: \( \{P\} \) the set of propositions making up the text; \( \{P_E\} \) the set of propositions entailed by members of \( \{P\} \); and \( \{P_K\} \) the set of propositions evoked by \( \{P\} \) from the knowledge-base \( \{K\} \). At the start of the discourse, the content of \( \{P\} \) is, of course, extremely limited, and therefore the same is true, comparatively speaking, of \( \{P_E\} \). \( \{P_K\} \), on the other hand, is still very large, since it consists of the (pragmatic) intersection of \( \{K\} \) with only one proposition. As new propositions are introduced into the discourse, \( \{P\} \) grows in direct proportion, \( \{P_E\} \) also grows, though not necessarily in direct proportion, since some of the entailments of earlier propositions may be blocked by later propositions and vice-versa. The set \( \{P_K\} \), on the other hand, gets more and more restricted, since successive intersections give ever smaller subsets. The effect is, then, one of homing-in on the specific area of knowledge which has to be accessed. We may illustrate this process in a simple diagram. Note how \( \{P_K\} \), becomes more specific as each new proposition is added. Figure 5.4 shows how the relevant part \( \{P_K\} \) of the total knowledge-base gets progressively specified.

![Figure 5.4](image)

**5.4 The knowledge component of the CG**

In Figure 5.4 the knowledge component is represented simply (and inaccurately) as an unchanging factor, \( K \). Nothing could be less true: the knowledge-base is not simply a passive repository of 'facts'; rather it is a dynamic and central processor which constantly assesses incoming information, relating it to other information in memory, classifying it, comparing it, making and testing hypotheses about it, and in general functioning as a central quality-control system. As we have already seen in several contexts, it makes a
lot of sense to think of the discourse sub-systems as being constructed for the occasion, rather than being objectively definable, in some sense. Some of this construction may be prefabricated, or may contain prefabricated elements (e.g. scenes, frames), some may be completely new, and constructed from scratch, but most is probably somewhere between these extremes: though not entirely prefabricated, at least somewhat familiar. A point touched on at the end of the previous section is that the knowledge component of the CG becomes more and more restricted (i.e. specific) as the discourse proceeds. This is because part of the updating process has the CP ‘evoking’ items from the knowledge-store. The process of ‘evocation’ in fact consists of pinpointing items in the CP (by the processes of deixis) and locating further information about them in the knowledge store. This information then becomes part of the incrementation, so the update each time consists of the information provided by the CP together with the further information called up from knowledge.

Returning to text (1) in the light of all this, therefore, we in fact have little else to interpret sentence 1 with apart from systems of general knowledge. Only the form the following morning in fact tells us that there is some preceding verbal context. Sentence 2 in isolation would leave us with an uninterpreted agent: however, the coherence constraint allows us to search in the CG (now updated to include the information in sentence 1) to find an entity which fits the meagre intensional meaning of she: <female, singular>. The subsequent occurrences of her can now be related to the same entity, via she, or in their own right. Notice that it explains nothing to claim that in a sentence beginning with a third person pronoun, the pronoun has ‘arbitrary reference’ (cf. Chomsky (1981) on ‘arbitrary PRO’). Were this in fact the case, such a sentence would have an infinite (or indenumerably large) number of possible interpretations. But this is contradicted by the facts of language: such sentences are very rarely ambiguous at all. We can in fact state that third person pronouns only occur in worlds in which there is a designated entity acting as antecedent.15

As I have already suggested, certain other items of information may also be called up from our knowledge-store: since the same entity entered the Clarion office and went straight to her room, we may infer that office here refers to a complex of rooms rather than a single room; since this room contains a desk and is part of an office, we may infer that it is a place of work, rather than, say, a bedsitter; we might also infer from her use of a powder-puff that the
time of the action is perhaps forty or fifty years ago (an impression perhaps confirmed by the items on the desk in sentence 3). All of these inferences are based on knowledge in the CG, and are made available by means of the coherence constraint.

Other normal connections may be made which are more regular in nature: these are usually thought of as lexical rather than inferential, which in practice simply means that the relevant information results from frame-overlap. Thus there is a certain amount of shared semantic structure between the intensional meanings of sun, hot and burnt. For this reason (together with the lexical link of inclusion between streets and town, and the more inferential hyponymic link between Fairview and town, the final sentence coheres perfectly well. Consider, though, the effect of placing that last sentence of the extract at the end of the first paragraph of (1), immediately after sentence 2. The result is considerably more disjunctive, needing the reader to supply a set of special ‘bridging inferences’ in order for the text to make coherent sense.

5.4.1 The problems of retrieval and selection of knowledge

The great practical problem with using the notion of knowledge, of course, is that even the most unschooled and illiterate of speakers will command an accumulation of knowledge which, measured in terms of propositions, or ‘facts’, must run into the hundreds of thousands. Even at the prodigious processing speeds of the human brain, such a database would take an unconscionably long time to preview. From the point of view of frequency of access, on the other hand, the knowledge base must surely require to be consulted several times – perhaps several hundred times – a minute, let us say. It therefore seems a priori improbable that the entire knowledge of the individual is previewed each time the knowledge base is consulted. This ties in with the criticism in section 5.1 of notions of context which require all available or all possible contextual elements to be scanned in order to contextualise every single sentence or proposition. The inefficiency of such a procedure would make communication well-nigh impossible. The real problem is still the embarras de richesse of the individual’s knowledge-base.

We clearly need a principle which will pinpoint just that knowledge which is relevant to the discourse in progress. One idea is that the specific discourse should itself in some way trigger the appropriate areas of memory. In fact, the process can surely take
place no other way than this. All the elements which express meaning are present in the discourse (some of them in the text, some in the context). Given that there is no other secret channel of meaning between the speaker and the hearer or, *a fortiori*, between the writer and the reader, than the discourse itself, the retrieval and selection of knowledge relevant to a given discourse must be text-driven. This does not necessarily mean that text-drivenness allows selection right down to an individual item of knowledge. It is, though, reasonable to suppose that the text reveals the particular domain of knowledge, within which the particular item may be much more readily traced than if we had to sort through the entire knowledge-base.

Recall that a discourse consists not just of the verbal text, since there are always elements of context present. There will always be some asymmetry between producer’s context and hearer’s context, particularly in the case of written discourse, but part of the process of establishing the CG is to negotiate an agreed context—it is, after all, the *Common Ground*.

### 5.4.2 Text-drivenness

Before elaborating the concept of ‘text-driven’, let me remind the reader about what is meant by the concepts of ‘discourse’ and ‘text’. As we have been working with it here, discourse is a complex sociopsycholinguistic phenomenon. At its heart, there is an event of language, but the discourse viewpoint does not take this to be the end of the story. If there is language, there are language users; if there are language users, they possess and make use of cognitive faculties which include a large knowledge-base. Furthermore, if there are users, each one has a cognitive environment, which includes some representation of a physical environment, and some representation by each participant of the knowledge, probable and possible, of the other participants, of their relative social position (age, education, politics, economic status, etc.), their reliability, generally and on specific subjects, and any shared experiences, including previous discourses, insofar as these can be retrieved, at least in gist form.

Text, on the other hand, is the language at the heart of discourse. That being so, it occupies a crucial place in the discourse process (and we will shortly see just how crucial), but by itself, without the information supplied by the rest of discourse, it is a
poor thing indeed. It is like a person deprived of all sensory contact with the world, a thing of enormous but unfulfilled potential: with disconnected meanings, uninterpretable, disfunctional, an autistic creature. But viewed as part of discourse, the text is transformed into an essential member of the crew. The text, as we will presently see, is the helmsman, steering the discourse in its required direction and bringing it to its destination. But in order to carry out this function, it must have access to the information provided in the remainder of the discourse.

Let us now examine the dependency between the text and the remainder of the discourse: in many ways, the text is dependent upon its surrounding context for much of its interpretation. But this is in fact an inter-dependency: without its linguistic heart, a discourse would be undirected and pointless — it would not even, in fact, exist at all, since the language is its starting-point as well as its guide along the way. Note that discourse is not at all the same as communication (cf. Sperber and Wilson 1986: ch. 1). Communication can perfectly well take place without language, though the messages communicated will not be as specific as linguistic ones.

In order to see what text-drivenness consists of, let us consider an extract from an article in The Guardian which describes a scene in Tiananmen Square:

24. Queen Victoria kept her back turned, raindrops dribbling from her chin, as Hong Kong confronted its new masters in Beijing last night with an emotional candle-lit vigil in memory of the victims of the 1989 Tiananmen Square massacre.

Undeterred by a torrential downpour and last year’s change of sovereignty, tens of thousands of people gathered under umbrellas to mark the ninth anniversary of the bloodshed — and enter history as the first protesters permitted to mourn the trauma of Tiananmen on Chinese soil . . .

In Victoria Park, still adorned with the British Queen’s statue, the crowd sang in praise of a democracy movement extinguished by the People’s Liberation Army. The same force took command of Hong Kong’s Prince of Wales barracks on July 1 last year but has studiously avoided displaying its power, even keeping the name of the headquarters inherited from a retreating British garrison.


Werth (1986) described in detail how a text about the United States President, Ronald Reagan relied heavily on public knowledge for its understanding. Here are some of the assumptions which the above text requires which come from general knowledge:
25. The capital of the People's Republic of China is Beijing. The People's Republic of China has a Communist government. In June 1989 there was a big student pro-democracy demonstration in Tiananmen Square in Beijing. This demonstration was supported vigorously by large numbers of the residents of Hong Kong. The demonstration in Beijing was broken up by troops on June 4 1989, on the orders of the Chinese government. Chinese troops belong to 'the People's Liberation Army'. The troops opened fire on the students, killing some, wounding others and making numerous arrests. This incident became referred to in the Western press as the 'Tiananmen massacre.'

Hong Kong was a part of China until 1842, when the British took control of it during the Opium Wars. Queen Victoria was on the British throne when Hong Kong was taken from the Chinese. Queen Victoria died in 1901.

In the nineteenth century, the British forced the Chinese to cede Hong Kong to them until 1997. The British occupation made Hong Kong a very prosperous capitalist trading area. In 1997 the British handed Hong Kong back to the Chinese government. The Chinese government took control after the hand-over and installed troops from the People's Liberation Army in Hong Kong. Victoria Park is the name of a well-known park in Hong Kong. Victoria Park contains a statue of Queen Victoria. Victoria Park has been the site of demonstrations concerning the Tiananmen massacre.

The interesting thing about text-drivenness is that the text not only controls a great proportion of the syntactic and referential processes which take place within it (and which I have discussed at length in Werth (1984)), but that the text also determines which areas of knowledge – even pragmatic knowledge – have to be evoked in order to understand it. The 'evocation' of knowledge is an interesting process, since each individual varies greatly in the amount and precise content of his or her own personal knowledge-base. So, on the face of it, the producer of a text is living dangerously every time he or she depends upon the presence of a particular fact in order to have a particular proposition properly interpreted. Fortunately, though, the situation is not like this. Text-producers do not have to depend on their audiences being information-repositories of Trivial Pursuit proportions. This is because text-
drivenness is a double function: it actually calls up a particular fact from recipient-knowledge only if that fact is in recipient-knowledge; otherwise (i.e. if the fact needed is missing) it provides enough information for the fact to be inferred. This process is called ‘accommodation’: I have already alluded to it in section 2.5, and I shall examine it more thoroughly in section 9.3.

A few examples from the above list should suffice. Let us assume that recipient A remembers the events of recent British history well, but recipient B’s memory is more hazy. The reference to the ‘emotional candle-lit vigil in memory of the victims of the 1989 Tiananmen Square massacre’ will enable recipient A to remember that the victims were advocating democracy, and that they were the victims of the People’s Liberation Army. But recipient B can infer the same information by relating the above phrase to material which occurs a few sentences later in the text: if the vigil is in memory of the 1989 victims and the crowd taking part in the vigil ‘sang in praise of a democracy movement extinguished by the People’s Liberation Army’, then the victims must have been pro-democracy and the People’s Liberation Army must have attacked them. Similarly, given that armies are usually controlled by governments, recipient B can infer what recipient A already knows, namely that the government ordered the army to do what it did. Finally, recipient A will know that the massacre took place on 4 June 1989, but recipient B can also infer this exact date. The text itself states that the massacre took place in 1989, and that the vigil marked the ninth anniversary of the bloodshed. The date of the newspaper in which the article was printed was 5 June 1989, and this date occurs on each page of the newspaper. As the vigil is referred to as having taken place ‘last night’, i.e. 4 June 1998, it can easily be inferred that the massacre must have occurred on 4 June 1989.

So recipient B gets there as well, thanks to the process of text-drivenness. Let us consider another example. Recipient A knows Sino-British history, and Hong Kong, well. Recipient B has a vague idea that Hong Kong is British, and that Britain has a queen. How do they respond to the first sentence of the article?:

26. Queen Victoria kept her back turned, raindrops dribbling from her chin, as Hong Kong confronted its new masters in Beijing last night with an emotional candle-lit vigil in memory of the victims of the 1989 Tiananmen Square massacre.

Recipient A, having an intimate knowledge of Hong Kong, will be able to infer that ‘Queen Victoria’ refers to her statue, not to her.
The chain of inference goes as follows: Queen Victoria is dead, so she cannot be standing in the rain; moreover, there is a statue of Queen Victoria in Victoria Park, so ‘Queen Victoria’ refers to the statue. The fact that the writer says that the statue ‘kept her back turned’ also enables the inference that the statue is seen by the writer as symbolically representing the new, more remote attitude towards Hong Kong of the British government. As statues are inanimate, the statue could not intentionally keep its back turned, but given that Britain has recently returned Hong Kong to Chinese rule, the description of the statue can be related to the British stance.

On reading the first sentence of the article, recipient B, on the other hand, may well assume that a British Queen, Victoria, is at the event, and is snubbing those taking part in the vigil by keeping her back turned. But this inference will have to be cancelled when recipient B gets further into the text. The beginning of the third paragraph in the quotation above contains information which is inconsistent with B’s first inference, when it refers to ‘Victoria park, still adorned with Queen Victoria’s statue.’ Hence the original reference must have been to the statue, not Queen Victoria herself. Moreover, in non-Communist countries, statues of famous people are not normally erected before they die, and so recipient B can infer that Queen Victoria is almost certainly no longer alive. Once this has been established, recipient B can then proceed down the inferential path which A followed.

Obviously writers do also assume things which cannot be inferred from textual structure, and someone who lacks crucial knowledge is unlikely to achieve the inferential detail of someone who possesses that knowledge. But the text-driven nature of the interpretation process ensures that even a fairly abysmal ignorance will not prevent a rather considerable proportion of the necessary information from getting through.

Notes

1 The notation is for expository purposes only: see Chapter 7 for more on propositions.
5 Notation: @ = improbable in the specified context
[brackets] = Reduction (on repeated or inferrable items)
bold = Accent (on new items)
CAPS = Contrast (on denials)

For details, see Werth (1984).

4 I am greatly indebted to Teun van Dijk for clearing up some misconceptions in an earlier draft of this section.

5 If we compare the two collections Heydrich et al. (1989) and Tomlin (1987), the difference is striking. The former is, I think, entirely European, the latter almost entirely North American. Both volumes contain the word ‘coherence’ in their titles, yet only the former is really devoted to explicating the notion. The North American volume is notable for the virtually total non-appearance of any technical use of the term in its pages.

6 The form of possible worlds theory or model theory presented here under the name of ‘text world theory’ is certainly too different from the classical theories to constitute a ‘version’ of those theories as such. By the same token, being firmly grounded in discourse, it does not suffer from the serious drawbacks which mar those theories.

7 I am indebted to Wim van der Wurff for showing me that this theory has applications outside the field of sociolinguistics. See van der Wurff (1990: chs 4–5).

8 Management courses often make a distinction between position power and personal power, the former having to do with authority conferred by one’s position, the latter with that conferred by one’s personal qualities. The latter covers ‘born leadership’ and ‘charisma’ as well as more mundane personality types, and is perceived in the management world as being the more desirable of the two. However, it is the former which is closer to the intended sense in this book, since it refers to authority which comes from the situation in which the holder is especially knowledgeable or experienced. We might accordingly prefer the more general term situation power.

9 Sperber and Wilson (1986: 75 ff.) allow a notion of authoritativeness as one of the sources for strengthening assumptions (the others are: perception (‘seeing is believing’), logical deduction and repeated processing). This is perfectly compatible with the above account.

10 Sperber and Wilson do later have something to say about narrative beginnings, incidentally:

... some stimuli are of little intrinsic relevance but, by being presented at the right time, increase the relevance of subsequent stimuli so that a greater degree of overall relevance is achieved with them than without them. This is generally true of the first sentence in a novel: though of limited relevance in itself, it helps create a context in which subsequent sentences will be more relevant.

It is thus relevant enough to be worth the reader’s attention. (pp. 160–1)

We might legitimately ask: if the first sentence is of limited relevance (or like their [(1)], discussed above, of no relevance), how is the reader
supposed to know that he has to hang on to it, on the offchance that it is
going to be worth his attention some time in the future? What this means
is that the reader (and the hearer too, in fact) has to retain \textit{everything}
whether relevant or not, since \textit{anything} could become relevant later. (Con-
sider, for example, the deliberately hidden clue in many ‘whodunnits’
which later turns out to have been crucial.) This is obviously a very inad-
equate account of narrative beginnings.

11 Although, as Geoff Leech points out, the term ‘coherence’ applies more
naturally to a whole discourse or sub-discourse.

12 If Wilde, being an ironist, is indeed relevant to the interpretation of
(22), this is a point about the \textit{discourse} world, and not about the text
world. My point is that you do not need to know anything about the
author’s stylistic preferences in this case, since Lady Bracknell’s \textit{non sequiturs}
and lightning assumption-changes provide ample evidence that this text
should not be taken at face value. But as I read Sperber and Wilson’s
method, these tricks involve a great deal of processing effort (backtrack-
ing, revising assumptions, etc.). Unless Lady Bracknell’s observations can
be shown to provide very great contextual effects, all this processing
effort leads, as far as I can see, to their being adjudged irrelevant.

13 I am indebted to Alison McNulty for much of this analysis.

14 Blakemore (1992: 108) points out that irony ‘can be analysed in terms
of the interpretive use of representations’, and later (164 ff.) looks at a
number of examples, most of which I would characterise as \textit{sarcasm}, the
assertion of the opposite of what is meant for the purpose of ridicule.
However, the precise analysis of even these simple examples is far from
clear, let alone the dizzying turns indulged in by Lady Bracknell. See
Toolan (1994) for further discussion.

15 This applies to ‘donkey sentences’, ‘sloppy identity’, and ‘pronouns of
laziness’.
Chapter 6

Reference and deixis

6.1 Introducing the notions of deixis and reference

6.1.1 Deixis

When we use language, we do more than simply put words together in grammatical patterns. This is because, as we have seen, language is used in association with situations, and the meaning of what we say relates to these situations. Also, though some situations correspond to configurations of states and events in the so-called 'real world', most do not, since they come from the participants' memory or their imagination. On the other hand, all situations must be represented in the minds of the participants, whether they refer to the real world, to memory or to imagination. So, to say that the language we use relates to certain situations is really to say that it relates to our mental representation of those situations. For example, if I say to you:

1. 'Sit on that chair'

I am talking about some particular chair (potentially) obvious to both of us in the immediate situation, and represented in our minds as such. This is an act of reference: language is being used in order to refer, i.e. to single out some particular object already represented in the mind of the listener, or to instruct the listener mentally to set up such an object. This simplest kind of reference, then, might be termed 'linguistic pointing'.

Both pointing and reference are ways of selecting an object from the represented environment in order to draw someone's attention to it. This is the basic experiential form of deixis. The process of selection can be non-linguistic (pointing, nodding) or linguistic (demonstratives and other kinds of reference). The environment can be (a representation of) the immediate (here-and-now) situation surrounding the speakers (i.e. the discourse world, cf. Chapter 3), or it may come from the memory or imagination of the speakers.
The essential function of deixis then is **specification**. Specification at the level of the discourse world involves selecting from the manifest entities in the (representation of the) immediate situation. At the level of the text world and above, specification means setting the **working parameters** of the space. These functions are virtually the same, since what is manifest in an immediate situation is a representation of a set of located possibilities, expressed conceptually, whereas what is nominated for a text world is a representation of a set of conceptual possibilities, expressed in locative terms.

Deixis is part of the **modality** function in language, i.e. the situating of the information with respect to the current context. We can break the modality function down further into:

- **Viewpoint**
- **Probability**
- **Interaction**

**Viewpoint** is deixis ‘proper’; that is to say, it fundamentally deals with relations in space. However, there are also a number of para-sitical systems based on the locative (notably the temporal). Viewpoint is always one-sided, i.e. seen from one person’s perspective. The **probability** (or *epistemic*) system deals with truth and degrees of truth and, as we will see, is responsible for the construction of an important type of sub-world. The **interaction** system (or *social deixis*) deals with relationships between participants. It is based on a representation of the *social space* in terms of such social relationships as status, purpose and illocutionary force. It involves such important areas as *face* and *speech acts*.

Parallel to the modality function is the **informational** function in language. This consists of what is often called ‘propositional meaning’, whereas deixis consists of ‘setting information’. However, as we will see, there are cases where propositions form part of the deictic background of a text world, and presumably, in fact, *all* deictic information could eventually be represented propositionally.

### 6.1.2 The process of reference

Speakers refer so that, in the first place, they can establish some particular entity in a mental representation. They then need to be able to maintain the same entity in the minds of their listeners. In other words, there are two stages in the process of reference: the **establishment** (or ‘first mention’) stage, and the **maintenance** (or ‘subsequent mention’) stage.
In order to keep track of reference, we need to know what entities there are, where they are situated, and how to establish and maintain reference to such entities. We saw that entities can be situated in the immediate vicinity, in the memory, in the imagination, and in a text (and hence, before that, in the mind of the speaker/writer). The establishment of entities is one of the basic acts of text world building (see Chapter 7). A world is first defined by deictic expressions of place and time, and is then furnished with entities by reference establishment. Reference maintenance is then the process of keeping entities in the active register of the discourse. It consists of the chaining of references to a single entity to preserve continuity of reference, with clear guidelines to handle cases of reference-crossing.

6.2 Processes of reference maintenance

6.2.1 Reference-chaining

Reference-chaining is the linking of the representation of an entity with the items used to maintain that representation in the active discourse. These items (anaphors – see section 10.1) may take various forms; the one that is used in any particular circumstance depending on a number of factors:

- If the entity is present in the immediate physical situation, the next link in the chain is most likely to be a demonstrative of some kind; otherwise a personal pronoun accompanied either by a gesture or by contrastive stress. (For example: That man [speaker points] shouted at me; She's pretty, isn't she?)
- If the referent is first mentioned in the text (e.g. with a noun phrase), the next link in the chain is likely to be a personal pronoun (without gesture or stress), provided that the distance between the first mention and next link is not too great. In practical terms, this often means within the same sentence, but not necessarily so. If it is within the same sentence, it is likely to be rather tightly constrained, but, again, not in every case. (For example: A car swept by. It looked like a Maserati. Cf.: John squinted down the road. Yes, it definitely looked like a Maserati.)
- If the distance between textual reference and next link is too great (roughly, if at least a single sentence intervenes), then the link will probably be a definite NP – either a definite form of the referent noun phrase itself, or a virtual synonym, or an
'epithet noun' (i.e. a hyponym or a metonym). This process becomes virtually certain if the intervening material includes reference to another entity having the same pronoun profile, unless the content of the proposition itself contains disambiguating information (cf. line (5) in the analysis below). Otherwise, it is a process of averting what might be called 'reference decay', the expunging of a reference chain from working memory because it has not been maintained there for some time. This whole question of the continuity of characters in the mental representation has been insightfully studied by Cathy Emmott (1997: Chs 4–7). She develops the postulate that we keep track of characters (and indeed, objects) in a world by maintaining a kind of running 'register' of all the information relative to each of them as it comes in through the text, associated frame knowledge, or inferences drawn from either. She calls this register a character construct, and it amasses information about location and movement, as well as other cumulative properties such as state of mind, expressed beliefs, acquired knowledge, and so on. See Werth (forthcoming c) and Chapter 10 below for more on this.

- In rather more tightly constrained environments, which it is not my present task to define, the next link may be a zero-anaphor, a reflexive pronoun or a reciprocal pronoun. However, Givón (1993f: 37) counts all 'zero lexical marking' (in which he includes both zero-anaphora and anaphoric pronouns) as marking a 'referent's cognitive status as currently active', therefore constituting 'the default choice in the grammar of referential coherence'.

- There are also some special devices associated with literary effects. In the text world of a novel, for example, the reader is often pitched headlong in medias res, the implicit suggestion being that this is an existing world which the reader is being shown around in. Accordingly, first mentions are very often definite NPs (particularly when they denote locations), as though their presence in this text world is taken for granted (see, further, Werth (1993a) and section 9.3 below on 'accommodation'). Another frequent possibility is for first-mention to be a personal pronoun, so that the reader is kept guessing until the author chooses to provide further details.

Examples of these possibilities are indicated in the following passage from John Steinbeck's *The Grapes of Wrath*:
2. A huge red transport truck stood in front of the little roadside restaurant. The vertical exhaust pipe muttered softly, and an almost invisible haze of steel-blue smoke hovered over its end. It was a new truck, shining red, and in twelve-inch letters on its sides – OKLAHOMA CITY TRANSPORT COMPANY. Its double tires were new, and a brass padlock stood straight out from the hasp on the big black doors. Inside the screened restaurant a radio played, quiet dance music turned low the way it is when no one is listening. A small outlet fan turned silently in its circular hole over the entrance, and flies buzzed excitedly about the doors and windows, butting the screens. Inside, one man, the truck driver, sat on a stool and rested his elbows on the counter and looked over his coffee at the lean and lonely waitress. He talked the smart listless language of the roadsides to her. 'I seen him about three months ago. He had an operation. Cut somepin out. I forget what.' And she – 'Doesn’t seem no longer than a week I seen him myself. Looked fine then. He’s a nice sort of guy when he ain’t stinko.' Now and then the flies roared softly at the screen door. The coffee machine spurted steam, and the waitress, without looking, reached behind her and shut it off.

Outside, a man walking along the edge of the highway crossed over and approached the truck. He walked slowly to the front of it, put his hand on the shiny fender, and looked at the No Riders sticker on the windshield. For a moment, he was about to walk on down the road, but instead he sat on the running board on the side away from the restaurant. (Steinbeck 1939/1955: 4)

Before we take a closer look at the reference-chaining in this text, let us just remind ourselves in outline of the text world and contributory frames which it requires. I am going to assume from now on that descriptive texts or parts of texts (such as (2), or text (1) of Chapter 1) are exclusively function-advancing, on the supposition that if the text is descriptive in its function, then all description advances this function. Descriptions are, in fact, a kind of metonymy (see section 5.3.2), and will be shown in our notation with a horizontal arrow. Paths, denoting action (prototypically, movement), including abstract action, will be shown with vertical arrows.

The time of this text is in an undefined narrative past. At this point (the beginning of the novel) it has not as yet been anchored to some specific point or period in time, but there may well be some general knowledge clues which help us to pinpoint the period to some extent (details of description, language used, etc.). The place is locally specified (in front of the little roadside restaurant), but not
on a wider scale. Again, there may be general knowledge clues in the text (e.g. *Oklahoma* on the side of the truck). The scene switches from outside to inside and then again to outside the restaurant. The latter is not only a location, but also an entity in this world (an object). The other main object is the truck. There are three characters (not counting the subject of the conversation, who is in any case in a subworld, since he is only present in the memories of the characters): the truck-driver, the waitress, and the man outside. (For more detailed discussion and diagramming of this text, see Werth (1995 and unpublished a).)

There are two main frames active here, which are responsible for much of the detail. They are the restaurant frame and the truck frame. The former should not be confused with the famous and much-quoted restaurant script of Schank and Abelson (1977), although the latter is presumably part of the much wider-ranging restaurant frame. This is because the frame encodes all of our general knowledge about restaurants, whereas the script tells us only about the sequencing of events associated with going to restaurants. As we saw in Chapter 4, frames contain general assumptions about the central concept, expressed in propositional form, and overlap with other related concepts, some closer to the central one, others on the periphery. These related concepts will be related in terms of the meaning-relations described in Chapter 5, thus some will be synonymous to some degree, others will be antonymously related (particularly the peripheral ones, which, as we saw earlier, usually negate some element or assumption defining the central terms), many will be metonyms, and so on. The truck frame, for instance, has many metonymic items overlapping with it denoting its parts: exhaust-pipe, sides, tires, doors, and some of these themselves have further metonymic overlaps (e.g. door: hasp). The latter are responsible for sub-chains, in terms of reference maintenance.

We can, in fact, now see where the notion of reference-chaining comes in, because we note that the reference to established items is maintained by virtue of these same relations. Full identity (or synonymy) is maintained by pronominal or zero-anaphora; implied identity (based on metonymy, hyponymy or metaphor) uses definite noun phrases; and the denial of identity (antonymy) uses some form of contrast (either stress or an emphatic construction such as the Cleft). We may now go on to the analysis of these phenomena in text (2).
Analysis of reference-chaining

There are six major reference chains in passage (2), maintaining the entities first denoted by (1) truck, (2) restaurant, (3) fan, (4) flies, (5) man (truck driver), and (6) man (outside). Truck, furthermore, has two sub-chains springing out of it: (1A) exhaust pipe and (1B) doors; restaurant has four sub-chains: (2A) screens, (2B) waitress, (2C) coffee machine and (2D) roadside. One surprise is that the waitress, who hitherto we have regarded as one of the major entities in the text world, is a sub-chain in reference terms, while the fan and the flies seem on this account to have become major players. We will return to this discrepancy presently.

Item no.
(1) A huge red transport truck – antecedent of chain 1, normal indefinite NP.
(2) the little roadside restaurant – antecedent of chain 2 definite NP, introduced non-assertively allowing the inference that it is an uncontroversial part of the background. Roadside – a property of the restaurant, denoting location. Inference: truck is parked on road.
(3) The vertical exhaust pipe – link in chain 1 (metonymy); also start of sub-chain 1A.
(4) its end – link in sub-chain 1A (metonymy).4
(5) It – link in chain 1 (predicate nominal a new truck ensures continuation of reference).
(6) Ø (shining red) – link in chain 1, zero within restricted syntactic domain.
(7) its sides – link in chain 1.
(8) its double tires – link in chain 1 (metonymy).
(9) the big black doors – link in chain 1 (metonymy); also start of sub-chain 1B.
(10) the hasp – link in sub-chain 1B (metonymy).
(11) the screened restaurant – link in chain 2, normal definite NP after intervening material of same pronoun profile (viz. it); also start of sub-chain 2A (screens).
(12) A small outlet fan – antecedent of chain 3, normal indefinite NP.
(13) its circular hole – link in chain 3 (metonymy).
(14) the entrance – link in chain 2 (metonymy).
(15) flies – antecedent of chain 4, normal indefinite NP.
(16) the doors and windows . . . the screens – links in chain 2 (metonymy), and chain 2A (definite NP after decay of reference).
(17) Ø (burning) – link in chain 4, zero within restricted syntactic domain.
(18) one man – antecedent of chain 5, indefinitely quantified NP.
(19) *the truck driver* – link in chain 1, = ‘the driver (metonymy) of the truck (normal definite NP after intervening *it*-type material)’
(20) *his elbows* – link in chain 5 (metonymy).
(21) *the counter* – link in chain 2 (metonymy).
(22) (*and* *Ø* *(looked)*) – link in chain 5, zero within restricted syntactic domain.
(23) *his coffee* – link in chain 5 (metonymy).
(24) *the lean and lonely waitress* – link in chain 2 (metonymy); also start of sub-chain 2B.
(25) *He* – link in chain 5, normal pronoun (no intervening material of same type).
(26) *her* – link in sub-chain 2B, normal pronoun.
(27) *she* – link in sub-chain 2B, normal pronoun.
(28) *the flies* – link in chain 4, normal definite NP after intervening *they*-type material.
(29) *the screen door* – link in sub-chain 2A, definite NP after intervening *it*-type material.
(30) *The coffee machine* – link in chain 2 (metonymy); also start of sub-chain 2C.
(31) *the waitress* – link in sub-chain 2B, definite NP after decay of reference.
(32) (*without* *Ø* *(looking)*) – link in sub-chain 2B, zero in restricted syntactic domain.
(33) *her* – link in sub-chain 2B, normal pronoun continuation.
(34) (*and* *Ø* *(shut)*) – link in sub-chain 2B, zero in restricted syntactic domain.
(35) *it* – link in sub-chain 2C, normal pronoun, no *it*-type interventions.
(36) *a man* – antecedent of chain 6, normal indefinite NP (distinguished from chain 5 because (i) chain 5 has decayed, and (ii) this is in a different sub-world, with the parameter outside rather than inside).
(37) *Ø* *(walking)* – link in chain 6, zero in restricted syntactic domain.
(38) *the highway* – link in chain 2 (metonymy – a roadside restaurant must be by the side of a road; a highway is a kind of road (hyponymy)); also start of sub-chain 2D.
(39) *the edge* – link in sub-chain 2D (metonymy).
(40) (*and* *Ø* *(approached)*) – link in chain 6, zero in restricted syntactic domain.
(41) *the truck* – link in chain 1, definite NP reviving decayed reference, plus intervening *it*-type material.
(42) *He* – link in chain 6, normal pronoun continuation.
(43) *it* – link in chain 1, normal pronoun continuation.
(44) *Ø* *(put)* – link in chain 6, zero in restricted syntactic domain.
(45) *his hand* – link in chain 6 (metonymy).
(46) *the shiny fender* – link in chain 1 (metonymy).
(47) (*and* *Ø* *(looked)*) – link in chain 6, zero in restricted syntactic domain.
the windshield – link in chain 1 (metonymy).

he – link in chain 6, normal pronoun continuation.

the road – link in sub-chain 2D (hyponym).

he – link in chain 6, normal pronoun continuation.

the running board, the side – links in chain 1 (metonymy).

the restaurant – link in chain 2, definite NP reviving decayed reference, plus intervening it-type material.

The above is a list of nearly all the NP anaphors and their antecedents in text (2). I have not included VP anaphora, such as in turned low the way it is when no one is listening. Nor have I necessarily picked up all the Øs (e.g. Inside, Outside could be Inside Ø, Outside Ø, both linking to chain 2).

One thing becomes very clear when we examine this list closely. That is, that there seems to be a very clear distinction between frame-based connections and connections which hold only for this particular discourse. Frame-based connections, since they form a generalised part of our knowledge-base, are to that extent predictable. Discourse-based connections, on the other hand, since they are occasional and adventitious, are not really predictable, though they are usually unsurprising. Consider some examples from text (2): a restaurant will have in its frame a number of relatively fixed features: the kind of establishment denoted here (otherwise called a diner) will prototypically have such things as an entrance, a counter, a waitress and a coffee machine. On the other hand, such objects as flies, a radio and a fan, while not surprising, are certainly much more optional. So are properties such as little and roadside. A truck, similarly, has prototypical elements such as an exhaust pipe, sides, tires, doors, a front, a fender, a windshield and a running board, as well as optional elements such as a haze of smoke, letters and a brass padlock, and properties such as huge, red and new. There is a striking linguistic difference between the two sets of noun phrases:

• the frame-based elements use definite noun phrases and enter into existing reference chains;
• the discourse-based elements use indefinites, and act as the potential antecedents of new chains.

Furthermore:

• Properties, expressed adjectivally, are not usually frame-based.
• Both sets may figure somewhere in the relevant frame, but the frame-based items will be central, while the discourse-based items will be peripheral.
This supports the suggestion made in Chapter 4 about the genesis of knowledge frames, namely that they start out as discourse-based, i.e. arising out of a specific context. As soon as that particular situation is matched by another situation judged comparable, a situation-type is forged, and, as this accretes more generalised features, it becomes a fully-fledged knowledge frame. In practice, text worlds seem to contain a mixture of prefabricated knowledge, originating in existing frames, and new, discourse-specific knowledge. However, frames cannot contribute all details, even to a matching situation, so even here there will be discourse-specific variables, which at the level of the frame are not significant, but which at the level of the discourse contain important information (e.g. specific names, dates, places – in general, world-building elements). Thus the discourse contributes two kinds of information to the knowledge-base: information filling in frame variables, and general situational information.

6.2.2 Reference-crossing

We can see from the analysis of text (2) that reference chains are rather simply constructed and maintained. First-mentions in the most common case are fully signifying NPs (i.e. NPs which unambiguously refer to some represented entity). Alternatively, where the text world is a version of the discourse world, anaphors refer more directly to the (representation of the) entity itself. Anaphors take various forms, depending on their precise chaining function. As far as semantic content is concerned, though, they vary widely: Ø obviously has no semantic content of its own, but inherits it entirely from its referent entity; pronouns have sparse semantic content (only number and gender); definite NPs vary from hyponyms (which have only high-level semantic structure in common with their referent entity) through metonyms (which share lower-level semantic structure) to repetitions (which share full semantic structure with their referent entity).

It is in the first two cases (i.e. Ø and pronouns) that reference-crossing is a real possibility. Since these kinds of anaphor are relatively to completely underspecified in themselves, it would be easy to confuse referents were there no safety procedure to prevent this. Given that NP anaphora only concerns third-person pronouns, there are only four possible referent entity types in English, involving just gender and number: masculine, feminine, neuter (all when singular) and plural. In any text which is of more than minimal
length, then, there are bound to be points where different reference chains cross, while having what I earlier called the same pronoun profile – viz. the same one of the above four possibilities. In text (2) above, this happens at several points; for example:

(a) chains 1 and 2 cross at item (12) – both are *it*-type elements;
(b) chains 5 and 2B cross at item (25) – both are *sg*-type elements;
(c) chains 1 and 2D cross at item (42); both are *it*-type elements;
(d) chains 2 and 2D cross at item (54); both are *it*-type elements.

The recovery procedure in these cases is straightforward:

**Reference-crossing rule**

(a) *When a reference chain crosses another or decays:*
   (i) use an anaphor which is at least high enough on the information hierarchy to restore the reference, or
   (ii) re-order the clauses to avoid the crossing or reduce the decay.

(b) *Information hierarchy:*
   Definite NP > Pronoun (Gender > Number) > Zero

So, in order to solve a clash at the gender level, you have to ascend to the definite NP level (all the above cases except (b)); to solve a clash at the number level, you have to ascend to the gender level (case (b)); to solve a clash at the unspecified (i.e. zero) level, you have to ascend at least to one or other minimal specification. There are no cases of this in this text, but without the safety procedure, either ambiguity, or else ‘garden-path’ phenomena would result. For example, text (2) might have read:

3. (a) He sat on his stool and Ø watched her as she busied herself Ø clearing away the dishes and Ø didn’t say anything.
(b) He sat on his stool, Ø looking down at the floor, and Ø not knowing what Ø to say, she busied herself Ø clearing away the dishes.

(3a) is completely ambiguous in most contexts (the final Ø could refer back either to *the driver* or to *the waitress* with equal ease, as far as I can see), while (3b) is a garden path sentence (the second and third Ø referring cataphorically to *the waitress*, although this is not clear until the final construction is under way). What we have in such cases, then, is not the totally pathological situation of nonsense
or uninterpretability, but instead the potentially harmful situation of ambiguity or processing difficulty. In all cases, the solution to preventing such obstructions is the reference-crossing rule above. In (3a), the third zero is ambiguous between he and she. The rule offers two repair strategies, (i) and (ii), both of which apply:

3. (aa) He sat on his stool and Ø watched her as she busied herself Ø clearing away the dishes and he didn’t say anything. (Strategy (i))
3. (ab) He sat on his stool and Ø didn’t say anything and Ø watched her as she busied herself Ø clearing away the dishes. (Strategy (ii))

In (3b), the problem is that a garden-path interpretation causes massive reprocessing. Only strategy (ii) applies here:

3. (ba) He sat on his stool, Ø looking down at the floor, and she busied herself Ø clearing away the dishes, Ø not knowing what Ø to say.

6.3 Deictic processes

According to one definition (Lyons 1977: 636), deixis refers to the function of certain expressions ‘which relate utterances to the spatio-temporal co-ordinates of the act of utterance’. Taken narrowly, this would seem to include only such phenomena as demonstratives and discourse pronouns, which relate directly into the immediate situation of discourse, or the discourse world, as I have called it. There is a broader interpretation, which Lyons also considers, which would include anaphora as a form of deixis, one in which the text functions as the ‘utterance-space’ into which the anaphors refer; specifically, the antecedent of the anaphor would function rather like the entity pointed at in the basic demonstrative use. This second use remains valid as long as the metaphorical relationship between spatio-temporality and ‘utterance-space’ is recognised. However, if the text is viewed, as here, as expressing a text world, and together with its CG, as defining that text world also, then the latter is a construct of exactly the same kind as the discourse world. In that case, the relationship between anaphora and ‘real’ deixis will no longer be metaphorical. As we have already seen, indeed, the deictic elements of the text function as the ‘stagesetting’ or world-building component of the text, providing the necessary details of the setting and populating of the world.

We may analyse deixis as having two components: spatiotemporality and egocentricity. Deixis, that is to say, deals essentially with locative information (location in space or time), but it also has a crucial directional function, centred on a protagonist in the
discourse (i.e. a participant or a character). Thus (4a) is locative, but non-deictic (not being egocentric), whereas (4b) and (4c) are both deictic, since they both relate a location to a protagonist ((4b) to his or her position, (4c) to that of his or her house):

4. (a) Mr Green lives in 23 Stanwood Gardens.
    (b) Mr Green lives over there.
    (c) Mr Green lives in the house directly opposite yours.

6.3.1 Tense, aspect and mood

**Tense**, strictly speaking, refers exclusively to temporal deixis, i.e. location, but in time rather than space. Nevertheless, it is still egocentric, being based on the temporal centrality of the speaker:

5. (a) Mr Green is waiting now.
    (b) Mr Green was waiting – but he left before you came.
    (c) Mr Green will be arriving in ten minutes.

However, the term is often used loosely to refer to a member of a verbal paradigm, i.e. as a term denoting a verbal form rather than a verbal meaning or function. Semantically, it is conventionally agreed that there are three tenses, **Past**, **Present** and **Future**, though it is usually remarked that English has only two differentiated simple forms to denote tense distinctions, namely, Past and non-Past. I will subsequently present a more differentiated model, which I claim more sensitively handles the expression of time in the verb.

**Aspect** is said to be a non-deictic category (cf. Lyons 1977: 705), denoting such distinctions as duration, instantaneity, frequency, completion. ‘Aspects are different ways of viewing the internal temporal constituency of a situation’ (Comrie 1976: 3). I will be modifying both the claim of non-deicticity and the list of phenomena which are conventionally said to be aspeical in English. The traditional term **mood** (cf. Lyons 1977: 746) is a notional category which nowadays falls under the general heading of ‘speech act’, with a three-way distinction into **indicative**, **subjunctive** and **imperative**, indicating respectively factuality, hearsay and command. I will, in this section, concentrate on the deictic function of verbal variation, i.e. on tense and, to a lesser extent, on aspect.

The tense system

Like much contemporary work on tense, the system I will use is based on Reichenbach (1947), in that it analyses verbal time
expressions into a **Speech Time** (ST) component, a **Reference Time** (RT) component, and an **Event Time** (ET) component. Reichenbach himself, and most later users of the system (e.g. Hornstein 1977; C.S. Smith 1978; de Vuyst 1980) have assumed that the three terms apply linearly (indeed, much of Hornstein’s paper is devoted to the linear ‘syntax’ of his notation). Other studies (e.g. Bertineto 1985; Rohrer 1985; Adelaar and Lo Cascio 1985) argue that a single RT is inadequate: they propose a temporal ‘localiser’ function when RT = ET, and a Reference Time ‘proper’ when RT ≠ ET (Rohrer, in addition, proposes three more varieties). I will show, however, that it provides a much more satisfying explanation if we view the application of the terms as being **layered** (cf. also Chapter 12). One of the arguments for this is its observational and descriptive adequacy: it predicts only nine separate tense possibilities, whereas the ‘undiluted’ Reichenbach system allows thirteen, and the Hornstein system, unconstrained, allows twenty-two. Hornstein’s system of constraints brings his total down to nine, but oddly enough these are a different nine from mine. See Werth (1992a) for details of this comparison.

Let us first deal with the ‘layered’ nature of my approach. Taking the three Reichenbachian ‘times’ in turn, ST marks the deictic starting point of the discourse. RT places the principal time period of the situation concerned, while ET represents the actual time of the event itself. Here are some examples of the three concepts:

6. (a) Pete had finished by 4 o’clock:
   ST (*now*) is preceded by RT (*4 o’clock*), and both are preceded by
   ET (*Pete finishes*) or alternatively: (ST – RT) – ET
(b) Pete will have finished by 4 o’clock:
   ST (*now*) is followed by RT (*4 o’clock*) and both are preceded by
   ET (*Pete finishes*); otherwise: (ST + RT) – ET.

In the formulaic expressions above, RT is first determined in terms of its relationship with ST (the bracketed part). Next, ET is related to RT, i.e. the ‘result’ of the bracketed expression. From the point of view taken here, the important fact about examples (6a, b) – where the three terms are completely differentiated from one another – is that comparatively speaking, the ET/RT relationship remains the same, while it is the position of ST relative to RT which changes.

What I am advocating, then, is a double relationship: the first is ST/RT, with RT capable of being Before (–), Simultaneous with
Key: – means 'precedes'; = means 'at the same time as'; + means 'after'

Figure 6.1
(=) or After (+) ST. This provides the basic three-way semantic time
(or ‘time-zone’) distinction. The second relationship is RT/ET; again, there is a choice between Before, Simultaneous with or After, but now it is ET which lays this on to RT, fine-tuning the basic threeway distinction into nine temporally related values, as follows:

- The relationship ST/RT defines the background time to the situation,
i.e. it defines the time zone of the text world.
- The relationship RT/ET defines the time of the situation, i.e. the fore-
ground time.

In both cases, the second time (RT and ET, respectively) can be
either before, simultaneous with, or after the first (ST and RT,
respectively). This gives a double system, shown in the double
time-line of Figure 6.1. The same system, with the English tenses
written in, is given in chart form in Figure 6.2.

<table>
<thead>
<tr>
<th>ST/RT</th>
<th>precedes ST – RT</th>
<th>same as ST = RT</th>
<th>follows ST + RT</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT/ET</td>
<td>Past Perfect</td>
<td>Present Perfect</td>
<td>Future Perfect</td>
</tr>
<tr>
<td>precedes RT – ET</td>
<td>Past Simple</td>
<td>Present Continuous</td>
<td>‘True Future’</td>
</tr>
<tr>
<td>same as RT = ET</td>
<td>Past Continuous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>follows RT + ET</td>
<td>‘Future-in-the-Past’</td>
<td>Intentional Future</td>
<td>(Future + adverb)</td>
</tr>
</tbody>
</table>

**Figure 6.2**

To read these formulae aloud, the reader should say for, e.g. ST – RT, either ‘ST is preceded by RT’ or else ‘RT precedes ST’. When ST = RT, then the text-world is in the Present time zone, and the foreground situations relate to the present time. This means that they are likely to refer to the discourse world (i.e. as perceived by the participants). This is the explanation for the frequent gloss for the Present Perfect of ‘current relevance’ or ‘having a present result’. It also explains the presence in Figure 6.2 of the Present time-zone tense which I have called the ‘Intentional Future’. I regard this as a present tense since it is a projection of the present state of mind of the subject, whereas the so-called ‘True Future’ represents a prediction, speculation, etc., based in the Future time zone.
When ST – RT, the text world is in the Past time zone, and when ST + RT, the text world is in the Future time zone. In both of these cases, the foreground situations will refer into the text-world context (i.e. as remembered, imagined, etc., by the participants).

So, the ST/RT relationship gives the general time zone (and in the text this might be expressed by adverbs or by the preceding sentences), while the RT/ET relationship fine-tunes the more precise time of the situation within that time zone. To represent this layering, I bracket the notation as follows:

\[(ST - RT) - ET\]

Thus RT is established by the more deeply embedded (bracketed) part of the expression, while ET is determined in relation to this. Here are some examples:

7. \((ST = RT) = ET\) (Present Simple, Present Continuous)
   (a) Wilson makes a run for it
   (b) I break 3 eggs into a bowl
   (c) I'm bleeding
   (d) Here's John

8. \((ST = RT) - ET\) (Present Perfect)
   (a) I've finished

9. \((ST = RT) + ET\) (Intentional Future)
   (a) I'm going to finish now
   (b) I'm finishing (soon)

Examples (7)-(9) all refer into the discourse world.

10. \((ST - RT) = ET\) (Past Simple, Past Continuous)
    (a) John left at 4 o'clock
    (b) John was leaving at 4 o'clock

11. \((ST + RT) = ET\) (True Future)
    (a) John will leave at the stroke of midnight (i.e. a prediction)
    (b) Tomorrow will be foggy

12. \((ST - RT) - ET\) (Past Perfect)
    (a) John had left earlier

13. \((ST - RT) + ET\) (Future-in-the-Past)
    (a) John was to die later that evening
    (b) John would die later that evening

14. \((ST + RT) - ET\) (Future Perfect, 'Past-in-the-Future')
    (a) John will have left by next Tuesday
Examples (10)–(14) all refer into the text world context, or a sub-world context. I will take up these relationships again with specific reference to the text-world approach, in Chapter 10.

Aspect

Aspect, as stated above, is generally assumed to be a non-deictic category (Lyons 1977: 705). However, it shares with deixis the property of egocentricity, specifically speaker-centredness. (The property of deixis which it lacks is that of spatial positioning with respect to this centre.) Egocentricity in this case has to do with the way in which the situation is regarded by the speaker as taking place: thus it is fundamentally a question of speaker perceptions. The basic, unmarked aspect is Absolute aspect, the category of pure verb meaning: a verb in Absolute aspect simply denotes its meaning. The situation takes place without requiring any further elaboration on the bare meaning of the verb. Sentence (10a) above is an example of this: the verb left means nothing more or less than 'went away'; the action is regarded as a simple, complete event. Nothing further need be said or implied about it.

Continuous

The other possible aspects in English are Continuous and Habitual. Continuous (or 'Progressive') aspect focuses on the fact that the situation has a duration, i.e. that it takes place over a period. Consider the Continuous version (10b):

10. (b) John was leaving at 4 o'clock.

This means that instead of the speaker simply reporting the event happening at 4 o'clock (John left), he or she expresses it as though it was drawn out around that point in time: as though John began leaving a bit before 4 o'clock, was still in the process of leaving as 4 o'clock struck, and finally went away from the place a little after 4 o'clock. (10a) is an account of a total event; (10b) is a movie clip of an event in progress. (Of course, the sequence (10b) in another context from that envisaged here has a different meaning: 'John planned to leave at 4 o'clock.' Hornstein's (1977) solution for this type of sense is to make it the output of a totally arbitrary rule: the Past Progressive Interpretation Rule (though it actually applies equally to forms in was to be). I will subsequently suggest that this use in fact represents a sub-world of John's intentions, and the tense form in it is an expression of Remote rather than Past.)
The important point to notice here is that to an uninvolved observer, the Martian on the Clapham omnibus, the objective reality of (10a) and (10b) could very well be exactly the same. After all, leaving is not an instantaneous activity (like, say, *flash*), nor even one of particularly short duration (like *jump*). So the difference between (10a) and (10b) is a difference in how the speaker represents the situation, and not a difference in the situation itself. It is basically for this reason that I am pointing out that though aspect is non-deictic, it nevertheless shares the deictic property of egocentricity: it seems to me that in its speaker-centred nature, aspect is, in fact, rather closer to being deictic than is conventionally argued, and in a much more elaborated theory of ‘cognitive space’ could even turn out to be deictic after all, albeit in an extended sense of the term.

Almost all the tenses given in (7)–(14) have their Continuous counterparts: (7c) and (9b) (and in a way (9a), too) are already Continuous. (7c) tells us that the situation of the speaker bleeding is in progress at ST and is going to continue. (9b) tells us that the speaker has the present intention to leave and that this intention will continue until he or she actually does leave.

*Habitual*

Habitual aspect tells us that the situation is not a single event or state, but a series. The most typical kind of habitual is shown below (cf. Dahl 1975):

15. (a) Elsie always laughs at my jokes.  
(b) My cat chases dogs.  
(c) My dog’s got fleas.

All of these are Present time zone habituals: their meanings therefore are:

16. (a) Every time Elsie and I are in a situation in the Present time zone where I make a joke, Elsie laughs at it.  
(b) Every time my cat is in a situation in the Present time zone where there is a dog, my cat chases it.  
(c) At each moment in the Present time zone, there are fleas on my dog.

As the slightly different paraphrase (16c) shows, it is a habitual *state*, whereas the other two are habitual *actions*. If habitual actions become so frequent or important that they characterise the subject, they can become state-predications – usually by adopting a noun-form:
17. My cat chases dogs (= (15b)) ~ My cat is a dog-chaser.
18. Gordon smokes heavily ~ Gordon is a heavy smoker.
19. Mr MacIntyre teaches French ~ Mr MacIntyre is a French teacher.

A third type of habitual, other than actions and states, is the so-called ‘Universal Truth’. This is a statement that is said to be always true – either because it concerns some physical or mathematical law, or because it is a definition:

20. A triangle has three sides.
21. Water finds its own level.
22. The sun rises in the East.
23. Hydrogen is the lightest element.

The typical use of the Present Simple in these cases shows that these too are in the Present time zone, and it is certainly true that they include the present moment, i.e. ST, in the sense that they are as true at ST as they are at any other moment. However, in these cases, the size of the time zone is not on a human scale (i.e. weeks, years, up to a lifetime), but on a species scale or even a cosmological scale (i.e. tens of thousands of years up to the age of the solar system or even the universe).

It is important to notice that these ‘truths’ are not necessarily true at every moment in the time zone – the sun is not constantly rising. These statements are true of the period rather than of any particular moment in it. But this is also the case with ordinary habituals – even the heaviest of chain-smokers is not smoking at every minute of the 24 hours. These remarks do not apply to habitual state-predications, however, whether non-universal, like (17), (16b), (18) and (19), or universal like (23). They do apply to every moment in the period. We can paraphrase Universal Truths in a corresponding way to non-universal habituals:

20. (a) Every time a plane figure has three sides, it is a triangle.
21. (a) Every time the conditions arise, water finds its own level.
22. (a) Every time the sun rises, it rises in the East.
23. (a) At every moment, hydrogen is the lightest element.

Habitual actions are true for a given time zone, but occur only at some times in that period, habitual states are true at all moments in a given time zone, while universal actions are recurrently true over all time, and universal states are not only true for all time, they are also true of every moment.

It might be objected that habituals are by this definition not aspectual since they involve actual differences in ‘what is going on
out there’. This is not in fact the case. My point is that these so-called ‘actual’ differences are in fact the consequence of interpretation, since they involve a decision that such-and-such a series of perceived situations represents a characterisation, i.e. a conceptually single set. Like Continuous aspect, then, Habitual aspect requires focussing away from the action or state as such, and on to some distinct non-temporal accompanying factor: continuity in the case of Continuous, recurrence in the case of Habitual. Why then do we not consider the Perfect to be aspectual, since it too represents a speaker decision to regard a situation as belonging to the present, say, rather than the past? However, we must consider what the speaker decision is: in the case of the Perfect, it is a decision to regard a situation as being in one time zone rather than another, which is a temporal decision and clearly not an aspectual one (it is indeed, fully deictic). The fact that the conventional wisdom⁹ speaks of the English Past, Present and Future Perfect as being examples of ‘Perfect aspect’ (or even ‘Perfective aspect’) is based on the fact that these tense forms are traditionally called ‘Perfect’ (from the Latin for ‘completed’). The Perfective aspect, in those languages which have it, such as Russian, Latin and French, signifies a completed action (cf. Comrie 1976: Ch. 3). This concept is hardly relevant to English. The Perfect tense forms are real tenses, i.e. they designate time relationships, not aspect distinctions. The Present Perfect, like any other present tense, must be in the Present time zone, i.e. where ST = RT. Another important fact about Habituals is that they can be sub-world-building. We will look at this notion in section 8.2.1.

Mood and modality

The category of mood has no useful place in the grammar of English, since it refers to a paradigmatic distinction in verb conjugation which is no longer central in English. I will therefore henceforth talk about the more inclusive category of modality (cf. Palmer 1979: 2). Modality is in the category of interaction: the interaction between the participants and what is said. We would these days more naturally think of it in terms of illocutionary force or speech acts. Thus, modality has to do with the relationship between the speakers and the text. More specifically, it has to do with their assessment of such factors as truth, probability and reliability, which we discussed in some detail in Chapter 5.
Such an assessment is not a matter of trying to decide whether a
given proposition is true or not (or probable, reliable, etc.). Rather,
it is something which is built into the fabric of language. This is
because the speaker has the chance to signal his or her particular
assessment using a number of specialised linguistic possibilities in
English, as in all languages. In English, the main category with this
function is the so-called modal verb, specifically in its probabili-
ity, or epistemic sense which places it along the probability scale
(cf. Figure 5.2).

These epistemic modals can combine with have to give equiva-
 lent degrees of probability but in the Past time zone – thus, as
will expresses Present zone or Future zone certainty, will have
expresses Past time zone certainty:

24. John will have been home for at least an hour.

Furthermore, just two of the modals in both root and epistemic
senses – namely, will and can – have what seems to be an inde-
pendent Past tense form – namely, would and could, respectively –
but these really have no Past tense meaning. In fact, they have what
we may call a Remote meaning, used to designate not Pastness in
time, but psychological distance. Here are a few examples:

25. I would like to see your superior. (Polite distance: cf. I want to see
your superior.)
26. We could go to the zoo, perhaps. (Tentative suggestion.)
27. I could understand it if he were younger. (Hypothetical case.)
28. I would take the money if I were you. (Polite advice.)
29. John said he would be on time. (Reported Speech – i.e. non-
immediate situation.)

Remoteness is not a temporal category, though it is parasitical
upon time (just as time is parasitical upon space, cf. Jackendoff
(1983: Ch. 10)). Nevertheless it is a deictic category, if a tertiary
one (place being primary and time secondary). In Chapter 10, we
will consider whether Remote is a category of modality. See Werth
(1992a, 1997a and b).

Notes

1 For example, by some such constraint as ‘command’ (Langacker 1969),
‘c-command’ (Reinhart 1983) or ‘binding conditions’ (Chomsky 1981).
2 Though this is not the only source of definite noun phrases.
3 Items not entering into chaining have been omitted. I have also not
included the contents of the direct speech.
4 Metonymy is of four kinds: its broad meaning is ‘belonging’, and sub-types of this are part/whole, various degrees of possession (from mere possession through ownership to inalienable possession, which shades into part/whole), quality or property, and association. A form like *its end*, then, involves both inalienable possession and part/whole.

5 Relevance Theorists regard this as processing effort just like any other. True, you have to apply what they call ‘enrichment’ to ambiguity and garden pathing, but this is just the normal process of optimalisation of relevance anyway (see discussion in section 5.3.3). What happens in fact is this: with an ambiguous sentence, let us say, one reading is entirely relevant, and the other is entirely irrelevant. The typical addressee will normally derive only one reading. Say it is the relevant one: then he or she just sails through with minimal processing effort. Say it is the irrelevant reading: then he or she might take the lazy choice, and stop; or, more likely, because this is not really a matter of choice, he or she will proceed to optimalise the relevance, so attaining the relevant reading. But it is precisely the same reading that he or she might have attained with minimal effort. Anyone not blinkered by Relevance Theory would say that it was *exactly* as relevant; you just had to work a bit harder to get there, is all. But it is the ‘working harder’ which in the terms of Relevance Theory makes it *less* relevant. Exactly the same argument applies to garden pathing. I would argue from this, then, that there are at least two kinds of processing effort: what we have been talking about here is processing effort to *establish the intended proposition*; what Sperber and Wilson are chiefly interested in is processing effort to *interpret a given proposition.* The two are never really differentiated, although Blakemore (1992: 60) talks about ‘recovering a proposition that is truth evaluable’. Nevertheless, I have been unable to find any suggestion that the processing effort needed to recover truth evaluable propositions goes into a different account from common or garden processing effort.

6 As Emmott points out (1997: Ch. 7), the influential Halliday and Hasan (1976) takes this view of reference.

7 In the case of the subjunctive, there is a syntactic distinction also, which is sometimes mentioned, namely the fact that it classically occurs in subjoined clauses, hence the name. But this distinction is in fact neither necessary nor sufficient to identify subjunctives.

8 Hornstein’s more recent work (1990) does not modify this basic position. Rather, he is there more concerned with fitting his semantic theory of tense into an interpretive semantic component of a modern generative grammar, having concern for the so-called ‘poverty of stimulus’ assumption for language learning. His solution to the problem of ‘attaching’ such an interpretive semantics to the syntax is to treat tense as an adverb.

9 In fact, so many scholars dispute that the English Perfect is aspectual that the view put forward here is hardly controversial. I may cite Joos (1964), as a forerunner of this claim.
Will as a root modal (expressing personal certainty) and as an epistemic modal (expressing situational certainty) overlap to a considerable extent, not only in having very closely related meanings, but also in the sense that any given occasion of their use may mix the two meanings, or be equally interpretable either way. Nevertheless, the so-called ‘True Future’ (cf. above) is supposed to be the ‘purest’ expression of the epistemic, since no personal volition is meant to intervene, whereas the ‘Intentional Future’ is clearly a root use, being volitional through and through. The Intentional ‘certainty’ sense of, e.g., *John will be at the big match* seems to me to come closest to the True Future (though clearly itself referring to the present zone), in that it is a non-volitional assertion based on the speaker’s knowledge of the subject.
Chapter 7

Building a text world

7.1 Introduction

So far, the developing notion of 'text world' has been rather generalised. In this introductory section, I want to summarise what we have so far, before going on to look at the nuts and bolts of building a text world. In Chapter 1, the general notion of text world was informally exemplified, using as a working definition:

conceptual scenarios containing just enough information to make sense of the particular utterance they correspond to.

It was assumed that a graphical representation was equivalent to the conceptual representation in the text-producer's or text-recipient's mind, and in general terms, corresponded to the 'conceptual background' for a particular text. A slightly more careful characterisation of the notion 'text world' was presented later in Chapter 1, and used again in Chapter 2:

a deictic space, defined initially by the discourse itself, and specifically by the deictic and referential elements in it.

These deictic and referential elements are called world-building elements, while the foreground of the text, what it is actually 'about', is composed of function-advancing propositions.

7.2 'World-building' elements

In Chapter 2, we looked at a narrative text from Ernest Hemingway, to see how it built up a text world. Narrative texts essentially contain events in sequence. The E.M. Forster text (text (1) of Chapter 1), on the other hand, and the John Steinbeck text (text (2) of Chapter 6) to a large extent, are descriptive texts, which essentially characterise a static scene.1 In order to characterise a static scene, you need first to provide some sense of setting, viz. time and place,
and to nominate the entities present there, and their locations vis-à-vis one another, whether physical or abstract. All this information collectively gives us the basic deictic arrangement of the text world. Then, at some stage, a descriptive text or text-part must link in the entities’ qualities and other relationships and functions.

On the other hand, to show events in sequence, you must portray the activities in question, but always against a background of the static sort. It is, therefore, the notion of background which we must capture in order to build a world. In our general cognitive experience, the background is something we assimilate with the aid of our senses, occasionally with the help of language. But background in this sense is, of course, immediate situation (discourse world) background. The topic of a discourse, on the other hand, is more conceptual, even if it concerns the immediate situation.

In the context of his theory of mental spaces, Fauconnier (1985: 16 and following) proposes the notion of space-builders (cf. section 3.2.5 above). He defines these as ‘expressions that may establish a new space or refer back to one already introduced in the discourse’, and gives a list of examples:

Prepositional phrases: in Len’s picture, in John’s mind, in 1929, at the factory, from her point of view;
Adverbs: really, probably, possibly, theoretically;
Connectives: if A then . . . , either . . . or . . . ;
Underlying subject–verb combinations: Max believes . . . , Mary hopes . . . ,
Gertrude claims . . .

Space-builders, then, are linguistic elements in the discourse, a point which fits in well with the notion of text-drivenness, elaborated in the present book (see section 5.4.2). However, for Fauconnier, they are used only to build mental spaces (M). Standing in contrast to M in Fauconnier’s approach is ‘speaker’s reality’ (R), which functions as the origin of all discourses, and relative to which all Ms are established. R is clearly something like our ‘discourse world’, although Fauconnier does not restrict it to the immediately perceivable environment. In his system, it appears to include all speaker knowledge, which makes it something of a blunt instrument, undefined, unrestricted, and unrelated specifically to M. Speaker reality is nothing more nor less than the undefined notion of reality which has bedevilled philosophy for centuries, and has made Possible World theory, Situation Semantics and much of formal semantics at the end of the twentieth century unworkable (cf. Chapter 3 above).
In the present approach, I claim that all layers of world are constitutionally equivalent. Thus, the immediate situation, or discourse world, is fundamentally similar in make-up to the text world, while the text world is essentially equivalent to the sub-world. Furthermore, each of these is basically the same in structure as the proposition. Specifically, each contains protagonists (participants, characters, sub-characters and arguments, respectively), each is built or buildable with the same building elements (viz. modality elements and informational elements), all are mental representations and, finally, the relationships between successive layers are identical. See Chapter 12 and Werth (1995).

Despite this, we may easily detect that different world-builders (as I prefer to call them) are used at different levels. The levels themselves, that is to say, are functionally equivalent but are distinguished from one another by means of the discourse elements used. Of Fauconnier's list we can say that the 'underlying subject-verb combinations' will often project sub-worlds (certainly with the examples given), though it is the verb in most cases which decides. Of his other examples, in John's mind will inevitably introduce a sub-world, as will probably and possibly, and often, if... then... Discourse worlds, on the other hand, will usually be defined demonstratively or extralinguistically (cf. Sperber and Wilson (1986: Ch. 1) for interesting observations on this, though in a different framework).

Fauconnier's list also suffers from being too specific. Since it is very short, intended as no more than a brief illustration, we therefore have no idea of what it is that constitutes a space-builder. Subsequently, Fauconnier does reclassify space-builders in terms of the spaces they build; he mentions Time Space, Space Space, Domain Spaces, Hypothetical Spaces, Tenses and Moods (the last having a somewhat more oblique relationship with space-builders than the others) (29 ff.), and later he discusses the space-building properties of the copula verb be (143 ff.). Nevertheless, interesting and important though Fauconnier's work is, like most existing work in cognitive linguistics, it would benefit from an out-and-out discourse perspective.

7.2.1 Discourse principles for world-builders

Let us, therefore, attempt to establish some discourse principles for world-builders. We may begin by trying to specify exactly what their function is. Referring again to the distinction made earlier
(Chapter 6) between the informational and the modality part of a discourse, we may say that world building belongs to the latter. Modality, it will be remembered, comprises the situating of the information with respect to the current context. You can situate information in terms of (i) interaction, or social relationships; in terms of (ii) location, physical or abstract (which is then perspectivised for one participant, giving viewpoint); or in terms of (iii) probability (including reliability). I call these the three levels of modality. World-builders can be any of the three. The interaction type are those in which there is a current relationship between the protagonists and the surrounding situation. Location is perhaps the largest (and most obvious) source of world-builders. The probability type of world-builders are those for which the available information at that stage of the discourse is insufficient to reach a truth-assessment of the proposition in its world. Here are some examples:

Type (i): Social interaction

1. ROS(encrantz): Why! – something is happening. It had quite escaped my attention!
   (He listens: Makes a stab at an exit. Listens more carefully: Changes direction;)
   (GUIL(denstern) takes no notice.)
   (ROS wanders about trying to decide where the music comes from. Finally he tracks it down – unwillingly – to the middle barrel. There is no getting away from it. He turns to GUIL who takes no notice. ROS, during this whole business, never quite breaks into articulate speech. His face and his hands indicate his incredulity. He stands gazing at the middle barrel. The pipe plays on within. He kicks the barrel. The pipe stops. He leaps back towards GUIL. The pipe starts up again. He approaches the barrel cautiously. He lifts the lid. The music is louder. He slams down the lid. The music is softer. He goes back towards GUIL. But a drum starts, muffled. He freezes. He turns. Considers the left-hand barrel. The drumming goes on within, in time to the flute. He walks back to GUIL. He opens his mouth to speak. Doesn’t make it. A lute is heard. He spins round at the third barrel. More instruments join in. Until it is quite inescapable that inside the three barrels, distributed, playing together a familiar tune which has been heard three times before, are the TRAGEDIANS.)
   (They play on.)
   (ROS sits beside GUIL. They stare ahead.)
   (The tune comes to an end.)
   (Pause.)
   ROS: I thought I heard a band.  
   (Stoppard 1967/1968: 82)
Type (ii): Location in space and time

2. During the early modern period of European history, stretching roughly from 1450 to 1750, thousands of persons, most of them women, were tried for the crime of witchcraft. About half of these individuals were executed, usually by burning. Some witchcraft trials took place in the various ecclesiastical courts of Europe, institutions which played an important role in regulating the moral and religious life of Europeans during the Middle Ages and the early modern period.  

(Levack 1987: 1)

Type (iii): Degrees of probability

3. Marvin Cetron, president of Forecasting International Ltd., a Virginia based think tank, last year co-authored an exhaustive study of terrorism for the Pentagon. He thinks a chemical or biological attack on the U.S. is increasingly likely, ‘perhaps within the next five years.’ He also predicts that if Sheik Omar Abdel Rahman […] is found guilty on conspiracy charges, there will be ‘10 or 12 terrorist attacks’ on U.S. targets within a few weeks.

If that is so, what is the U.S. government doing to prepare? The Pentagon is studying how terrorists might try to spread chemical or biological agents in urban areas and hopes to develop techniques to thwart them. The CIA also believes that home-grown ultra-rightist pioneer and vigilante groups may pose a more insidious kind of threat in the next few years.  

(Time, 3.4.95 (adapted))

Text (1) is, on the face of it, narrative, but since the linguistic interchange between the protagonists is so limited, I have taken it as a report on a situation. I want to treat it, in other words, as a discourse world, rather than a text world.2 (I will return to the special problems of play texts for defining these levels.) The emboldened expressions in (1) are all cases of what Sperber and Wilson call ostensive stimuli. These are intentional attention-drawing devices, and as (1) shows, they can vary in specificness. The important thing about them is that they combine the actual stimulus with some perceivable element in the immediate situation.

Text (2) is a discursive, or explanatory, text. The text world it is setting up is defined both temporally (during the early modern period of European history; during the Middle Ages and the early modern period) and spatially (in the various ecclesiastical courts of Europe). Note the dependency of temporal deixis on spatial deixis: the first temporal expression is further defined using clearly spatial terminology (stretching roughly from 1450 to 1750).
Text (3) is also discursive, but is moreover stipulative, i.e. concerned to define possible future states of affairs rather than interpreting past states of affairs. It is therefore couched in the language of belief, intention and desire (thinks; predicts; hopes; believes) and probability (likely; perhaps; if . . . will be; might; may). The important point to notice about this is that the content of the intention, desire or probability statement cannot be assessed for truth, since it has not yet taken place, and indeed may never take place.

Generalising from these examples, we can say that text (1) uses ostensive stimuli, the crucial property of which is that they link a communicative act with an element of the surrounding situation. Text (2) defines a text world; it does not report on a situation manifest to both writer and reader (it is rare indeed for a writer and reader even to share a situation). Rather it sets up a world, which in this case we take to be fictitious. Such worlds require deictic elements to define their boundaries. Text (3), though, defines one or several sub-worlds since, apart from the first sentence (which still belongs to the text world set up previously), it deals with beliefs, intentions, desires and probabilities, none of which is open to truth-assessment at the time of utterance. Sub-worlds typically use the language of what semanticists call opaque contexts to build themselves. If these distinctions are at all generalisable, we can draw from them a world-building principle:

**World-building principle**

*The world-building elements used are in every case appropriate to the level of modality currently in force.*

'Appropriateness' is defined in terms of the principles upon which a world is constructed. Thus, since discourse worlds are based on the interaction of participants, they operate at the modality level of interaction: they therefore involve defining devices which function on the principle of **mutual manifestness** (Sperber and Wilson 1986). Text worlds, though, are essentially locative: they operate at the viewpoint level. They involve one participant (the producer) defining a world for the benefit of another participant or other participants (recipients), and therefore have the egocentric bias common to deictic systems, and typically display a **deictic zero-point**. Sub-worlds, finally, define situations which, from the viewpoint of the characters in the text world, are more or less unreal (more unreal: futurate, hypothetical, remote; less unreal: another time, another place). They therefore operate on the probability level of modality, and use a different set of world-builders, more
appropriate to their particular function: modal/epistemic elements, stipulating situations which cannot (as yet) be confirmed.

It can presumably be objected that these distinctions are too absolute, that real discourse does not keep these levels so rigidly separate. Consider text (1), for example. The point is that as a text world, the situation is narrated rather than simply reported. We may say that it constitutes an account rather than a commentary. In fact, the distinction would be a lot clearer if (1), instead of being a verbal text, were a video clip. This would bring us, the observers, closer to the reality of the discourse world, a world of (represented) phenomena and actions. That being so, we may see that the actions:

4. (a) <He turns to GUIL who takes no notice>
    (b) <He opens his mouth to speak>,

which in written form constitute stage-directions, are ostensive stimuli, whereas the text world accounts:

    (c) He turns to GUIL who takes no notice
    (d) He opens his mouth to speak

constitute propositions which would form part of the ‘function-advancing’ component of the discourse (see next section).

In the case of sub-worlds, it is perhaps even clearer that they constitute a different kind of situation, one which is not being described as ‘real’ or ‘existing’ or ‘existing for the purposes of the present discourse’, but rather one which is clearly hypothetical or unreal or unconfirmed at the current stage of the discourse. For this reason, the set of world-builders which define sub-worlds are precisely those which depict hypothetical or unreal or unconfirmed situations: modals, probability markers, verbs of propositional attitude, non-factive verbs, adverbials denoting imaginary, speculative or stipulative environments, and so on. (As we shall see in Chapter 8, though, the class of sub-worlds also includes such phenomena as ‘flashbacks’, where the basic deictic signature of the text world is temporarily altered.)

7.2.2 Types of world-builder

This brings us to the question of what kinds of elements constitute word-builders. From the above discussion, it is clear that these differ depending on the type (level) of world concerned. For the prototypical discourse world, these elements tend to be implicit,
precisely because they are mutually manifest to the participants. As discourse worlds get less prototypical, though, so these elements may need to be explicitly expressed. A telephone conversation, for example, may need to make basic deictic information (about time and place) explicit: Where are you calling from?, What time is it there?, as well as other information about the environment. A written discourse will often go to considerable pains to make this kind of information available (consider all those novels which begin4: 'As I write these pages, fifty years have passed since the tumultuous events I shall shortly describe. Sitting here in my comfortable apartment, it is hard to believe that...').

Text worlds, on the other hand, are much more overtly constructs. Except in the limiting case where the text world concerns some part of the manifest discourse world, so that no explicit deixis needs to be stipulated, in normal cases the deictic elements are set out overtly. Assuming that we are at the beginning of our prototypical discourse, we need to be able to retrieve, at least in a general way, the time, place, entities and relevant relationships between them. I use the word 'retrieve' since, in many cases, the time and place are not at issue, and are therefore not particularly focused on. At the beginning of a new discourse they tend to be explicitly mentioned linguistically, though in the case of time, this may simply be by means of the tense used. Here is a classified list of examples of text world builders:

**Time** (t): time-zone of verbs; adverbs of time; temporal adverbial clauses, e.g. it was a dark and stormy night, in 1979, at two minutes past midnight on April 7th, 10−9 seconds after the Big Bang, as soon as John realised.

**Place** (l): locative adverbs; NPs with locative meaning, locative adverbial clauses, e.g. on the table, at Lewes in the county of Sussex, there was an old barn . . ., where the sea meets the sky . . .

**Entities** (e and o): noun phrases, concrete or abstract, of all structures and in any position, e.g. my friend Susan, these are the voyages of the star-ship Enterprise, a policeman who had lost his way, the square root of −1, your attitude to market forces.

Sub-worlds, as we will see in Chapter 8, come in three broad types. The first is one which is directly accessible from the discourse world. The clearest kind of example of this occurs when (one of) the given deictic parameters of the text world is altered, producing a world of the same kind as its matrix world, and specifically one in which it is still possible for the participants to verify the constituent
propositions. They will be called deictic sub-worlds. Examples of such world-builders are:

**Time:** 10 years earlier, later that same day, (this tiny child) was to become . . ., in this very spot (+ Past Perfect) . . .

**Place:** in another part of the forest, just 10 miles to the North, meanwhile, at the very same time.⁵

Notice that these world-builders are always explicitly connected to the matrix world by way of a comparative or other linking expression.

The second kind of sub-world is one which is *not* directly accessible from the discourse world. The clearest kind of example is an attitudinal sub-world; in which we are in a sense vicariously experiencing the mental world of a character. This type, therefore, cannot be verified under the same conditions as its matrix world (and is in fact accessible only via the text world). These are called character-accessible sub-worlds, though participant accessible versions which are verifiable are also possible. World-builders for the third type of sub-world are typically expressions which set up modalisation — hypotheticals, conditionals, modals (although other types are possible, as we will see in Chapter 8); these are called epistemic sub-worlds. Examples:

**Cognitive domain:** in John's mind, Mary believed that . . ., I think, it seems . . ., Einstein knew . . ., Sam hopes that . . ., Bill realised . . .

**Intentional domain:** Miriam wanted to . . ., in order to . . ., so that . . ., you must . . .

**Representational domain:** in the picture, according to Leavis, Carol dreamed that . . ., on TV, in the story.⁶

**Hypothetical domain:** if . . ., had you not . . ., were you looking for . . .?

**Epistemic domain:** perhaps, possibly, must have, would have, certainly.

There is one other type of world-building element which should be mentioned at this point, since it mostly occurs in sub-worlds of the third sort. This is the assumption, which is a proposition whose function is to help define a world rather than to denote situations which take place against the backdrop of an otherwise defined world. The most common example of an assumption is the if-clause (or equivalent) in a conditional. We will examine an example in text (7) and Figure 7.2 below.
7.2.3 Protagonists

Among the world-building elements, as we have seen, are entities, which can be either sentient and active, or merely passive. Protagonist is the general term for sentient entities who are involved in one way or another with discourse. Thus they can be creating it – either producing or interpreting it – or they can figure in it in some way. As creators, they are called participants, as we saw earlier, whereas as figurants, they are known as characters or sub-characters depending on what level of world they function in.

Participants

Participants are the people who function in the discourse world – language users – and who are busy negotiating discourses. They are speakers and writers, who produce discourse, and listeners and readers, who interpret it. They are responsible for setting the parameters of the text world, and for nominating its inhabitants. (See section 3.4.)

Characters

Characters are the people that the participants people the text world with. They are essentially agents who are capable of carrying out the actions and of bearing the properties which are ascribed to them. They might consist of representations of the participants themselves, or of people known to them, or they might be fictional. Whatever the case, it is important to stress that they are entities having exactly the same kind of rational attributes as participants. They are capable not only of carrying out the actions ascribed to them by the participants, but also, once created, of leading an independent conceptual life (cf. Bockting (1991, 1993) on Faulkner’s observations about this trait in his characters). I am not putting forward the eccentric idea that somewhere all these fictional characters are walking around in the flesh. Rather, what I am saying is that if their hopes and beliefs and speculations are reported by way of the discourse, they are inaccessible to the participants in the sense that since characters are not participants, they are not bound by the principles of discourse (cf. sections 2.3 and 5.3.3). On the other hand, if a participant reports, or agrees to a report of, a belief which he or she holds, it is fully accessible since participants are bound by the principles. Thus we are justified in considering a
participant’s belief as transparent and true within the text world boundaries, but a character’s belief is justified and true only in the world set up by the character (i.e. a sub-world). We can say, then, that the principles of discourse apply in any world set up by a protagonist – the text world for a participant, and a sub-world for a character.

Sub-characters

Sub-characters are to sub-worlds what characters are to text worlds. This terminological distinction is crucial in tracking down the operation of so-called opacity (see Chapter 9 for a full discussion). Apart from this, there is no real difference in kind between characters and sub-characters.

7.3 ‘Function-advancing’ propositions

In earlier chapters, I used the term ‘plot-advancing’, which was borrowed from Martin Joos (1964), where it was used to distinguish between clause (and more specifically verb tense) functions in such sentences as:

5. While the news was on, John finished his dinner.
6. While John was eating his dinner, the phone rang.

In these examples, John finished his dinner and the phone rang, respectively, are clauses containing plot-advancing verb tenses, while the two ‘while’ clauses provide the background to these storyline propositions. In the terms used in the present work, we would say that the while-clauses are (temporal) deictics, and partly build a text world within which a function-advancing action takes place.

A ‘plot-advancing proposition’ is a non-deictic expression which functions, for the most part, as part of the motivation for setting up a text world in the first place: it tells the story, it prosecutes the argument – in short, it helps to satisfy the speech act upon which the discourse at that point is founded. However, as a technical term, it sends out too restricted a signal: it is fine for narrative texts, but for descriptive, discursive, instructive, etc., texts, it is too limited. I therefore propose to substitute for it the broader term ‘function-advancing’, with the sub-categories listed in Figure 7.1.

It is chiefly at the text world level that function-advancement in its various forms is most salient. However, we may legitimately ask whether the notion of function-advancing plays any role at all
<table>
<thead>
<tr>
<th>Text type</th>
<th>Predicate type</th>
<th>Function</th>
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<tbody>
<tr>
<td>Narrative</td>
<td>Action, event</td>
<td>Plot-advancing</td>
<td>Report, recount</td>
</tr>
<tr>
<td>Descriptive: scene</td>
<td>State</td>
<td>Scene-advancing</td>
<td>Describe scene</td>
</tr>
<tr>
<td>person</td>
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<td>Describe character</td>
</tr>
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<td>routine</td>
<td>Habitual</td>
<td>Routine-advancing</td>
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<td>Discursive</td>
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</tr>
<tr>
<td>Instructive</td>
<td>Imperative</td>
<td>Goal-advancing</td>
<td>Request, command...</td>
</tr>
<tr>
<td>etc.</td>
<td></td>
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</tbody>
</table>

Figure 7.1
at the other world levels. The discourse world level, as we have already seen, is a level of phenomena and actions. It is clear that events do take place at this level, e.g. Rosencrantz walks towards Guildenstern in (1), or the telephone might ring while I am telling you a story, or somebody might come in with tea and biscuits, or there might be a crash in the road outside, and so on. In this sense, we might want to hold that such events form a parallel with function-advancing propositions on the text-world level. However, I would argue that there is an important asymmetry between the discourse world on the one hand, and text and sub-worlds on the other, and this is that the participants (and chiefly the current speaker) are responsible for the content of the text world; similarly, the characters in the text world are responsible for the content of the sub-worlds. But (except in very rare cases) the participants are not responsible for the content of the discourse world; there is no impulse shaped by the participants which dictates that a discourse world will be made up of elements x, y and z, and that events A, B and C will take place in it. In this sense, the discourse world is random, and though some of its features may influence the content of the text and sub-worlds which take shape within it, this happens by the choice of the participants, and not spontaneously.

Sub-worlds, on the other hand, behave like text worlds in that once the world has been defined by world-building elements, further events can only take place within the parameters of the world as defined. For example:

7. At dawn today, John struggled out of bed. He took his fishing gear down to the river. The arrangement is that if John catches a big fish, he’ll take it home, and give it to Mary to skin and clean. Mary will complain like hell, but she’ll do it anyway. Then she’ll cook it into some exotic and delicious dish.

(7) includes a conditional sub-world, projected from a text world about John getting up and going fishing (and indeed a pattern of such events). The time of the text world ‘starts’ at dawn today, and unrolls with the events of John getting ready and going down to the river. We then pause, as it were, to entertain a hypothesis about future events. The if-clause constitutes the world-builder here: it defines the conditions for this sub-world to exist. Everything which follows ‘takes place’ on this initial assumption. So in this sub-world, there is a clear storyline, all of it conditional on the original world-building assumption. What a sub-world does, in effect, is exactly
**Figure 7.2**

**IF-WORLD**

**WB**
- **t**: at dawn today
- **l1**: bed; **l2**: river
- **c**: John
- **o**: fishing gear

**FA**
- John
  - struggled
  - gear
  - **(John) Ø**
  - out
  - bed
  - down
  - river

- **He**
  - took
  - gear
  - down
  - to

- **A**: John (catch) fish

**PURPOSE-WORLD**

**WB**
- **t**: future of if-world
- **l1**: river; **l2**: home
- **c**: John, Mary
- **o**: fish

**FA**
- Mary
  - skin/clean
  - fish

- **He**
  - gives
  - fish
  - to
  - home

- **She**
  - does
  - then
  - it
  - into
  - delicious dish

- **She**
  - cooks
  - it

- **She**
  - but
  - it

- **She**
  - does
  - (and then)
  - to
  - Mary

- **She**
  - enjoys
  - delicious dish

- **She**
  - (and then)
  - gives
  - fish
  - to
  - home

- **He**
  - takes
  - fish
  - (and then)
  - to
  - home
the same as what a text world does: given a set of prior conditions defining the world, it goes on to entertain a set of propositions denoting events that 'take place' within that world as defined. So it seems reasonable to hold that sub-worlds can have a 'plot' too, and that they may also accordingly have function-advancing propositions. Figure 7.2 gives some idea of the structure of the text world of example (7).

Figure 7.2 should be read as follows: starting from the top of the text-world square, the WB elements provide the world-building (deictic) information which, together with associated knowledge-frames, defines the parameters of the world in question. These elements are open to change: time rolls on, the location may change, characters and objects may come and go, and assumptions may be modified. The FA elements, reading from the top down, consist of function-advancing propositions. Sub-worlds are indicated by a small rounded rectangle at the appropriate point, and contain some indication of their type (IF, PUR(ose), BEL(ief), etc.).

The sub-world is projected either backwards or forwards, and its contents and type, including any of its own WB elements, are specified in the projection. The representation is literally one of projection in the cinematic sense; other ways of thinking about this would be as 'buttons' in a hypertext system, or as windows onto scenes from memory or imagination. The text world is depicted as a square, while sub-worlds are shown as rounded squares. FA propositions are enclosed in rounded rectangles, and contain further embedded propositions of a familiar kind. For example, the text world in Figure 7.2 above contains an image-schema of John getting out of bed.10 (For details of notation, see pp. xvi–xvii.)

The essential fact about the form of the function-advancing part of the notation is that it may be represented propositionally. We will now therefore make a digression by discussing the notion of 'proposition' itself, particularly in an experientialist framework.

7.3.1 Propositions: encoding situations

I have been using the term proposition up until now with the rough definition: 'a basic sentence, expressed semantically'. I will now be more precise: a proposition is in fact a unit of meaning. But unlike a semantic predicate, such as <Human>, which by itself makes no predication (in traditional terms, 'does not make complete sense'), a proposition is independent, in the sense that it is a stand-alone semantic unit. This means that a semantic predicate
by itself does not say anything about its text world, no more than does the word *human* by itself. To say something about its text world, a semantic predicate must be incorporated into a proposition, just as a word must be part of a sentence, even if only a sentence implied by the context.

There are two main reasons for semantic predicates not making sense in isolation:

- By itself, a semantic predicate like `<Cat>` or `<Sentence>` or `<Table>` does not refer to anything; it has no connection (sufficient identity) with any entity in the text world.
- By itself, a semantic predicate like `<Run>` or `<Human>` or `<Small>` does not function; to function, it has to team up with other semantic predicates and logical elements.

Let me now explicate the section-heading, 'encoding situations'. You will recall that a situation was earlier described as a state of affairs in which some nominated entities (protagonists and objects) were in some state or relationship at a certain time, in a certain place. This description is fundamental to the entire language process. We have seen it in the characterisation of situations, including the immediate situation of speech; we have also seen that precisely the same arrangement holds for text worlds and for sub worlds too. I will now show that the same configuration of elements also goes to make up propositions.

Following the lead given long ago by Case Theory grammarians (Fillmore 1968; Langendoen 1969), we can think of a proposition as comparable with a ‘scenario’ of some kind: perhaps a pure ‘scene’, containing objects (concrete or abstract) in some sort of arrangement, or else an ‘event’ in which there is some action carried out by an agent on a patient, and possibly involving a change of state, for example.\(^{11}\)

The structure of propositions consists of a semantic predicate, accompanied by one or more arguments. Predicates are properties or relations or, collectively, functions. It is normally assumed that these correspond to verbs, predicate adjectives or predicate nominals in natural language, although during the heyday of Generative Semantics, it was common practice to ‘decompose’ all meaningful items into a structure of underlying predicates (cf. Werth (1976) for a typical example). Arguments, on the other hand, are of several kinds. In order to form a proposition proper in logic (as opposed to a propositional function, or ‘open sentence’), arguments have to be constants, i.e. they have to denote a designated individual or
class. What is normally taken to be a typical individual constant is a proper name, since these are assumed to designate an individual. Logicians have also conventionally accepted 'definite descriptions', i.e. definite NPs, as individual constants. As well as individual constants, there are class constants: these consist of variables which are quantified, i.e. they contain an indication which designates all or some part of the class. Given these distinctions, a proposition can be represented as a quantified expression containing an n-place predicate together with n arguments. The meaning of any proposition is considered to be the conditions which give it its truth-value, and every proposition must possess a truth-value in order to be a proposition.

7.3.2 Propositions in the present approach

Underlying predicate calculus and all the categories described in the previous paragraph are a number of unstated objectivist assumptions. Thus it is assumed to be possible to distinguish between propositions and non-propositions, i.e. to decide which expressions are capable of bearing a truth-value and what that truth-value might be. It is assumed that individual constants are uniquely referring expressions, i.e. that they have a known extension, and that class constants designate at least a procedure (or equivalent) for scanning the extension of the class to the extent indicated by the quantifier. But predicate calculus has no machinery for taking context into account, so extensions of constants have to be known by virtue of the proposition alone – they have, in other words, to be 'just known'. It is assumed, therefore, that reference is a straightforward matter of being able to designate the extension of a constant 'in the world'. But this assumes that constants have an extension in the world, i.e. that they are objectively definable, and the definition holds for that proposition whatever its circumstances of use. The same argument also holds for the property of having a truth-value: a proposition is truth-conditional whatever its circumstances of use.

In the present approach, a proposition is the representation of a simple situation. All situations are taken to be either path-expressions, whereby one entity is connected to another, or to another situation, or else modifications, whereby an entity is connected to a property (see next section). Situations may themselves be embedded in other situations. The domain of these situations is always a world, defined by the discourse itself. This means that the question of reference is always resolved locally in the text world. We never run into the problem of unbounded extension, encountered
with the universal quantifier, which, stated in a nutshell, is: the extension of a universally quantified constant is every member of the class which exists now, has ever existed or ever will exist. This is a non-denumerable, and hence indeterminate, class; it is, for linguistic purposes at any rate, virtually useless. In an experientialist account, generic expressions are assumed to denote the human experience of the category in question. Human experience of a category is of necessity based on limited exposure to the members of the category. Thus, as is generally agreed, generic expressions in natural language should be understood as containing a hedge like ‘typically’. In practical terms, they denote some subset of the logical category which is tacitly assumed to be representative, and thus to ‘stand for’ the logical category. And it should be added that the more generic a particular concept is taken to be, the more frame-knowledge of that concept is present.

These simple situations, then, consist of entities and pathways or modifications; the pathways represent relationships, and the modifications, properties. For an example of a set of connected propositions making up a single text, see (4) in Chapter 2. Each proposition in this list is a single-verb sentence, although the verbs may actually appear in noun or adjective form, depending on the context. In each case, the valency of the verb has to be determined (viz. the number of arguments it takes, and their type), and where more than one valency is possible, only that which corresponds to the arguments available in the text can be selected. Propositional arguments are indicated by the number of the proposition which fills that slot in each case. For a practical account of this kind of analysis, see Werth, Kemp and Poulisse (unpublished).

Situations are also deictically defined, though not necessarily explicitly: they often inherit their deictic marking from their context. The context of a situation, then, consists of a set of deictic parameters, making up a text world, and a Common Ground, consisting of the information already present as a result of the discourse up to that point.

7.3.3 Paths and modifiers

Predications can be categorised into two broad types: those denoting change-of-state, real or abstract; and those denoting a steady state. These both fall into various sub-varieties: for change-of-state, we include action and process. For the steady-state type, we need to include at least state, circumstance and metonymy. The first three are as generally defined for predicate-types, and I propose no special
variation on this consensus. **Circumstance** is used for adverbial propositions, though they may simply be state predications. Metonymy consists of any kind of associative relationship, such as possession: I assume that such relationships are basically locative.\(^{13}\) To these we should also add various types of modification and equative relationships, such as apposition or certain kinds of anaphora.

The notion of **path** is important in cognitive linguistics. I have already commented on Langacker's use of the notion (see above, section 2.1.3). A path is essentially an image-schema of a **motion**, concrete or abstract. As such, it may have an explicit **source** and/or an explicit **goal**. In what follows, I will assume that all action and process predications,\(^{14}\) whether concrete or abstract, are path statements, i.e. mappings from a source situation to a goal situation. Paths may cover various kinds of source-goal relationships, from simple **intransitivity** (*John is snoring* = 'The entity John maps on to a situation by way of a snoring function') to more complex functions (*John claimed that dogs didn't like him* = 'The entity John maps on (by a claiming function) to the situation in which no member of the set of dogs maps on to John (by a liking function)\(^{15}\)'. Complex mappings may include sub-world generation, especially when some kind of modalisation is involved (as in the example with **claim**).

**Modification**, on the other hand, covers states, circumstances and metonymies. These tend to be propositions which advance chiefly descriptive and discursive functions. For description-advancement (which, as we saw in Figure 7.1, has several sub-functions), the distinction between world-building and description-advancing is sometimes difficult to draw. Nevertheless, it is possible to distinguish descriptive elements which belong to the world-building phase from those which advance the descriptive function. The former consist of elements which establish the presence in the text world of certain entities, including any descriptive material necessary to identify them (such as restrictive relatives); the latter provide further modification on elements already nominated as present in the text world.

It follows that there are three categories of description: **identifying**, **individuating** and **framing**. Identification is a world-building process, individuation is description-advancing (since it serves to broaden and deepen our knowledge of a nominated entity), and framing adds further information about an evoked entity from memory.

The notation used for propositions in the present approach uses a natural element order (i.e. as representative of surface-order
as possible). Predications are held to be either (i) pathways, with change-of-state predications shown as vertical arrows and labelled if necessary, or (ii) modifications, with steady-state predications shown by horizontal arrows. Both clause connections and entity-properties are shown with horizontal arrows.

For example, the sentence The cat sat on the mat and licked her fur is regarded as a conjunction of a locative predication embedded in an action predication, and a metonymic predication embedded in another action predication. This does not, of course, represent a particularly deep analysis of propositional context and typology. What I am trying to show is how the entities nominated among the world-building elements of a particular text world then enter into the events, processes and states which constitute the function-advancing expressions in the text.

A deeper account of predicate types does exist, however, in the form of Langacker's work in Cognitive Grammar (especially 1985, 1987a, 1987b and 1991). Langacker's starting-point is the observation that 'every linguistic predication derives its value through the imposition of a profile on a base' (1985: 4–1). Predications are semantic structures of any size (1987a: 55), and can be nominal or relational: nominal predications profile things, presupposing any interconnections that may exist between them or their parts; relational predications profile interconnections among entities, presupposing the existence of the set of entities in question. Entities may actually be either things or relations: if the former, they represent a region in some domain; if the latter, they focus on the interconnectedness between things or other relations.

Distinct from the profile-base structure is the figure–ground configuration, which represents the point of focus within a domain. The figure thus constitutes a point of salience (there may be several, in fact, with varying degrees of prominence) within a domain. As Langacker says (1987b: 70):

Every relational predication shows an asymmetry in the prominence accorded the entities that participate in the profiled interconnections: some participant is singled out, and is construed as the one whose nature or location is being assessed. I refer to this participant as the trajector (tr) . . . The term landmark (lm) is applied to other salient participants, with respect to which the trajector is situated.

Relational predicates may be either atemporal or processual. The former, as the name suggests, are time-independent, while the latter are inherently temporal: a process is some kind of mutation
through time. Atemporal predicates are therefore statives, and correspond to modifiers, participles and prepositions (1987a: 72), or to our steady-state modifications. Moreover (Langacker 1985: 4–2):

- A stative relation with a thing for its trajector is adjectival.
- A stative relation with a relation for its trajector is adverbial.

Furthermore, there is an important conceptual difference between atemporals and processes, which has to do with how they are scanned: thus, one and the same event may be scanned summarily or sequentially. Here is Langacker’s definition of this distinction (1985: 4–3; 1987a: 72):

- **Summary scanning**: Different facets of a scene are examined in cumulative fashion; the corresponding cognitive events, once active, remain active throughout; this results in all facets of the scene being conceptualized simultaneously (all the component cognitive events are simultaneously active).
- **Sequential scanning**: The successive transformation of one scene into another; the cognitive events corresponding to a scene do not remain active throughout, but begin to decay as those corresponding to its successor are initiated; stages of the conceptualized process are accessed serially rather than simultaneously.

We may remember the similar distinction between a descriptive text world, having description-advancing function, and a narrative one, with plot-advancing function (cf. section 7.3 above).

We are now in a position to distinguish between a simple atemporal (= a stative), a complex atemporal and a process. Here are Langacker’s examples (profiling only the item in bold):

8. (a) There is a bridge **across** the river.
(b) He waded **across** the river.
(c) He **crossed** the river.

The difference between the simple and the complex atemporal is that the former is summarily scanned while the latter is sequentially scanned. This is brought about because of the different characteristics of the trajectors in (8a) and (8b) in relation to the landmark, which is the river in both cases. As Langacker says (1987a: 71), ‘the trajector [in (8a)] is an elongated object that simultaneously occupies the entire path’, while in (8b), ‘the trajector is small compared to the path, and thus occupies the points along it successively rather than simultaneously’.\(^\text{16}\) The difference between a complex atemporal and a process is not to do with scanning – both are sequential\(^\text{17}\) – but with the conceptualisation of time. Atemporals
are conceived of as unchanging, global scenes or events; processes crucially take place through time and involve change.

In this section I mentioned a number of path-types. This was a simple and incomplete classification, not utilised in the notation used here (but see Werth 1992b). However, I would now like to investigate the possibility that this classification might be contextually predictable, given a predicate typology like Langacker’s. In general, my claim is that a pathway is a mapping function from a source situation to a goal situation, i.e. a locative statement. How does this compare with Langacker’s proposal that a predication relates an entity to an entity?18

Firstly, it must be said that the broader perspective afforded by a discourse grammar allows us to look beyond the confines of the single sentence. Thus what we might think of in a sentence-grammar as an ‘entity’, connected only with some other entity in the same sentence, will, from the discourse viewpoint, be part of a whole interconnected situation. A ‘thing’, for example, is actually more than a region in a domain from this perspective, since simply by virtue of being in an ongoing text world it already participates in a complex state of affairs.

An entity, as we have seen, may be a thing or a relation. If a thing-entity is also the trajector, then, according to Langacker, the predication is adjectival19 – i.e. a simple atemporal with a thing for its trajector. His main category, which we might associate with prototypical verbs, is the process. This turns out to be an umbrella category for actions, including motions, and what most other people call processes (i.e. non-agentive changes). As a path, we saw that a motion (a basic action-type) constitutes a change carried out by an agent (or an agent-substitute, such as a force or an instrument) from a source position to or towards a goal position. The change may happen to the agent itself or to another entity. As a process, a motion is a relation between two entities, one corresponding to the trajector-thing in a relationship with a location-entity, and the other being the landmark in a relationship with another location-entity. The landmark may correspond to a thing distinct from the trajector or to the second location. An action is more general, of course: in path terms, it constitutes a change carried out by an agent (with the same provisos about types of agent and recipients of the action) from a source state (rather than a position) to a goal state. For the process-account, this means that the trajector and landmark are things in state relationships, rather than the more restrictive locationals.
Non-agentive processes involve a change undergone by a non-agentive entity, taking it from a source state to or towards a goal state. Examples are *The base metal turned into gold* and *John dropped dead*. In process terms, this corresponds to a relation between a thing and a state relation. The distinction between agent and non-agent appears to be rather crucial here: it is normally characterised in terms of volition (with some additional explanation for force agents, as in *The wind blew the roof off*, in terms of perceived or attributed volition). Langacker (1991: 285) talks about the 'archetypical agent' as 'a person who volitionally initiates physical activity resulting, through physical contact, in the transfer of energy to an external object'. He also says that finer distinctions can be made, e.g. to account for inanimate agents.

A state, in path terms, is the continuation through time of a situation (defined as in Chapter 3). For Langacker, a state is a simple atemporal relationship, i.e. one in which time plays no conceptual part. This seems to be a basic conceptual difference between us, but I would argue that it is in fact another consequence of my taking the discourse view rather than the sentential one. Text worlds, as we have seen, are made up of situations, and time is an essential component of situations: they take place in time and through time. From the sentence viewpoint, a state relation as in *There is a bridge across the river* may appear to denote a simple atemporal observation. From the discourse viewpoint adopted here, it will be part of the world-building apparatus of its text world, and will have temporal continuity throughout the duration of that world, at least until some function-advancing proposition changes that particular parameter, e.g. *Our sappers will destroy the bridge to stop the enemy advance*.

A circumstance, in the labels I suggested above, is the further specification of a pathway in terms of a state: this state might denote a manner, a location or a time, for instance. For Langacker, as we have seen, such a predication occurs when the trajector of a stative relation is itself a relation. This is completely equivalent to the path account.

Finally, metonymy is used for associative relationships which may be loosely described as 'belonging'. It has turned out to be an important and pervasive relation in the assessment of coherence, collocation and semantic connections in general. The basic modification-type for metonymy is possession (viz. *have*), which I have tentatively analysed as a locative state predication with an animate entity in the 'place' position. Again, there seems to be no difficulty in translating this into Langackerian terms.
7.3.4 Propositional diversity

Types of path or modification, then, are determined by the predicate which maps the source on to the goal, and by the particular kinds of entity which enter into the source and goal statements. There is an important relationship between the predicates and the kind of sources and goals they accept, and in many current linguistic theories, this relationship is at the centre of the syntactic process. From the sentence viewpoint, it is important to be able to trace and state the conditions on each type of element distinguished in the theory. A discourse grammar, on the other hand, wants to discover the conditions on use of these elements, as they are affected by their contexts. When speakers get to a certain stage in the discourse, and want to say the next thing, they are faced with a decision: how do I make my next contribution hook on to what already exists? The answer to this is decided by a combination of such factors as Topic, Focus and Emphasis (see Werth 1984). English is rich in paradigmatic and syntagmatic alternatives for the same cognitive content: the paradigmatic alternatives consist of sets of predicates having different arrangements and/or selections of the same set of terms (e.g. send, receive; give, take; buy, sell, exchange, steal; arrive, depart, travel, cross – cf. Gentner (1975), Werth (1976), and more recently, Goldberg (1995)) and a similar story with verb + prepositional phrase arrangements (load hay on to the truck/load the truck with hay, bees swarming in the garden/the garden swarming with bees etc. – cf. Fillmore (1968), Ross (1994)). Syntagmatic alternation has, of course, been at the centre of particularly the generative approach for around a quarter-century now, and it has widely been assumed that syntagmatic variants are in one or another way interrelated. There is a host of well-known problems associated with any claim of such interrelationship, many of them connected with notions of focus and topicality. Most of these problems are naturally solvable in a discourse model (e.g. Werth 1984), and I will assume that such a solution leaves us with a set of syntagmatic alternatives which are available for given context-types (defined in terms of focus and topicality). I am therefore broadly assuming a functional approach to syntactic matters which can easily be extended to incorporate paradigmatic variation also.

Thus the answer to the question ‘how do I make my next contribution hook on to what already exists?’ involves understanding the balance of information as it exists at the current stage of the discourse, and then selecting that syntagmatic or paradigmatic
alternative of the desired cognitive content which best fits that mixture of focus and topicality. This will mean, for example, that an item that is already in the active discourse (i.e. is topical) should occur as a first or early term in the next proposition, whereas a new item will occur as a late term in the next proposition. This in turn will require that a form of construction is selected which puts those terms in the desired position, e.g. a passive or a predicate with the desired order of terms (cf. Werth 1984: Ch. 9).

The text-world notation, then, allows us to represent the various conceptual layers, based on deixis and related systems, which discourses fall into. Since it is a fundamentally spatial model, it is very accommodating of other localistic models. Thus it is no accident that localist approaches, such as that developed by, e.g., Anderson (1977, 1987) for very different purposes, and with often rather different assumptions, should operate so naturally in the cognitive space concept, itself originally developed to handle problems of reference, propositional attitude and the like. (See Werth (1992b) for a study of this relationship.)

7.4 Simple and complex text worlds

Text worlds have been shown in the previous sections to contain a considerable amount of internal structure. Since they are designed to be ‘rich’ lifelike worlds (unlike the worlds of Possible World Theory or Model Theory), this is unsurprising. But some text worlds are more complex than others. Thus, I now make a (temporary) distinction between simple and complex text worlds.

Simple text worlds are those in which the deictic properties and the function-advancing propositions are entirely in correspondence with each other. These are worlds which obey the classical Greek Unities of Person, Place, Time and Action. All events take place against the background of a single location, within a single time period, and with only the personae originally nominated as being present. A typical example of a simple text world would be a straightforward action narrative, such as:

9. Maniacally, he pulled himself up, then kicked at the double doors that opened into the shaft. Nothing. He flailed one arm outward, grabbing at the place where the doors met. It would not open. The elevator car hummed smoothly upward, ten feet away maybe, and then Stone saw the roller guides, these protruding round things connected to the double doors, the things the inner door hits, triggering
the outer door. He kicked at it, **hard** – and the outer door opened. With one foot on the ledge, Stone leaped forward, and just as he did so, the top of the elevator cracked against his shin, but he was **safe**, out of the shaft, sprawled on the floor.

(Finder 1992: 120 – emphasis original)

A simple text world may be transformed into a complex text world in a number of ways: by the addition of the character’s inner thought processes, for example, or by the contemplation of hypothetical situations. Strictly speaking, therefore, even (9) is not completely simple: *Nothing* (line 2) presumably reflects an inward reaction, as does *It would not open* (line 3), while the little explanation about ‘roller guides’ might represent the character’s knowledge, rather than the author’s.

Complex text worlds, on the other hand, are not exclusively first-order expressions, but ascend to second and higher orders. In the specific terms of the present approach, they contain sub-worlds. Thus alongside the unitary character of a straightforward description or narration are what we might think of as ‘detours’, which take in other locations, other times, other persons, and which might even be imaginary and outside space and time altogether. For example, if in the course of a narrative a character’s beliefs or hopes or fears are expressed, then these do not share the deictic parameters set up by the world-building elements for the text world. It is impossible to assess such propositions for truth or probability, since such an assessment necessarily rests upon the known parameters of the world in which the propositions occur.

Text (10) provides an example of more complex world arrangements:

10. On the whole Wallace avoided intimate dealings with the Chinese. Despite a childhood spent cheek by jowl with the Cantonese in Macau, he still found the race arrogant and devious. Worse, they revelled in the confusion of the foreigner: turning their backs to the barbarian and sneering behind his back. Like his fellow Portuguese, Wallace made the best of the situation. In fanciful moments he saw the Chinese and himself as prisoners together in a long chain-gang, the descendants of the original convicts. There was a kind of tenuous, mutually patronising relationship between the Portuguese and the Chinese. Wallace recognised this. That did not mean he had to like them all the time. He possessed the impeccable Cantonese of most of his compatriots but affected not to understand that vulgar, braying dialect.

(Mo 1978: 3)
In (10), the main text world is set in Macau, in an, as yet, unspeci-
cified narrative past, and is peopled by Wallace, the Chinese
and the Portuguese. World-building assumptions in the text world
include the fact that Wallace avoided intimate dealings with
the Chinese in Macau, that there existed a particular relationship
between the Chinese and the Portuguese there, and that Wallace
could speak fluent Cantonese. In the function-advancing com-
ponent, there are no clear path propositions (except possibly: Wallace
recognised this); the text function seems basically descriptive at this
point (the beginning of the novel). These parameters, however,
do not necessarily apply to most of the passage quoted here, which
chiefly concerns a number of Wallace’s private pretences, thoughts
and beliefs. Wallace’s belief world includes the propositions that
the Chinese race is arrogant and devious and that they revel in the
confusion of the foreigner. His pretence world includes the pro-
positions that he does not understand Cantonese, and that it is a
vulgar, braying dialect. His imagination world includes the fancy
that the Chinese and himself are prisoners on a chain-gang. All of
these worlds lay outside the parameters of the main text world:
the belief world is inaccessible to verification by the reader (in con-
ventional terms it ‘provides an opaque context’, see Chapter 9),
while the affectation and imagination worlds are clearly presented
as counterfactual. The machinery for setting up these and other
kinds of sub-world is discussed in detail in the next chapter.

7.5 Summary: what do text worlds do?

A world, as we have used the term, is a conceptual domain repres-
ing a state of affairs. A text world represents the principal state
of affairs expressed in a discourse. Firstly, the world must be defined:
this is effected by means of the deictic and referential elements
ominated in the text, and fleshed out from knowledge, a pro-
cess I have called world-building. World-building sets the basic
parameters within which entities in the text world may operate.
One aspect of this is that the participants must be enabled to
keep track of the characters, which is done by means of reference
and specifically, reference-chaining. This takes place within the
text-world domain, and may also operate upwards into sub-world
domains. Secondly, the world under scrutiny is the domain within
which inferencing may take place, and conclusions drawn from
inferences must hold true. A third aspect of entities operating is
that their subsequent actions, events or arguments involving them,
or in general any predications made about them all take place within the text-world domain, or, if inaccessible to the participants, within a dependent sub-world domain. This is the operation of function-advancing.

All of these operations must take place within the general restrictions governing any discourse. Specifically, any proposition referring into a world must satisfy the conditions of informativeness, co-operativeness and coherence. Informativeness stipulates that each proposition must add some information to the total; this may be by way of the knowledge which it evokes, or inferences drawn from it. Co-operativeness deals primarily with the interaction between participants (though it also applies at the character level too). Co-operativeness handles the negotiation aspect of discourse, and it is here that the important social deictic notions of responsibility and reliability are defined, which eventually have a bearing on the assessment of accessibility and truth, respectively. Coherence regulates the relationships between the elements already in the text world (or more comprehensively in the Common Ground) and new elements being introduced, including new entities and new predications for old entities.

Notes

1 Strictly, these are descriptive openings (settings) in otherwise narrative texts. ‘Text’ here has a further operational meaning, namely ‘the particular sequence under scrutiny’. Thanks to Mick Short for this point.
2 To recap, the discourse world is the immediate situation of context for producer and recipient, either shared, as in this case, or separate, as typically in the case of written texts. The text world is the world of the topic of discussion.
3 Since (1) is from a play, the situation is somewhat more complicated. Firstly, we are reading it as a written text: but the intended recipients are not in the first place readers, but actors. Secondly, the italicised, bracketed text describes the non-verbal ‘business’: the play as performance has not readers, but an audience; at this level, the actors portray characters. It is at this level that I am considering (1) as representing a situation ‘directly’, since the audience do not receive it as text, but as experience (albeit as observers, not participants).
4 Of course, such discourses employ the convention that this is a true story, and the writer is describing his or her discourse world – when in fact, the author is setting up a text world in which his or her persona is a character.
5 Notice that there are place deictics whose function is to point to a time change, and time deictics which point to a place change.
According to Jackendoff (1983: Ch. 11) the cognitive and the representational domains are ultimately the same. Cf. Werth (1987):

Their position is therefore identical with that of the absent witness in a court case, in that his beliefs and claims cannot be directly given in evidence since they constitute 'hearsay'.

I am indebted to Nanda Poulisse and Lois Kemp for this suggestion. On text types in general, see Werth, Kemp and Poulisse (unpublished).

As Figure 7.1 shows, there are various kinds of description: the prototypical one, scene, has as its goal the description of the appearance or 'feel' of a place; person is a character-description (physical or psychological); while routine is the description of repeated action.

As a matter of fact, I will not be using image-schematic notation very much, simply because, like graphical notation, it takes up more space than a propositional notation. However, the point is that all three notation types are intended to be capable of representing the very same states of affairs, though exactly how their equivalence could be proven is clearly a very complex issue. For a thoroughgoing image-schematic notation, cf. Langacker (1987a, 1991, etc.).

Langacker (1991: 284) calls this the 'stage model', and treats it as a model of perceptual experience.

Cf. the discussion of Truth in Chapter 5.

In some languages, such as French, the possessive is overtly locative.

For a cognitive account of action predications, see Werth (unpublished b).

The question of what notation to use for any situation is distinct from that of the mapping between situations. See section 8.2 for some discussion.

Langacker is simplifying matters somewhat in (8b), since the trajector of across is actually the process entity he waded, and not the thing entity he, but the point remains the same: the 'acrossness' is most naturally viewed sequentially.

Actually there is always a corresponding summary reading for complex predicates, whether atemporal or processual, in which all stages of the event are conceptualised simultaneously.

It should not be thought that Langacker's model of predicate-types is solely in terms of temporal or atemporal relations. Underlying this picture is the powerful image, or ICM (Lakoff 1987a), of the billiard-ball model, i.e. an action-chain whereby energy is transmitted from a starting-point to a terminal point. This is, of course, fundamentally a path model also. See Langacker (1991: ch. 7).

Although it would be better to say may be adjectival, since there are other possibilities, such as a set-denoting nominal (Jim is a teacher), an attribution statement, which may refer to location (I'm the one at the back) or function (Bill Clinton is the President) or identity (The President is Bill Clinton), a definition (A dolphin is an aquatic mammal), a synonym (A
davenport is a writing-desk; John Carr is Earle Stanley Gardner), or a hyponym (An astilbe is a flower), for example. None of these further possibilities is at all adjectival (though many of them are descriptive): all of them contain a predicate nominal. In certain contexts, these nominals will constitute the landmark of the predication; in others, they function more as the domain. 20 I thank Claudia Brugman for this distinction.
Chapter 8

Sub-worlds

8.1 Inner vs outer worlds

Every discourse has two aspects: one proper to the text world it constructs (the 'inner' world), the other proper to the discourse world in which it takes place (the 'outer' world). The two worlds are often linked to each other, in the sense that certain properties of the outer world affect the assessment of the truth or probability of the text world. Occasionally, though – chiefly when the inner is fictional or imaginative – the two worlds may remain entirely separate. The set of conditions which speakers are subject to (see section 2.3) are of application in the outer world. By extension, they also cover what might be called the 'non-fictional' text worlds, i.e. those for which it is sensible to ask the question 'Does this depict a true state of affairs?' For fictional text worlds, this question is beside the point, unless the inner text world is taken to parallel or suggest the outer discourse world (cf. Tolkien’s remarks on 'applicability' in (1966: 7)). Of course, this is an oversimplification: there are many intermediate or indeterminate cases, but the distinction appears to be a basic one. Truth-assessment (as opposed to the logical determination of truth-conditionality) takes place in the outer world; the present approach contends that such assessment is a two-part process, corresponding to the inner–outer distinction. Thus, the first stage consists of calculating the truth or probability of the propositions in the text in terms of the CG constructed by that text together with relevant background knowledge; the second stage consists of modifying that calculation in terms of the reliability and the claims of the speaker in the outer-world situation.

Constructionally, however, worlds are equivalent at all levels. This means that as we shift our focus of attention to the text-world level, it is the text world, rather than the discourse world, which provides our conceptual backcloth, and truth, probability, reliability and relevance are calculated no longer with respect to
the participants, but instead with respect to the characters. In the same way, these properties are calculated for a sub-world by first calculating them in the terms of the sub-world (which is the 'inner world' at this level), and then subsequently calculating them in terms of the relation between the sub-world and its text world (the 'outer world' at this level).

8.1.1 Participant worlds

There is a traditional interest within literary studies in the relationship between a writer and his or her creation. Does the writer remain, as it were, outside the story, and if so, is he or she omniscient or just as surprised as any of us when something dramatic happens? Is he or she in some way part of the story? If so, is it as a character, or just as a viewpoint (a narrator, perhaps)? This kind of interest has come to be discussed under the term 'authorial voice', and it is this kind of usage (generalised to the text producer) which I want to express in text-world terms.

The role of author is clearly a participant role in our terms, i.e. he or she inhabits a discourse world and from that vantage point constructs a text world. The special property of a written text world is that the participants are separated from each other in time and, usually, place, though it is the temporal separation which is crucial. Of course, one can easily envisage situations in which written contributions are passed round to co-present participants in a real-time simulation of spoken conversation. But in the prototypical cases, writing is a medium in which the producer and the recipient inhabit different discourse worlds. It is sometimes possible for the reader to find out something about the writer's discourse world, although usually only the wider cultural aspects of it rather than the immediate situation of writing, and whole branches of literary study have been founded on this endeavour. For practical purposes, however, we must consider the writer's discourse world to be distinct from that of the reader.

Nevertheless, we can say that in the normal case, for both spoken and written discourses, the discourse world is less important than the text world. It is the text world which embodies what the producer is trying to get across, as well as what the recipient makes of it. The process of negotiation, which is at the heart of face-to-face conversation, is less salient in other forms of discourse, both spoken (e.g. monologues, lectures) and written. It plays a part even in these cases, however, since the recipient must construct a text world
within which the text received makes sense – i.e. inferences go through, references chain adequately, etc. In such a case, the producer’s text world and the recipient’s text world will probably not be identical, but they will be functionally equivalent. This is not so very different from the face-to-face situation, where there can also be no guarantee of text-world identity. In order to construct a text world, the recipient must use all the information available, information which is presented first and foremost through the medium of the text. In face-to-face interaction, there may be other perceptual clues: body language, gesture, facial expression, situational circumstances and the like. But in the case of written texts, textual information is all there is. This centralises the property of text-drivenness, discussed in section 5.4.2.

A participant world, then, is a world for whose composition the participants are responsible. There are certain differences between spoken and written discourses as far as participant contributions are concerned, but the similarities are more important. In the case of the prototypical spoken discourse, we can refer to a process of ‘negotiation’ without straining the meaning of the word, since it is always possible in a conversation to correct obvious misunderstandings, to question or explain obscurities and to request or add further information. In this way, the participants are enabled to arrive at agreed worlds which are close enough to each other to allow sense to be made of the discourse. In the prototypical written case, the term ‘negotiation’ seems like a misnomer, since there can be no direct interaction between the writer and the reader. There is, however, indirect interaction – by way of the text. We can say, therefore, that the writer strives to make his or her text as informative as is necessary for the purposes of the discourse, while the reader strives to construct a text world which will enable sense to be made of the text (making it maximally communicative, coherent and co-operative). But this is of course exactly what, respectively, the speaker and the hearer try to do also. That is to say, in both the spoken and the written case, negotiation involves interaction between the participants and the text, and only secondarily between the producer and the recipient.

8.1.2 Character worlds

Just as participant worlds are worlds created by participants, and for whose composition the participants are responsible, so are character worlds those worlds which characters create, and for which they
are responsible (in the sense of the discussion in section 3.6). ‘Character worlds’ are sub-worlds, since the characters are not responsible for the text world which they inhabit (just as the participants are not responsible for the discourse world which they inhabit). Both participants and characters are, however, responsible for the worlds which they erect, and, as we will shortly see, there is a surprising variety of possible kinds of character world.

Participant worlds and character worlds are constructs of the same kind, although I have distinguished between them not only terminologically, but also by talking about ‘levels’ (e.g. in section 8.2). What the distinction means in practice is a difference in accessibility (cf. Hughes and Cresswell 1968: 75 ff.; Lewis 1973: 52–6; van Dijk 1977: 30). So a participant world (text world) may be accessed by the participants in the sense that they have enough information about it to assess it for truth and probability, to follow inferences through, and to track down reference chains. A character world, on the other hand, is at a remove from the participants, so all they can do with the information contained in it is to store it for possible future processing (hence the traditional problems of opacity and intensional contexts: see Chapter 9). Participants can also access their discourse world, since it is (a representation of) the world they inhabit. In the same way, characters can access the world they inhabit (the text world), as well as the worlds they construct (which are sub-worlds). To summarise: protagonists can access the world they inhabit, and any world they directly create.

8.2 Sub-worlds

Though all character worlds are sub-worlds, not all sub-worlds are character worlds. Some sub-worlds are created by the participants, and each of the three types we will distinguish in section 8.3 below can be either participant worlds or character worlds. For example, type (a) consists of variations on the basic deictic signature of the text world (such as flashbacks, for example). Flashbacks can just as well be initiated by the author (participant) as by the character, as we will presently see in texts (1a) and (1b). When a flashback is participant-initiated, we can think of it as a window or a special focus on to a different part or stage of the same text world. When a flashback is initiated by a character, on the other hand, it forms a totally distinct situation, since it has the function of setting up a reality outside the parameters of the existing text world. So, if a participant recalls an incident prior to the main storyline of the
text world, it changes the deictic signature, but it is still bound by the principles of discourse (i.e. it must be co-operative, coherent and communicative). If, on the other hand, a character recalls an incident from memory, for example, the insight afforded gives nothing in the way of reliable information about the current text world, since the character only inhabits that, and is not responsible for its deictic properties. Authors are responsible for the existence and nominated properties of characters; but characters are responsible for any account which they give. In the difference between author and character, authorial reliability does not carry over. Of course, the character’s thoughts may duplicate those of the author – but it is most unwise to assume that the thoughts of characters can be taken as evidence of their creator’s opinions.

Consider the example of a witness in a court case: the witness is allowed to say that he or she has seen and spoken to a certain person, but all references to anything reported by that person have to be discounted as hearsay. Why does the law make that distinction? Because, in a court case, the witness, the judge, the prosecution and defence, and the jury are all co-present: they are all participants. Witnesses are, therefore, open to questioning about what they say – indeed, this is the function of the procedure. Furthermore, they are under oath: this corresponds to a formalisation of the tacit conversational principle of co-operativeness. We can only give testimony for that which we have witnessed; what someone else has told us, on the other hand, is not testimony, but hearsay. This is because linguistic expressions have a twofold status: firstly, they constitute directly reportable physical activities, like jumping or playing the flute; secondly, they are meaning-bearing, like a thought or a calculation. So, as a participant, what a witness has seen is acceptable because it is accessible through questioning; what a witness has heard through report is unacceptable because it remains inaccessible: the court cannot assess the truthfulness of the hearsay except by interrogating the person responsible for saying it. In terms of the court discourse world, the absent informant is not a participant, but a character. Unlike a witness, a character cannot be questioned and is bound by no oath to comply with the principles of discourse.

This suggests that we must in fact make a slightly different distinction than one simply between participant worlds and character worlds. I therefore propose that we distinguish between participant-accessible sub-worlds and character-accessible sub-worlds. A participant-accessible sub-world is one in which the basic text-world parameters remain set as they are, but the participants
temporarily depart from them. Since, in the world referred to by the text, the participants are responsible for this departure, the details remain bound by the principles of discourse, and normal discourse processes (reference chaining, inference drawing) continue to go through. A character-accessible sub-world is one in which the text-world parameters are departed from under the responsibility of a character, and hence in a way which is unpredictable and irrecoverable from the point of view of a participant (the reader, say). Figure 8.1 schematises the remarks made above on accessibility for participants P, characters C, and sub-characters (C), ((C)), etc. (For notation, see pp. xvi–xvii.) Read the arrows on the left-hand diagram as ‘has access to’, and on the right as ‘does not have access to’.

![ACCESSIBILITY Diagram](image)

![NON-ACCESSIBILITY Diagram](image)

**Figure 8.1**

Thus a participant has access to another participant, a character in the text world he or she has created and to a sub-character in a participant-accessible sub-world, but not to a sub-character in a character-accessible sub-world, or to any entity more than two levels removed. A character has access to another character, and to a sub-character in either a participant-accessible or a character-accessible sub-world. No entity has any upward access.

8.2.1 Participant-accessible sub-worlds

Participant-accessible sub-worlds, then, are worlds which depart from the basic parameters defining the text world they spring from, but in ways which still bind them to their matrix world. Specifically, it remains possible to draw inferences between the text world and the sub-world, and also to chain references from one to the other. Furthermore, the assumptions of reliability which
are extended by participants in a discourse to each other remain valid for the sub-world also. This includes the assumption of reliability and co-operativeness.

8.2.2 Character-accessible sub-worlds

Character-accessible sub-worlds are those which depart from the basic parameters set up by the WB elements of the containing text world because they are defined by characters. ‘Depart from’ in this sense means that they have their own WB elements. Psychologically, they are viewed as distinct from the text world, and are not bound by any of its deictic co-ordinates.

8.3 Types of sub-world

Sub-worlds are of three kinds:

(a) **deictic**: departures from the basic deictic ‘signature’ of the conceptual world, e.g. ‘flashbacks’, direct speech, ‘windows’ on to other scenes;

(b) **attitudinal**: notions entertained by the protagonists, as opposed to actions undertaken by the protagonists in the discourse;

(c) **epistemic**: modalised propositions expressed either by participants or by characters.

Types (b) and (c) are of particular interest in the history of semantics, since they include the concept of **intensional contexts** (see Chapter 9).

8.3.1 Deictic sub-worlds

**Deictic alternations** on the existing text world are based on a variation of the world-building parameters of the text world: **time**, **location**, **entity** (**character** and **object**). These alternations are conceptualised as taking place in the same text world – but in a different location, or at another time, or with focus on different entities. However, we must be careful here, since not all deictic alternatives are to be traced to the participants. If a flashback, for instance, is experienced by a character, rather than being recounted by the author, then it is not accessible from its text world (since it is in the character’s memory and not in the text world’s definition), and constitutes a character-accessible sub-world.
Temporal alternation

The most typical kind of temporal sub-world is the **flashback**. They are conceived by the recipient as framing earlier situations in the same text world. This being the case, they may also involve spatial and entity variations, as well as temporal, but it is the time difference which lends them their essential character, since they are usually used to explain the present text world in terms of some past situation.

1. (a) The five men were spread out like the points of a five-pointed star. They had dug with their knees and hands and made mounds in front of their heads and shoulders with the dirt and piles of stones. Using this cover, they were linking the individual mounds up with stones and dirt. Joaquín, who was eighteen years old, had a steel helmet that he dug with and he passed dirt in it.

   He had gotten this helmet at the blowing up of the train. It had a bullet hole through it and everyone had always joked at him for keeping it. But he had hammered the jagged edges of the bullet hole smooth and driven a wooden plug into it and then cut the plug off and smoothed it even with the metal inside the helmet.

   When the shooting started he had clapped this helmet on his head so hard it banged his head as though he had been hit with a casserole and, in the last lung-aching, leg-dead, mouth-dry, bullet-spattering, bullet-cracking, bullet-singing run up the final slope of the hill after his horse was killed, the helmet had seemed to weigh a great amount and to ring his bursting forehead with an iron band. But he had kept it. Now he dug with it in a steady, almost machine-like desperation.

   (Hemingway 1941/1964: 262)

This text shows us that there is a difference between narrative events which simply precede the plot-advancing events of the text world, while remaining within its temporal parameters, and a flashback, which takes the action out of the temporal parameter of the text world. In (1a), the RT of the text is (ST – RT) and the main narrative tense is (ST – RT) = ET (simple past). The main action of the text world concerns the preparations which the characters are making for battle and which they started before the event time. The first actions of this series, then, occur as (ST – RT) – ET (past perfect). The possession of the steel helmet, on the other hand, is presented as the consequence of a separate incident, the blowing up of the train. This together with Joaquín’s attempts to repair the
bullet hole are also reported in the past perfect, but since there is no pre-past tense further back than this, the author has no alternative but to use the same tense form. The run up the hill is in the main text world, as it belongs to the same sequence of events.

We have then the present sequence of events, with focus of attention on what are currently the latest events in the series, and we have a flashback to a time previous to this sequence of events, and in another location. I would explain the sequence of events in terms of text world updating, and the flashback in terms of a participant-accessible sub-world. However, the distinction is not absolutely clear-cut, and I would expect there to be overlapping cases. The diagram for (1a) would look something like Figure 8.2.

Figure 8.2

Figure 8.2 should be thought of as part of a sequence of tense-frames (we will discuss these in Chapter 10). They have been numbered here from $t_1$ to $t_3$. Within this general (ST – RT) series of text worlds, the flashback is participant-accessible.

Character flashbacks, which are necessarily character accessible, are often presented as episodes from memory, so their world-building elements may be such predicates as remember, recall. In the following case, a metonymic connection provides the link.
1. (b) He looked further out to sea. A huge roller was forming out beyond the surf, one of those freak storm waves that gather the energy of a dozen smaller waves [... ] the wave peak collapsed in a crash that shook the gravel beneath Brennan’s feet and exploded in echoes against the face of the cliff above him. The echo of a bomb.

They’d gone to Munich for the Fasching, the carnival, at Jane’s insistence; she’d been worried for some months that he’d been driving himself too hard. In those days he was a case officer at the CIA station in Bonn [... ]

They’d arrived Saturday morning; Saturday evening they started off for the Augustiner-Keller beer hall – Jane had a fondness for German beer – and, just as they were leaving the hotel, it started to snow. She’d insisted he go back up to the room and put on a scarf; he was recovering from a touch of bronchitis. Grumbling, he did so, while she waited on the hotel steps.

He was about to enter the elevator when the terrorists’ car bomb went off on the other side of the street. The blast smashed his wife through the glass doors of the hotel entrance, and then drove her thirty feet across the lobby into a marble pillar.

(Jones 1990: 18–19)

In this passage, the text world contains the character Brennan standing alone by the sea-shore. The crash of a wave against the cliffs sounds like the noise of a bomb, and reminds him of his wife’s death in a bomb-blast in Munich. The flashback world is built up with (ST – RT) – ET tense markers (i.e. Past Perfect): they’d gone to Munich, she’d been worried, he’d been driving, they’d arrived; and a time adverbial: in those days. The plot-advancing part, though, is in the normal narrative past tense, (ST – RT) = ET. Since this episode is a memory of the character,¹ it is inaccessible in the text world, not carrying the same reliability for the reader as a narration vouched for directly by the author.

Our notation for participant-accessible sub-worlds, since they are accessible from the text world, is to show them as clearly ‘part of’ the current world. Where a tense shift is involved, as in the cases we are now discussing, the sub-world can be shown as before, simultaneous with or after the sub-world. If it is participant-accessible as in Figure 8.2, it is shown as at least intersecting the text world, and often completely within it. Character-accessible sub-worlds will be shown as quite separate from the originating text world, as in Figure 8.3. This is a schematic diagram of text (1b), consisting of the main text world, which contains two character-accessible sub-worlds.
In this case, the sound of the wave crashing against the cliff triggers the memory of a bomb explosion, by way of a metonymic link between loud noise and explosions. The memory is conveyed in the form of a flashback depicting a traumatic event in Brennan’s life.

The case of text (2) in Chapter 1, the Francis Macomber text, is somewhat different from (1b), but more like (1a). Here, the time of the text world is presumably concurrent with the period in which we now find Macomber sitting inside his tent. The text begins with an account of events leading up to the present text world. The question is, then, is this a flashback, set half an hour before and presented as a participant-accessible sub-world which precedes the text world in time; or is it merely a previous stage of the present text world? The only way of distinguishing between these possibilities is to consult the text itself. The novella begins:

1. (c) It was now lunch-time and they were all sitting under the double green fly of the dining-tent pretending that nothing had happened. (Hemingway 1947/1964: 413)
We may see, then, that the place and entities remain the same, but the time shifts between narrative now and half an hour before, and then subsequently (1947/1964: 420 ff.), when retelling the central incident of the story, the night before, before the sun was up, in the grey first daylight. Although it is not iconically ordered, this time-shift does remain within the temporal parameters of the text world, i.e. Past time zone. Thus we have first now, then half an hour before, then again now, then that afternoon late, then the night before, before the sun was up etc. Hemingway has imposed a kind of parallel structure on the events of the story: the preceding events reveal Macomber’s cowardice, and the subsequent events show the reactions of the characters and the tragic consequence. Nevertheless, the temporality of the story remains firmly within a single narrative time-line.

Another form of temporal participant-accessible sub-world is Direct Speech. This is not normally thought of as a temporal variation at all, but its main effect is to change the basic time-signature of the text world, for example by injecting some Present Tense utterances into a Past Tense narrative. This takes us, as it were, directly into the character’s discourse world: the tenses used are then regrouped around the ST of this discourse world, rather than that of the participants. The other main effect of Direct Speech is pronominal shift, but I will deal with that under anaphora (section 10.2).

Reported Speech, on the other hand, is not sub-world forming at all, since it is speech which has been narrativised, and therefore fits into its deictic environment. But unlike speech, both direct and reported thought, or what is often called le style indirect libre, offer the reader privileged entry into the mental processes of a character. Since they both have to do with the character’s mental life, and not the participants’, this means that both direct and reported thought correspond to character-accessible sub-worlds. But, it might be objected, since the reader is being accorded this privileged glimpse of the character’s thought-processes, surely such cases are, exceptionally, participant-accessible? The problem with this is that, although these techniques make public what is usually private, they also offer only the limited viewpoint of the single individual. Although this viewpoint is being presented to the reader with crystal clarity, the thinker, as a non-participant, is allowed to entertain any kind of bizarre proposition without having to subject it to the normal safeguards of discourse. It should be clear that even privileged access is severely limited if it is to material which is extremely suspect, e.g. the thought-processes of a schizophrenic,
Randall’s thought consists of a set of speculations and questions about Straker’s state of mind and whether there is something he is hiding. Straker’s thought informs us, the readers, that there is some such secret knowledge, and to some extent explains why he seems worried and preoccupied to Randall.

Free Indirect Style (FIS) has received considerable linguistic and stylistic attention in recent years (see, e.g., Dry 1977; Fillmore 1981b; Leech and Short 1981; Banfield 1982; Ehrlich 1990; Fludernik 1993; and Herman 1993). Much of this work (indeed, much of any linguistic work) is strictly from the sentential viewpoint. Exceptions to this generalisation are Ehrlich (1990) and Herman (1993), both of whom criticise the limited perspective of their predecessors.4 Susan Ehrlich’s work is of particular interest to the approach put forward in the present chapter, since she distinguishes between characters’ viewpoint and narrative (neutral) viewpoint. Using examples from Virginia Woolf, Ehrlich notes that character viewpoint is established in the first place usually by parenthetical verbs of saying or of inner speech. The viewpoint thus set up is then maintained by a range of linguistic devices: progressive aspect, temporal linkage, evaluative expressions, tense anchoring processes, any of which has the effect of donating cohesion to the viewpoint previously established. The distinction between (in our terms) character-accessible and participant-accessible sub-worlds, then, is signalled with respect to FIS by linguistic indicators of discourse connectedness.

The representation of thought often functions as first-person narrative, in fact (whereas ‘ordinary’ narrative is usually third person). Here now is a particularly complex example which uses the representation of both speech and thought (though not conventionally punctuated) in different registers and speech-traits to
differentiate the characters. The paragraph demarcation is also used to denote remembered speech. The transitions in the text are not absolutely clearcut, and in general it seems that the passage is not as well behaved as those that Ehrlich cites from Virginia Woolf. My reading of the different subsections is indicated in bold text (otherwise, the original is paragraphed as indicated):

3. **3rd person narrative:**
   From the gate of the Medical School, Allen walked rapidly eastwards, under the long façade, to the 'bus stop'.
   **Direct thought (Allen):** How would an ordinary person look up at those windows?
   Whoever is in, I must make it perfectly clear that I’ve come to see Philip.
   **Direct speech (interlocutor):**
   Until Phil told me afterwards, I never even realized that you and he—.
   **Direct thought (Allen):**
   spiteful this. I am not yet forgiven. Purely negative impulses.
   **Direct speech (interlocutor):**
   So much to talk about. Boyhood’s glory.
   **1st person narrative (Allen):**
   At some tea-party I should enjoy reminding him, smiling. Almost the only time we ever spoke.
   **Direct speech (Allen):** Oh, surely you remember.
   **3rd person narrative:** Everyone listening.
   **Direct speech (Allen):**
   The first summer at Camp. The field day.
   Fancy his not mentioning that. You see. He’s ashamed of me.
   **FLASHBACK:**
   **Direct speech (officer):**
   What the dickens is the rest of number five section doing over in that spinn? Another ten minutes and they’ll be round our right wing. Lance-Corporal, will you go down at once and tell 'em to fall back like hell? I doubt if they’ll manage it. That machine gun’ll get 'em as they cross the stream.
   **Direct speech (?Allen):**
   You’ve heard why?
   **1st person narrative (Allen):**
   We had killed an adder, and later smoked, playing dummy bridge in the ditch full of withered elm-leaves. He appeared, gasping, baby-pink, above the bank.
   **Direct speech (Lance Corp.):**
   I may as well tell you I shall have to report.
   **Direct speech (Allen/friends):**
   Run away, little man; Daddy’s busy.
**Direct speech (Lance Corp.):**
Privates Kelsall, Chalmers and Pepper failed for the second time to obey orders.

**3rd person narrative:**
In the tent, the Guards colonel was apologetic.

**Direct speech (colonel):**
I mean to say, it's hardly sportsmanlike of you fellows. This is after all more or less of a holiday.

**1st person narrative (Allen):**
Extra fatigues; stolen fourth helpings of that metallic-tasting tea and fermented jam. Curiously enough, it was I who stopped Ronny putting wasps into his palliasse. (Isherwood 1928/1990: 57–8)

Of course, this is by no means all that there is to say about the use of time in texts. Text (3) places great strain on the notion of temporal continuity, and demonstrates that it does not have to be presented in the order in which the events occurred. Greater strains are possible, e.g. the liberties taken with time in *Tristram Shandy* and *Don Quixote*, as well as in the work of Joseph Conrad (cf. Moore 1986 on 'chronotopes'). However, following Ehrlich, at least some kinds of time displacement are to be explained in terms of simultaneous points of view depicted in parallel, equivalent to our character-accessible sub-worlds.

**Spatial alternation**

The commonest kind of spatial displacement is what we may dub the 'Meanwhile back at the ranch' variety. This is a means of leaving the current text-world location in order to examine an alternative location. As I said earlier, we can think of it as being a 'window' on to the alternative scene. This is perceived as being part of the same text world. What may vary, however, is the relative importance of the alternative location. In some cases, it is of equal importance, so we can perhaps consider our text world to contain a 'split location', whereby we may freely 'toggle' between the alternatives. A cinematic analogy would be the split screen, so beloved of 1970s film makers, but widely used since the 1930s to convey telephone conversations. (See also Emmott 1997: Chs 5–6.)

4. The town had not known a winter as cold as this one for years. Frost formed on the windowpanes and whitened the roofs of houses. The winter afternoons glowed with a hazy lemon light and shadows were a delicate blue. A thin coat of ice crusted the puddles in the...
streets, and it was said on the day after Christmas that only ten miles to the north there was a light fall of snow.

(McCullers 1940/1961: 175, my emphasis)

The new ‘window’ that is opened here maintains the temporal parameter of the text world, but varies the locational one. It functions as a further comment on the situation depicted in the principal location (see Figure 8.4).

Figure 8.4

The change of parameter is here signalled quite clearly by the locative only ten miles to the north. I have assumed that the temporal marker on the day after Christmas is properly contained within the principal time signature this winter, and is not sub-world forming.

The ‘split location’ type occurs when attention toggles between alternate locations, or simply moves from one location to another, all within the same time-signature. Such alternating locations are often best regarded not as sub-world variations, but as alternative text worlds within a single time frame. This depends on how independent from each other the alternate locations are. In cases where the action simply ‘moves on’, it seems plausible that a whole new set of parameters should be defined, and hence a separate text world – the process of incrementation (see Chapter 10). In other cases, there will be parallel scenarios which both (all) relate to a single principal situation. In such cases, it will be preferable to think in terms of parallel sub-worlds within a single text world.
5. The spiritual leader of nearly one-fifth of the world’s population wields immense power. Yet any uninformed observer of Albino Luciani at the beginning of his reign as Pope John Paul I would have found it difficult to believe that this man truly embodied such power. [...] The well informed, however, knew differently: Albino Luciani had embarked on a revolution.

On September 28, 1978, he had been pope for thirty-three days. [...] The man who had quickly been labelled ‘the smiling pope’ intended to remove the smiles from a number of faces on the following day.

That evening Luciani sat down to dinner in the third-floor dining room of the Apostolic Palace within Vatican City. With him were his two secretaries [...] As the nuns who worked in the papal apartments hovered anxiously, Albino Luciani ate a frugal meal of clear soup, veal, fresh beans, and a little salad. [...] While Sisters Vincenza, Assunta, Clorinda, and Gabriella quietly served the three men as they watched on television the events that preoccupied Italy that evening, other men in other places were being caused deep anxiety by the activities of Albino Luciani.

One floor below the papal apartments the lights were still on in the Vatican Bank. Its head, Bishop Paul Marcinkus, had other more pressing problems on his mind than his evening meal. [...] The Vatican secretary of state, Cardinal Jean Villot, was another who was still at his desk on that September evening. He studied the list of appointments, resignations to be asked for, and transfers the pope had handed him one hour previously. (Yallop 1984: 1 ff.)

We do not need to diagram this text, but merely to point out that the main text world has a very specific time-parameter: September 28, 1978 in the evening. However, the text peeks into various different locational ‘windows’.

A more abstract example of spatial dislocation may be found in text (4) of Chapter 1. Here, we find one world associated with the natural tendency in problem-solving, and a second with a better strategy in solving problems. It will be more satisfactory to regard these as participant-accessible sub-worlds denoting abstract space. Both employ metaphors of a strongly spatial kind, and it makes sense to think of them as alternative locations within a problem-solving space.

**Entity displacement**

Just as it is possible to set up alternative times and alternative places within a single text world, it is also possible to set up alternative (sets of) entities (characters or objects). As with split locations,
the different sets of entities can be co-equal – attention is equally
divided between the various sets. Or we can have a main set and a
subsidiary set. Text (5) in this section provides an example: in the
text world defined not only temporally but also by the location, in the third-floor dining room of the Apostolic Palace within Vatican City. In
this location, the main attention is focused on the three men
eating, but there is a secondary focus, involving an entity shift, on
the four nuns serving the meal.

8.3.2 Attitudinal sub-worlds

There are many possible propositional attitudes, but I will look at
just three important areas of our conceptual activity, namely desire
(want worlds), belief (believe worlds) and purpose (intend worlds).

Desire worlds

It would not be over-fanciful to say that this kind of sub-world is
built on dreams, since the WB elements for desire worlds are such
predicates as wish, want, hope and dream. These predicates are not
synonyms, of course, so the deictic properties of the world each
one builds will differ somewhat from the rest. However, they do
share common properties, enabling them to be classified together.
Before we discuss these common properties, let us recall the distinc-
tion between so-called specific and non-specific determiners.
With predicates of the want class, it is claimed that two senses of S'
or NP'' object are possible. For example, in:

6. (a) Clive wants to marry a millionaireess
(b) Jill has been trying to catch a pike

the indefinite NPs are said to be ambiguous between a sense in
which (6c) and (6d) are true:

(c) There exists a certain millionaireess who Clive wants to marry
(d) There's a certain pike which Jill has been trying to catch (for ages)

(this is the specific sense), and, on the other hand, a sense in
which (7a) and (7b) are true:

7. (a) Clive wants to marry any millionaireess (who'll have him)
(b) Jill wants to catch a specimen of that particular breed – any
individual pike will do
(this is the non-specific sense). I will argue that doubt can be cast on this distinction both in its own terms (i.e. by examining a wider variety of examples) and on broader theoretical terms (i.e. by challenging some of the assumptions which underlie this conventional distinction).

All the usual examples of this phenomenon use NPs which may conventionally be individuated: marriage partners, sports cars and fish (the latter when referring to particularly notorious individual specimens). But if we consider NPs which are less easily individuated, the results are strikingly different:

8. (a) My son wants to buy a packet of cornflakes
(b) Bill is looking for an aspirin.

In these cases, the specific sense virtually disappears. We are left with the question, therefore: if this behaviour is triggered by the presence of a want-class predicate, how come it does not work in all cases, or it works much more strongly in some cases than in others? I will discuss a possible answer to this question presently.

The second problem goes much deeper; this is that from the highly restricted – one would even say deficient – viewpoint of the sentence isolate, a great many things appear more mysterious than they really are. Specificity is one of the more obvious examples of this. Since we apparently have a distinction that just is, unsignalled in any way, how is a listener or reader expected to be able to successfully interpret such sentences? They ought in theory to get it wrong about half the time – but there is no evidence that such constructions pose any interpretation problems. The answer which almost everybody will agree with is ‘Context’. This leads to a methodological impasse, however: if you seriously include context in your linguistic theory, then you must abandon the grammar of isolated sentences. Just as you cannot conduct an explanatory morphology unless it is part of a syntactic theory, so you cannot conduct an explanatory syntax unless it is part of a contextual theory.

In an approach which seriously takes context into account, then, the alleged specific/non-specific ambiguity simply will not be present in the majority of cases under a want-class predicate, since contextual information will limit the possibilities. Another restricting influence which operates here is the pragmatic notion of ‘individuation’, mentioned above. Thus in the normal case, the usual example of the specific/non-specific distinction:

9. John wants to catch a fish
will be interpreted non-specifically, since it is part of our frame knowledge that fish(es) are not usually individuated (anglers' tales and *Jaws* excepted, of course). Similarly, the other usual example:

10. John wants to marry a Swede

will in Western culture normally receive a specific interpretation (in the absence of other evidence), since marriage partners are usually in our experience known individuals.

In the small residue of undecidable cases – usually discourse-initial and perhaps also rather more particularised than the examples we have been discussing thus far:

11. (a) My son wants to buy a 1954 Oldsmobile

– then the proposition will not be definitively incremented into the CG, but only provisionally, i.e. pending further information. Note that the distinction in question seems to have more to do with the pragmatic implications of the complement than with the semantics of the *want*-class predicate. The more detailed the complement, the more likely that it will be considered specific (though nevertheless a non-specific reading still exists):

(b) My son wants to buy a 1954 Oldsmobile with whitewall tyres and only three previous owners.

In broader, contextual terms, the specific/non-specific distinction is a function of the distinction between *existential* and *stipulative* contexts. An existential context is one that conforms to the parameters of a single text world. Entities nominated in the WB process of that world are deemed to exist in that world. Note that this does not guarantee 'real' existence, i.e. existence in what we think of as the 'real world', unless the text world in question is (a representation of) the real world. Indeed, existence in the sense favoured here (perhaps better called 'virtual existence') is a property of any entity within its 'own' text world or sub-world. But existence in one of these worlds is not transferred upwards (where 'up' = 'in the direction of the discourse world'), though it does seem to be transferred downwards (cf. Fauconnier 1985: 145). Thus any situations predicated of entities deemed to exist in a particular text world are truth-conditional in that world. Hence existential predicates go with existential terms. (For a fuller discussion of this, see Werth (1980).)

A stipulative context, on the other hand, always requires a sub-world to be set up. This is because a stipulation is a set of
conditions not fulfilled in the current world (which is, of course, why
the predicates *wish, want, hope*, etc., are stipulative WB-elements).
So called non-specific NPs, therefore, are entities in a stipulative
subworld. The problem of individuation, referred to above, there-
fore resolves itself as follows. An individuated concept is one that is
fulfilled in its text world; it may be regarded as a set of properties
predicated of an entity in the current world. A non-individuated
(= non-specific) object, however, is a set of conditions for an entity
one level up from the current world. It can therefore never exist
on the current level, although at a subsequent stage an entity may
be nominated on the current level which fulfils those conditions.
This then will be an existing entity on the current level, and the
need for the one-level-higher stipulation will disappear.

Desire sub-worlds, therefore, are stipulative in the above sense:
they build a more or less remote sub-world whose function is to
state what it would take to satisfy the desire. At its simplest, this
stipulation might be that such-and-such an entity should exist.
More complex desire worlds might contain further conditions on
the properties to be possessed by the entity in question.

Text (12) below is a constructed example (taken from Werth
1993a), but, like all situations vacant notices, it constitutes a stipu-
lative desire world in which the properties required adequately to
fill the job are set out. The world builders in this case are *wishes to
fill a ... vacancy, has an opening for...*, and perhaps *candidate profile*,
all of which suggest a stipulative speech act, and hence a wish
sub-world.

12.

**SITUATIONS VACANT**

Dynamic, go-ahead European company, diversified into tourist ser-
VICES, wines and cheeses, communications, weapons and nuclear
testing, wishes to fill a top executive vacancy. The French Govern-
ment S.A. (now back under previous management) has an opening
for a:

**KING OF FRANCE.**

Candidate profile: The King of France is tall, well-dressed, digni-
fied, cultivated and friendly to inferiors. He should be good at
holding back deluges, and must be politically uncommitted. (Note:
for Royals, to the right counts as uncommitted.) Many side-benefits.
Salary negotiable. No previous experience necessary. Current
driving-licence absolutely not required.

Send c.v. and photo to: J. Chirac, Quai d'Orsay, Paris, France.
Note in particular the sentence *The King of France is tall, well-dressed* ... Since the entity *the King of France* appears in a stipulative sub-world, the predicates *tall, well-dressed*, etc., do not form truth-conditional predications in our discourse world (or in a text world depicting our discourse world), but remain part of the stipulation.

I am uncertain whether dream sub-worlds are special cases of desire sub-worlds, or whether they should be considered as totally distinct. Generations of soothsayers notwithstanding, dreams do not have to represent the dreamer's wishes. On the other hand, the parameters of the dream world are clearly not those of the current text world. It seems to me that including worlds explicitly built with the predicate *dream*, a dream world is in general one in which the normal 'laws' of space and time have been suspended. Thus the less constrained 'swords and sorcerers' genre of fantasy writing will usually fall into this category, along with the elaborate worlds constructed by some schizophrenics (cf., for example, Deborah's Kingdom of Yr as described in Greenberg (1964)). Below is a less extreme dream world:

13. (a) Mr Poynter dreamed he was in his City. It was square and white-walled and in the central park pollarded trees, each carrying the load of old English apple blossom permitted it once yearly, marched down combed paths towards the fountain. [ ... ]

The crowd, some members of which looked bedraggled and resentful despite the fine weather and relentlessly blue sky that Mr Poynter ordained in his city, stood in a pale mass behind the military band. Hatless, their fair hair rippled in the breeze of Mr Poynter's choice - 58° F with a healthy nip in the air, suggesting recent frost and more to come at nightfall - like wind on a wheat field, he often thought. And the rows of blue eyes underneath as innocent as the sky. [ ... ]

The view from the balcony was Mr Poynter's masterpiece. [ ... ] Despite the pleasant varied nature of the landscape, Mr Poynter had made sure that nothing interfered with the straight line of the horizon. Any burial mound, copse or hillock rising above that level had been lopped or cut down.

(Tennent 1983: 7 f.)

This is the beginning of a novel in which the various tenants of a seedy boarding-house live full dream-lives, until the different dreams begin to merge. We start immediately with a sub-world, therefore, built by *Mr Poynter dreamed* ... Although we know that there is a text world one level up, we have to wait for six more pages before we can build in any parameters for it:
(b) ... a loud pounding sounded in Mr Poynter’s ears [...] Mr Poynter waited for the chauffeur to come round and let him out. He stretched out his hand as the door opened. It came down on a sharp wooden surface, his head swam and dots appeared before his eyes.

‘Tea, Mr Poynter.’ The pounding died away, and Mrs. Routledge’s voice receded down the passage of the Westringham Hotel. Mr Poynter tossed uneasily in his bed, and awoke.

‘Tea, Miss Scranton.’ A muffled hammering, on the door of the adjacent room, No. 22. Mr Poynter looked up at the stained curtains that let in, however hard he tweaked them together, the phlegm-coloured light of a London morning.

(Tennant 1983: 13)

In (13a), the reader is totally immersed right from the outset in a dream world which is almost totally controlled and designed by Mr Poynter. At one point in text (13b), Mr Poynter wakes up, and we become aware that a pounding noise which was in his dream world was ‘in reality’ in the text world, and is instrumental in carrying out the transition from one to the other. The reader of this novel occupies a privileged position, both viewing the happenings in the Westringham Hotel and those inside the characters’ heads. We can diagram this complex situation in Figure 8.5.
An early cinematic version of this technique is the 1919 Robert Wiene film, *Cabinet of Doctor Caligari*, in which the sinister Dr Caligari moves about against a tortured Expressionist background of monstrous houses and yawning doors, perpetrating unspeakable atrocities against the patients in his clinic. At the end of the film, we discover that the patient–narrator, through whose eyes we have viewed all this, is himself mad, the ‘clinic’ is a lunatic asylum, the doctor is a kindly benefactor, and the scenery is quite normal. In such a case, the audience, by a sort of garden-path process, are forced to reverse their assumptions: the text world they have built up through this discourse turns out to be a schizophrenic sub-world, and the underlying text world is a much more familiar place.

**Belief worlds**

In section 4.5, I gave an account of knowledge and belief which suggested a radically different approach from the conventional treatment in semantics and logic. I pointed out there that what are conventionally called ‘belief contexts’, said to trigger opacity and similar problems (see next chapter), in fact turn out to be two different kinds of context, depending on the status of the propositions involved in the Common Ground (CG). Imagine a situation where there are two competing computer manufacturers *Pear* and *Banana* and consider the following belief-context sentence:

14. (a) John believes that a *Pear* is better than a *Banana*.

If the proposition syntactically below the belief-predicate (i.e. *a Pear is better than a Banana*) is *given*, i.e. already in the CG, then the belief-predicate itself must, by the principle of informativeness (section 2.4), be *new* information. This means that the meaning of the complete sentence is that not only have we, the participants in the discourse, accepted the proposition, but that the subject (*John*) also believes it to be true. (14b) provides just such a context:

(b) John has used a *Banana* compatible all his adult life. The term customer loyalty could have been invented for him. He always hotly defends his computer, particularly against what he calls ‘that Californian beach bums’ machine’, the *Pear*. Recently, though, several prestigious professional magazines have put both machines through rigorous testing, for hardware, software and user-friendliness. They concluded that a *Pear* was better than a *Banana* on all counts. Several of John’s colleagues, including some whose opinions he respects highly, have switched to a *Pear,*
and finally, reluctantly, he was persuaded to put one through its paces. Now John too believes that a Pear is better than a Banana.

Notice that what is at issue here in the final sentence is not whether a Pear is better than a Banana; that has been accepted into the CG already – because the prestigious magazines have concluded this. What is at issue in the final sentence therefore is John’s attitude to the proposition. So within the text world of (14b), the current proposition functions to relate a prior proposition to a new fact about John. This is not an opacity-inducing context, since it does not concern the truth of the embedded proposition E, but the truth of the attitude A in the matrix proposition.

The second kind of interpretation is very different. In this case, E is new in the CG, so it brings new information. The function of A in such a case is not to muddy the issue (which in communicative terms is what opacity is all about), but rather the opposite. It functions, rather, to relativise the truth of E to its context, to tell the recipient how to take that particular proposition. Then (14a) in such a context (which I will exemplify below as (14c) ) tells us not that a Pear is better than a Banana, but rather that it is so relative to John’s belief system. The credibility and authoritativeness of John’s beliefs largely depend on who John is, relative to the content of his belief. Thus if John is a computer pundit, one might want to rate the probability of E being true as rather high. But if John is a computer illiterate, the probability of E will rate much lower (see section 5.3.3 for discussion). It is not that we are unable to rate E at all because believe renders it opaque (or provides it with an opaque context). In fact, we are able to judge the probability of E rather precisely, and the precision comes from the relativising effect of the belief-predicate. There are other kinds of relativiser, and this subject is discussed at length in Chapter 9. Here, however, is a text to illustrate the relativised interpretation of (14a):

(c) ‘I’m really in a fix. I’ve got to buy the best computer available for my money, and I can’t seem to get any sensible advice. I know there’s Pear and Banana, but that’s about all I know.’

‘Well, it’s a pretty personal decision, but John believes that a Pear is better than a Banana. He’s worked with both.’

‘Well, if a Pear’s good enough for John, I guess it’s good enough for me!’

(Alternative conclusion: ‘What does he know? I’m buying a Banana!’)
Turning now to the question of relating all this to the notion of sub-worlds, we can see that, as with desire worlds, the two possibilities resolve themselves rather neatly in much the same way. For the first interpretation (where E is already in the CG), what we have is a situation which stays entirely within the parameters of its world. Since E is already accepted in the text world, and John must also be present as an entity in the world, the plot-advancing element in this case concerns his belief in E. Notice, then, that we are not concerned here with the content of his belief (i.e. E), but rather with the fact of his belief (A). The latter is a ‘public’ element of the text world, in the sense that it reports either an observation or a statement. In this spirit, it would normally be shown as occurring in the text world, though perhaps triggering a sub-world. I will assume that such a proposition as John believes that E should simply be taken as a co-operative report, and treated as a plot-advancing proposition, whether E is in the CG or not. E itself will then constitute a participant-accessible sub-world. Figure 8.6 assumes that, in the case where E is already in the CG (shown in the previous proposition), the fact of belief (A) constitutes a reported activity within the text world (as does the fact of concluding), and is therefore subject to the normal assumptions about participant co-operativeness. Notice that the ‘act’ of believing is

![Figure 8.6](image-url)

**Figure 8.6**
deemed to occur in the text world, while the content of the belief, being already present in the CG, is therefore shown as a participant-accessible sub-world.

The second interpretation, where the belief-predicate is a relativiser, has the embedded E in a character-accessible sub-world. In fact, as we will see in Chapter 9, relativisers work by building a sub-world of the appropriate type. In the sub-world, the proposition E is true, but because, relative to the world below it (e.g. the main text world), it is a belief world, this relativises E to the text world as someone’s belief (A). Thus its assessment in the text world will then be gauged relative to the credibility of the believer:

![Diagram](image)

**Figure 8.7**

Figure 8.7 shows that as well as the belief world we are discussing, there is also a desire world, since underlying S1’s question there is a wish to know the information. I have shown this as a participant-accessible sub-world, since it constitutes a sincerity condition on the speech act of asking a question, and is therefore a ‘public’ wish. There is also a (character-accessible) belief world, in which the new P, A Pear is better than a Banana, occurs. In John’s belief world, the proposition that a Pear is better than a Banana is true – and, in fact, an unchallenged proposition. What the characters in the text world do with this proposition, though – and in particular, how they assess it – depends on a number of factors in the text world: specifically, S1’s and S2’s knowledge of the domain in question, and John’s assessed reliability as an authority in this
area. The truth of this $P$ in the text world, therefore, depends on sociopsychological factors obtaining in the text world, not logical considerations.

We may also, at this point, reconsider text (5) in Chapter 1, reproduced here as (15):

15. Until very recently, contemporary Western science was shaped by a mode of thinking which placed rigorous detailed knowledge above all other considerations. This mode of thought was based on the implicit belief that the human mind has a limited capacity for storing and processing information. If you know some things very thoroughly, you cannot know very many different kinds of things. If you have some acquaintance with many different things, chances are you do not know them thoroughly. (Laszlo 1972: 3)

This text essentially concerns the belief system underlying Western science. It makes sense, in the light of our recent discussion, to ask whose belief system this is. Laszlo presents it as a generalisation about Western thought, i.e. about the thought-pattern of Westerners, so perhaps we might consider that he himself is included. This would then be a participant-belief (held by the speaker) rather than a character-belief (reported on by the speaker). However, this aspect seems to me to be only very weakly true, if at all: Laszlo is in fact in the role of a commentator on and interpreter of Western thought. In this respect, he holds himself outside the subject of his contemplation; his is a report and not a credo. Therefore it is subject to testing for speaker-reliability (is he knowledgeable? perceptive? trustworthy?), but not for participant-responsibility (co-operativeness, true belief, etc.).

This means that the belief system in (15) is attributed to a generality of third persons. Moreover, the attribution is for the most part indirect (it is apparently a ‘mode of thinking’ which has agentive force in this world). This makes it very clear that we are dealing with a character-accessible sub-world here, since the impersonal form of expression is typical of an unvouched-for report.

Purpose worlds

One particularly interesting kind of character-accessible world is that which relates to the intentions or purposes which characters have at particular points in a text (see Figure 2.2 in section 2.5). It seems to me that there is a cluster of speech acts or propositional attitudes around the general concept of intending future action. Of course, desire worlds often involve future action, but in their case there is no intention to carry out the action. Relevant speech acts
are promises, offers, commands and requests, since all of them postulate future action. One might be tempted to bundle desire worlds in here too, since they can involve future action, but this is an overlap rather than an inclusion (and all these character-accessible sub-worlds tend to be futurate, so one would be destroying useful distinctions in the interests of mere undirected reductionism). Desire worlds, as we have seen, are stipulative (when character-accessible), that is, they operate in terms of conditions for existence, and this can just as easily be existence of states or entities as of actions. Purpose worlds, though, are not conditional, but to a lesser or greater degree intentional. Purposes themselves are intentions, while promises, commands, requests and offers involve some mixture of the speaker’s intention and the hearer’s acceptance.

This leaves us with one small problem. In Chapter 6, I distinguished between an intentional future, which was a Present time-zone tense, and true future, which was a Future time-zone tense. For a text world having a Present time-zone signature, an intentional future would normally be shown as a participant-accessible sub-world, and a true, non-intentional future (e.g. a prediction) as a character-accessible sub-world. We have now made a distinction whereby a participant intention/purpose world is participant-accessible (conforming to the above situation), while a character intention/purpose world is character-accessible (contrary to the above situation). However, the system as briefly set out here is as seen from the viewpoint of us, the participants, in our discourse world, in which the notion of intention is thought of in terms of speaker-intention. This is the normal assumption when working with tense, aspect and modality in the verb phrase, as with any deictic system. Speaker-intention is, then, quite normally located within the current text world. But character-intention (that is, third-person intention) is not a participant property, but is reported by the participants. The participants have no way of vouching for the sincerity of character intentions, whose content is therefore quite properly shown as character-accessible. Nevertheless, a statement of intent by a character is taken to be a statement of intent within the text world, and therefore participant-accessible.

A typical kind of example for (participant-accessible) participant intentions would be the ‘Aims of this book’ section of many academic monographs, in which the author declares his or her own intentions, and the reader is constrained by co-operativeness, etc., to take them as true and sincere. Text (16), on the other hand, is an example of (character-accessible) character intentionality, and
its content as such (i.e. whether Lindley actually does assemble the
bookcase, use the ratchet screwdriver, etc.), cannot be directly
assessed, since the character participates in a different text world
from the reader:

16. This time there'd be no mistake. Lindley was determined to as-
semble the bookcase perfectly, without any odd screws sticking
through. He went to get his shiny new toolbox, which an uncle had
bought him, in order to find all the tools he needed. He would
use the ratchet screwdriver with the red handle and the awl which
looked a bit like a corkscrew. Now to find the screws. He combed
through all the jamjars and tobacco-tins his Dad used to store his
bits and bobs, so that he'd be able to collect a good supply of one
type. He'd select only shiny ones, and make sure he aligned all the
slots in the same direction when he screwed them in.

Intentions may be expressed in many ways, for example through
the use of the modals, to-infinitive clauses and ing-clauses. The Dick
Boulton text in Chapter 2 contains an example of a to-infinitive
clause; an example of an ing-clause occurs in text (3) of Chapter 1:

17. His gaze climbed upwards, searching the woodwork for some sign
of the master craftsman whose work this was . . .

A more satisfactory diagram than the one given in Figure 1.3, there-
fore, will show this ing-clause as a (character-accessible) purpose
sub-world.

8.3.3 Epistemic sub-worlds

The third kind of sub-world corresponds to an expression type
conventionally rated as highly important in logic. The probability
system, and specifically the notion of truth, is conventionally used
to define the very concept of meaning, as well as providing a kind
of measure for the success of any system of logical notation. Prob-
ability covers both the notion of hypotheticality and the scale of
certainty-impossibility.

Hypothetical worlds and the notion of remoteness

We normally express hypothetical situations in a way which is para-
sitical upon tense in that it is also usually expressed by verb-tense
morphology. This is the remote/conditional system (see particularly
Werth 1992a, 1997a and b). The notion of remoteness, that is to
say, is semantically close to hypotheticality, although it does have other applications which do not appear to be in the hypothetical system (all examples should be judged in their most common types of context):

- **Reported speech** is more remote than direct speech:
  18. (a) Sam said he liked nouvelle cuisine/ 'I like nouvelle cuisine'.
      (b) Maude said that Jack would be late/ 'Jack will be late'.

- **Politeness** is more remote than friendliness (or rudeness):
  19. (a) Would you be free next Friday?/ Will you be free next Friday?
      (b) Would you like some more cake?/ Do have some more cake!
      (c) I'd like a biscuit/ I want a biscuit.

- **Tentativeness** is more remote than decisiveness:
  20. (a) I was wondering if you liked jazz/ Do you like jazz?
      (b) We could go to a show/ We can go to a show.

- **Conditional** is more remote than indicative:
  21. (a) If you liked jazz, we could.../ Since you like jazz, we can...
      (b) If you see Bill, tell him.../ When you see Bill, tell him...

- **Narrative** is more remote than commentary:
  22. (a) Zippydoo overtook on the inside and won by a short head/ Zippydoo overtakes on the inside and wins by a short head
      (b) So, this character walks up to me, and he says.../ Now, this character is walking up to me, and he's about to say something.8

Example (22a, first sentence) is, of course, the 'normal' use of the Past tense, rather than some parasitical expression of psychological remoteness, but the essential similarity of the process suggests that fulfilment in past time is simply the default setting for remoteness marking in general. Moreover, the existence of a step further Remote than Past, represented in the temporal system by the Past Perfect, has its parallel parasitical use in the non-temporal systems. Thus in fact the verb-form used in the if-clause of an 'alternative Past world' conditional (referred to above as a 'Conditional III'), is the Remote equivalent of an ordinary Past, and not a genuine before-Past in the temporal system (see Chapter 10).

Sentences (18–22) provide some examples of Remote uses, then, which we will now relate to text-world theory. In the case of (18), it seems to me rather reasonable to take **direct speech** as setting
up a sub-world of its own, given the well-known deictic distinctions
between it and its context. What kind of sub-world it is has already
been discussed in section 8.3.1. Communicatively, we can see it as
embodying an empathetic shift from the discourse world of the
participants (e.g. the here-and-now of the reader) to the discourse
world of the speaking character, so that the value of ST is re-
analysed into the ST/RT value.

**Reported speech** is a means of shifting the relationship between
the sub-world of direct speech and the containing text world. Thus
typically the indication of locution (e.g. *he said*) is in the tense of
the containing text, while the reported speech itself is a **narrativised**
version of the direct counterpart. Only where the ‘original’ speech
was a present tense will the reported version be in what appears
to be normal narrative past. However, where the ‘original’ speech
was in some other tense, the reported speech will regularly ‘shift
one tense back’ (the so-called ‘Sequence of Tenses Rule’ – cf.
Hornstein 1990). This, I suggest, shows that the shift is in all cases
one of remoteness rather than temporality. See Werth (forthcom-
ing d, e) for further discussion.

**Politeness**, as in (19), **tentativeness**, as in (20) and certain kinds
of **conditionality**, as in (21), are all reflexes of the same impulse,
namely, **face-preservation** behaviour (cf. Brown and Levinson
1987). This means that their governing impulse is social deixis (cf.
Chapter 6), which in turn means that any sub-worlds they enter
into have social deictic elements building them up, rather than
ordinary locative/temporal/referential deictic elements. So, we
may argue that these uses implicitly contain a face-preserving con-
ditional structure of the type: *If I were to ask you out, would you be
free next Friday?* or *If you were to offer me a biscuit, I would like one.*

Polite or tentative structures with a simple past tense form (often
with ‘optative’ verbs like *want, expect, hope*) are more difficult to
explain, and certainly the implicit conditional will not work in
these cases:

23. (a) Did you want to speak to someone?
(b) Were you waiting to see the doctor?
(c) I was hoping I might find some work here.

Nevertheless, it seems to me that there is an implied face-preserving
condition present in these cases too, something like the following:

24. I wouldn’t want to presume, but it does seem to me that X (where
X is face-threatening); so assuming X, then it might be the case
that Y.
Then to take (23c), X might be This is the sort of place that takes on casual labour and Y, I find some work here. Notice that in such an analysis, the hypothetical X is, in fact, world-defining, and therefore strongly suggests that these varieties of remote use set up a hypothetical sub-world.

My proposal for remoteness and hypotheticality amounts to the suggestion that they are equivalent to a type (c), i.e. an epistemic sub-world. Consider, for example, the polite and hypothetical sequences in text (25), about an attempt by some members of the board of directors of the National Theatre in London to take off a scheduled Alan Bennett play involving the Queen:

25. [...] Only a few months previously Lord Rayne had submitted an application to Buckingham Palace for the company to be renamed the Royal National Theatre, believing it would, among other things, make it easier to raise money. Senior staff had been hostile to the idea [...] , fearing that it would lead to a form of creeping paralysis. They were to be proved right surprisingly quickly.

Eyre, a director with a long history of challenging drama, [...] refused to concede, but privately spoke of resignation.

[...] Finally, the retired Whitehall mandarin Sir Derek Mitchell weighed in. He had had a great deal of experience of the Establishment, he said. It had weathered many a storm before. It would not be buffeted by a single play in the theatre. Then he introduced the argument which won the day. On the balance of disadvantage, to cancel the play at this stage would generate more bad publicity than allowing it to go ahead and risking any controversy.

(Paxman 1990/1991: 2–3)

In the first sentence of (25), we find the WB assumption that the company is renamed the Royal National Theatre. Given this assumption, the FA proposition is an epistemic assessment of the probable consequence – 'it will make it easier to raise money' (for an explanation of the precise tense forms used, see section 10.3). Hypothetical sub-worlds are thus worlds built upon some set of assumptions (e.g. the if-clause in a conditional sentence), in which the FA proposition is an expression along the probability scale (viz. an epistemic of some kind). Let us now, therefore, take a look at the notion of assumption.

Assumptions

Assumptions, as we saw in section 7.2.2, have the function of defining conditions for sub-worlds. I remarked there that assumptions
were chiefly to be found in hypothetical or conditional sub-worlds, in which the assumption is responsible for the building of the sub-world. Assumption-shift, therefore, is also a feature of sub-worlds, and often corresponds to the entertaining of different conditions in order to work out potential consequences. Another possible context involves dividing the total domain into complementary subdomains, defined by a conditional assumption. (26) is an example of the second type:

26. Unemployment strikes at blacks more sharply than whites and provides an open forum for the National Front. *If a black man has a job, then he is said to have stolen a white man's job; if he has no job, he is called a scrounger on the Welfare State.*

(Benn 1982: 133, my emphasis)

Other kinds of conditional and possibility sentence deal with remoter sub-worlds than those of the italicised sentence in (26), which are represented in Figure 8.8 below, e.g. so-called 'Conditional III' sentences, which explore 'alternative history', i.e. past possibilities and their putative consequences. However, the apparent tense forms of conditional sentences are not what they seem. (See Werth (1992a, 1997a and b) and section 10.3 below.)

Figure 8.8 refers to a text world given earlier in the context of (26), with place = Britain, time = early 80s, text world characters =

![Figure 8.8](image-url)
One of the function-advancing elements is an exclusive-or operation in the domain of employment and unemployment. Exclusive-or is sub-world building since it constitutes a review of mutually exclusive possibilities, rather than a set of alternatives co-existing within the text world (which is inclusive-or). Within this domain, the possible sub-worlds jointly act to support the proposition about unemployment.

Modal worlds – the scale of certainty–impossibility

We have already seen the notion of epistemic (concerning notions of truth, probability, certainty and the like) in action in several places. So let us take the kind of example much discussed in the logical literature:

27. (a) John probably has children and it's possible that his children are bald.

Assuming that (27a) occurs in some appropriate context which thus defines a corresponding text world, this sentence will set up a probability sub-world in which the proposition that John has children holds. Within this sub-world, the character John has children. In the text world that this is embedded in, however, this 'fact' remains to be verified. But within the sub-world, there is a further level of embedding: there is a possibility sub-world in which the children in question are bald. From the viewpoint of the probability world, this is just a possibility; but in the possibility sub-world itself, it is a 'fact'. From the text world, this further sub-world is particularly inaccessible. From the viewpoint of the text-world level, all that can be seen is that the whole world in which John's children are bald is just a possible situation in a state-of-affairs which is itself only a probability.

The propositions in both of these sub-worlds, in terms of the model set up in Chapter 7, are world-building assumptions. In this impoverished situation, there are no function-advancing propositions. This, it should be clear, is the result of the artificial nature of the sentence, typical of the examples in the formal semantics literature. A similar naturally occurring sentence would be embedded in a context.

Probability and possibility create modal contexts, specifically epistemic contexts. In what follows, I am assuming the conventional distinction between root modals (conveying obligation, permission, ability, volition, etc.) and epistemic modals (conveying some degree
of probability). It seems evident that the epistemic modals behave just like explicit markers of probability. Indeed, an epistemic modal equivalent of (27a), such as (27b):

27. (b) It should be the case that John has children, and his children may be bald.

would be diagrammed in the same way (Figure 8.9):

![Figure 8.9](image)

Here is a lengthier text containing epistemic modals:

28. ‘You must be joking,’ the Colonel remarked. ‘It can’t be half-past three already. I’d most certainly have known. I always get peckish round about three.’

‘Your mind must have been on other things,’ said Mrs. Cathcart, tartly. ‘Perhaps if you hadn’t been ogling that new nurse, you’d have noticed your usual abdominal rumblings.’

‘I may, I suppose, have bestowed the most fleeting of glances upon the female person you refer to, but even the most sublime of visions wouldn’t have distracted me from the important necessities of life,’ the Colonel retorted. ‘No, no – I’m quite certain of it. Your watch must be wrong. It can’t possibly be right. You must have banged it or something. Or it might be because of that uncontrollable twitch of yours.’

‘Twitch? Twitch? How dare you!’ spluttered his companion. ‘It might interest you to know – though I doubt it, you being such
an insensitive brute – that the grace and beauty of my movements were once the toast of every salon in the land!

'Must have been a long time ago,' the Colonel observed, settling comfortably back into his Ez-E-Recliner, now that battle had been joined. 'Nobody'd mistake you for graceful now.'

'How on earth would you know?' Mrs. Cathcart demanded. 'It must be years since you've been able to see your own feet. Anyway,' she too settled back, preparing to deliver the coup de grâce, 'here comes Matron with your medicine.'

All the modal verbs in this text are epistemic. They work like this: for each modalised proposition, the corresponding unmodalised proposition represents a straightforward statement of the situation in question. The function of the epistemic modal is to relativise this statement along the scale of probability. For example, the proposition Your watch must be wrong contains the unmodalised proposition Your watch is wrong, and this is relativised by the modal must, towards a conclusion reinforced by the circumstantial evidence.

Let us, therefore, now turn our attention to the root modals. We may consider the following example text:

29. 'Are you going to stay the night? You can. There's a bed, and food.'
   'May I? Thank you, I'd like to.'
   'You can stay two nights if you like,' said the hostess, after a moment of consideration.
   'No, thanks. I shall go home tomorrow.'
   'All right.' Denham felt the relief that follows unaccepted hospitality.
   'But,' she added, 'you can stay if you like, you know.'
   'Thanks, you're very kind, but I really must go home tomorrow.'
   (Macaulay 1938; adapted)

(29) contains root modals of permission, volition and obligation. The difference between root modals and epistemic modals from the text-world viewpoint is that epistemics build character-accessible sub-worlds, whereas root modals build participant-accessible sub-worlds. This is because the act of permission, volition, etc., is always 'up-front', it is an explicit part of the action of its text world. So when Denham says 'I shall go home tomorrow', he is saying something equivalent to 'I hereby express the intention that I go home tomorrow'. Of course, this tells us nothing about whether he actually does go home the following day. But then it does not have to, because hearers take this to be an expression of intention, and not a predication of the future – and intentions can change. One problem which crops up at this point is that since Denham is a character and not a participant, his intentions are inaccessible to
us and therefore should be outside the text world. Notice, though, that we are not actually dealing with the content of his intentions as such, but with his statements of intent. These, I suggest, we treat just like his other statements — as perceivable actions in the text world (like the contents of Direct Speech, in other words).

We saw previously that remoteness appeared to have a parasitical relationship with pastness. Root modality, it seems, has a parasitical relationship with futurity. But the modal verb will, normally taken to be the typical denotation of futurity, is perhaps most often used as an epistemic (so its ‘future’ sense is in fact the expression of strong probability, based on some kind of evidence). As a root modal, will is rather limited: it retains a volitional sense, but only in the first person (where it is often replaced by shall). Otherwise, volitional uses of will appear old-fashioned. One type which at first blush does not appear to fit this pattern is the Habitual would. Here is a text containing several Habitual uses of would from Greene (1960/1961: 4):

30. This was somewhat the way in which the days passed. The passenger would be woken at four in the morning by the tinkling sound of the sanctus-bell in the saloon, and presently from the window of the Bishop’s cabin . . . he would see the congregation going home across the gangplank. He would watch them as they climbed the steep bank . . . By five the boat was on the move again, and at six as the sun rose he would eat his breakfast with the captain.

The text itself announces that this is a routine (which, as we saw in Chapter 7, is a kind of description) and not a narrative of events. Would expresses a confident prediction, the normal carrier for which is epistemic will. The Present time-zone equivalent of (30) would be:

31. This is somewhat the way in which the days pass. The passenger will be woken at four in the morning by the tinkling sound of the sanctus-bell in the saloon, and presently from the window of the Bishop’s cabin . . . he will see the congregation going home across the gangplank. He will watch them as they climb the steep bank . . . By five the boat is on the move again, and at six as the sun rises/is rising he will eat his breakfast with the captain.

One might then attempt to explain the occurrence of would-forms in (30) as the Past time-zone form of epistemic will (as Palmer 1979: 129 does). In fact, the Past form of epistemic will is not would but will have. This leaves as the explanation that would here is the Remote form, given that this use is (implicitly) conditional and therefore world-defining.
Finally, the academic or juridical use (*I would suggest to you that...*) can be explained in terms of the ‘face-preserving’ procedure which we looked at in connection with polite and tentative uses of the Remote (see previous section). We may therefore think of it as setting up a Remote, ‘pseudo-conditional’ sub-world, with some such WB assumption as *If you were to ask me...*

8.3.4 Quantity

I take the scope of this area to include both quantification and negation: both have to do with the question of ‘how much?’, a scalar property. One extreme of the scale, though, lies within the area of quantification (all, ‘∀’, etc.), while the other consists of the entire area of negation. My present treatment of these very important notions will be confined to aspects relevant to the text-worlds approach. The study of this field within linguistics and semantics has been sketchy. Rarely does it proceed beyond the confines of the sentence or the proposition, and a treatment according to cognitive principles is long overdue. (For suggestions along cognitive lines, however, see Givón (1979: Ch. 3), on negation; and Langacker (1991: Ch. 3), on quantification.)

Quantification

Like modalisation, quantification has the effect of relativising an otherwise absolute statement. There are, though, different quantifying effects, depending upon which quantifier is used: for example, all refers to some defined totality, each to an exhaustive distribution, and every to an exhaustive totality (cf. Werth 1980). Take text (32):

32. There were three Swedes in the factory. Each one was called Jan.

This says that within the confines of the text world, the proposition that a Swede is called Jan is true of all the Swedes in that text world; the contribution made by the quantifier each is that this is verifiable by taking the members of the set in turn. It seems reasonable to maintain that quantification is participant-accessible, i.e. always accessible from a single world. (The usual possible-worlds definition of all, ‘true in all possible worlds’, may seem to suggest a plurality of worlds, and thus rule out its application within a single text world. However, the meaning of all is actually ‘true of the totality of defined entities within the domain of reference’. It is the domain of reference which constitutes the text world, and not the abstract notions of Possible World Theory (cf. section 3.2.1)).
Other phenomena which may be viewed as essentially similar to quantification are **generics** and **habituals**. Generics, being type-, or set-denoting, are obvious candidates for analysis in terms of some version of universal quantification (cf. Langacker 1987a). Taking one’s cue from conventional possible-worlds logic, it would seem reasonable that the diagram for a generic sentence should not be just a single text world, but the set of all text worlds in which members of the set in question are entities. However, as I have already suggested, a cognitive account of universality has to be very different from an objectivist account, since it is based on human experience. In human experience, generics cannot represent all members of a set that exist now, have ever existed and will ever exist. Instead, the limitations of human existence lead us in practice to understand generics as propositions hedged by such modifiers as *typically, normally, in my experience, on the whole, in the vast majority of cases*, etc. In other words, the human-sized equivalent of the universal quantifier is something we may call the ‘generality quantifier’.

Closely related to generics are habituals (cf. Langacker 1991: Ch. 3). Habituals, which I described earlier (Chapter 6), are summaries of routine or repeated events. This being the case, they are more than event-statements – rather, they characterise a kind of situation. We might say that they quantify over an event to achieve a characterisation. It is for this reason that a habitual like *Jim smokes panatellas* qualifies as a property of Jim in the same way that *Jim is tall* does. Again, a text-worlds diagram of such a routine will have to employ a notation in which the proposition <Jim (smoke) panatellas> holds for every text world in which Jim is an entity. Given that habituals are functionally descriptive, it would seem reasonable to treat them in the same way as descriptive elements. For descriptive texts, descriptive elements figure among the function-advancing propositions. Alternatively, we might think of them as hedged propositions (cf. Chapter 6) of the kind: *If/Whenever Jim smokes, he smokes panatellas*. The conditional form of such a paraphrase indicates that habituals might form epistemic sub-worlds, rather than the relativising type (attitudinal sub-worlds) suggested so far.

**Negation**

The only treatment of negation I know which takes it to be an aspect of the situation (rather than of the sentence) is in Barwise
and Perry (1983). Negation in the Barwise and Perry approach, though, receives rather cavalier treatment. Thus, for them:

33. Jackie is biting Molly
34. Jackie isn’t biting Molly

(both are dogs!) refer to situations in which is biting Molly is true, respectively false, of Jackie. What seems intuitively quite clear, however, is that negation is not merely the affirmation of a negative state of affairs (or indeed the negation of an affirmative state of affairs). As Givón (1979: Ch. 3) points out, negation is an essentially foregrounding process, whereby some background proposition (asserted, assumed, expected, claimed, presupposed) is focused on and challenged. This explains the fundamental asymmetry of negation. Compare (35) and (36):

35. A dog was barking.
36. A dog wasn’t barking.

(35) could be a perfectly normal discourse-initial utterance, introducing a new entity in a new event. (36), on the other hand, seems strange since it is apparently assuming something like (35) as a normal background expectation. The essential mechanism is communicative: one does not comment on the absence of some situation unless its presence has been expected (i.e. previously asserted or implied). The reverse, however, is not the case: commenting on the presence of a situation does not imply that its absence was somehow expected; it simply foregrounds it as information. The same is true, of course, for negative sentences: even on Barwise and Perry's analysis it cannot be claimed that the denial of the existence of a real situation itself yields a real situation (or even a token of an abstract situation). Thus, Jackie's biting Molly may not be news, but it surely is a situation. Jackie not biting Molly, on the other hand, or the absence of anyone biting Molly can only count as a situation in a world in which it is normal and to be expected that Molly gets bitten continuously. As we will presently see, the text-worlds approach can handle that case, but seemingly Situation Semantics is completely inadequate for the task. See Werth (1988a) for a full discussion.

Negative and non-assertive sentences appear to cause grave difficulties to the philosophical underpinnings of Situation Semantics, since it is only positive assertions which can be said to denote situations in any full sense (and then not even all positive assertions). Furthermore, as we have already seen, there are considerable
problems with the semantic analysis too. Thus, while it is undoubtedly
the case that a sentence like *A dog wasn’t barking always entails* that
at the time and place concerned, there was no situation of any dog
barking, it is nevertheless far from obvious that this entailment
constitutes the *meaning* of the sentence.

The principles underlying cognitive linguistics in general, and
this book in particular, demand that we look at linguistic phenom-
ena in a naturalistic context of use. Such a restriction normally
ensures that the kind of multiple ambiguity associated with Barwise
and Perry’s negation example (see Werth 1988a) rarely happens
in fact. As Bolinger, Givón and Langacker have at various times
pointed out, negation is not merely a question of where in a syn-
tactic structure you stick a negative morpheme; it is fundamentally
based on *expectations* of one kind or another. You cannot, that is
to say, negate something unless there is good reason to expect the
reverse to be the case, whereas you *can* affirm something whether
or not there is good reason to expect the opposite to be the case.
The explanation for this is perfectly common-sensical: to deny the
existence or presence of an entity, you have to mention it. The
very act of denying it brings it into focus. It also has the effect of
restricting possible interpretations of the sentence in isolation to
just those which are compatible with, and cohere with, the given
context.

In text-world terms, I translate this into the assumption that the
text world identifies the common ground, or set of expectations,
for the particular discourse, while a negation is naturally expressed
by way of a sub-world. We may consider an example text to see
how this actually happens:

37. ALGERNON: Please don’t touch the cucumber sandwiches. They
are ordered specially for Aunt Augusta.
JACK: Well, you have been eating them all the time.
ALGERNON: That is quite a different matter. She is my aunt.
[ ... ]
LADY BRACKNELL: ... And now I’ll have a cup of tea, and one
of those nice cucumber sandwiches you promised me.
ALGERNON: Certainly, Aunt Augusta. [ ... ] Good heavens! Lane!
Why are there no cucumber sandwiches? I ordered them specially.
LANE: There were no cucumbers in the market this morning, sir.
I went down twice.
ALGERNON: No cucumbers!
LANE: No, sir. Not even for ready money.

(Wilde 1899/1954: 261)
Here we have a canonical example of ‘defeated expectation’. The cucumber sandwiches have been promised, which for Lady Bracknell (though not necessarily for the rest of us) means that there will be cucumber sandwiches. The audience expects there to be cucumber sandwiches, since they have already figured in the play. The text world we build up, then, contains cucumber sandwiches among the entities present. We now learn from Algernon that the text world no longer contains these entities. Lady Bracknell’s first utterance, then, expresses her intention of having one of the sandwiches which she supposes and we believe are present in the text world. Algernon (who must of course know that there were none left) then informs us that there are no cucumber sandwiches, causing a rapid redefinition of the text world (viz: ‘delete “cucumber sandwiches”’, plus associated inferences, e.g. ‘Algernon must have eaten them all’).

We have already seen that the expression of intention is sub-world forming, but it is a participant-accessible variety, since it forms part of the action of the text world. The expression of negation, at least in this case, seems to be something like an instruction to modify the world-building parameters which have already been set up. Of course, Algernon is play-acting, so that within the play, he is ‘covering up’ his greediness for the benefit of Aunt Augusta, at least (since practically everybody else knows about it or can deduce it). He could have said ‘I have eaten them all’, which would have had the same effect on the world-building parameters, but would have led to a quite different dramatic conclusion. His utterance is also in the form of a wh-question, requiring an answer, and so we must put it into a pending sub-world (Figure 8.10), (though the pending sub-structure is not a necessary aspect of negation). Algernon might simply have said ‘There are no cucumber sandwiches!’, which would require nothing in the way of a pending file. In any event, the result of the negation in this case is to alter one of the text-world parameters (viz. the presence in the text world of cucumber sandwiches). Furthermore, this is not a temporary alteration, as in the case of flashbacks, but a permanent change in nominated entities – hence a question of text-world incrementation.

As we have seen, the general function of sub-worlds is indeed the changing of the parameters set up in the matrix text world. Negation belongs to this function in general, I would say, but has the special task of changing the world-definition by deletion of parameters. In the case of Figure 8.10, then, the negative signals a
modification of the current parameters, leading to a new stage of the text world – one *without* cucumber sandwiches.

The negation of defeated expectation, where the expectation is explicitly present in the common ground, is perhaps the prototype of negation. However, in practice, other arrangements are common, particularly those involving accommodation. Accommodation is a method of introducing entities and assumptions into a world without explicitly asserting them. For example:

38. My brother’s a pop-singer

explicitly asserts the profession of the speaker’s brother. But if the listener does not know that the speaker has a brother, then (38) also serves to inform him or her of that fact. For a more extended discussion on the phenomenon of accommodation, see section 9.3. There are forms of negation, then, which not only delete an
entity, but also introduce it at the same time. Here is a particularly complex example (with the negative elements, including dysphemisms, highlighted):

39. Except for the Marabar Caves – and they are twenty miles off – the city of Chandrapore presents nothing extraordinary. Edged rather than washed by the river Ganges, it trails for a couple of miles along the bank, scarcely distinguishable from the rubbish it deposits so freely. There are no bathing-steps on the river front, as the Ganges happens not to be holy here; indeed there is no river front, and bazaars shut out the wide and shifting panorama of the stream. The streets are mean, the temples ineffective, and though a few fine houses exist they are hidden away in gardens or down alleys whose filth deters all but the invited guest. Chandrapore was never large or beautiful, but two hundred years ago it lay on the road between Upper India, then imperial, and the sea, and the fine houses date from that period. The zest for decoration stopped in the eighteenth century, nor was it ever democratic. There is no painting and scarcely any carving in the bazaars. The very wood seems made of mud, the inhabitants of mud moving.

(E.M. Forster 1924, my emphasis)

The normal presumption about expectations is that they are engendered partly by the information introduced by the discourse, together with any general knowledge which that information in its turn evokes from the participant's memory store. The normal procedure for introducing information is as described in Chapter 6 – a reference is first established (typically with an indefinite NP), and then is subsequently maintained (with some kind of anaphor). This essentially simple picture is complicated by three things: (i) evoked knowledge differs enormously, both qualitatively and quantitatively, from one person to another; (ii) if an entity is manifest in the environment, then it is often unnecessary to go through the whole reference procedure; and (iii) as we have seen, information can be introduced non-standardly, by way of accommodation. Indeed, as we saw in Chapter 4, accommodation provides a fail-safe mechanism for solving the other two problems. Thus, even if the recipient does not possess the necessary general knowledge, or has not seen the specific entity in the environment, he or she may still deduce the presence of the entities referred to by way of the general principles of co-operation, informativeness and coherence (cf. section 2.4). Negative accommodation, similarly, allows the recipient to deduce the expectation which the negation itself defeats or removes. Consider, for example, the sentence in (40):
40. There are no bathing-steps on the river front, as the Ganges happens not to be holy here; indeed there is no river front, and bazaars shut out the wide and shifting panorama of the stream.

A particular reader may or may not know that the Ganges is a holy river; he or she may or may not know that this holiness is somewhat selective; he or she may or may not know that many cities and towns on the Ganges have bathing-steps, so that the faithful may bathe in the holy river. Whether he or she knows these things or not does not matter, since the text suggests these expectations by the very act of negating them. Nevertheless, the principles of discourse still apply – in fact even more stringently – since the whole mechanism depends on them in order to work at all. Thus a sentence like (41) will be rather inconsistent in the Chandrapore world built up by this text:

41. There are no ice-cream stands on the river front, as the Ganges happens not to be holy here; indeed there is no river front, and restaurants shut out the wide and shifting panorama of the stream.

(41) suggests that ice-cream stands are normally expected where the Ganges is holy, and that the river front of this poor Indian town is packed with restaurants. Neither of these propositions is impossible, but given even sketchy general knowledge both are surely highly unlikely. (42), on the other hand, suggests that the presence of ice-cream stands is normally to be expected where the Pacific is accessible, and that the sea front is packed with restaurants.

42. There are no ice-cream stands on the sea front, as the Pacific happens not to be accessible here; indeed there is no sea front, and restaurants shut out the wide and shifting panorama of the ocean.

In such cases, it seems, the negation introduces not only the denial of the expectation, but also the expectation itself. This naturally leads us to question the appropriateness of the sub-world machinery in these cases. So far, sub-worlds have enabled either the temporary changing of WB parameters already established for the text world, or else the expression of inaccessible states of affairs, typically presented as conceived by characters. The first type of negation strains the first of these, since it represents a permanent change in the WB parameters. The second type of negation perhaps represents a similar strain on the second type of sub-world: mentioning an entity only to deny its existence is carrying inaccessibility to an extreme which perhaps takes the phenomenon into a different category altogether.
What we are really facing here is the question of **text-world incrementation**, which we will discuss at greater length in Chapter 10. Participant-accessible negation presumably involves the modification of propositions in the CG of the discourse. CG propositions may form part of the WB definition of the associated text world, or they may have derived from FA material, or information inferred from or evoked by FA material. Character-accessible negation, somewhat paradoxically, does not involve any modification of propositions at all. As we have seen, this kind of negation is self-contained in the sense that it introduces the propositions which it is then responsible for nullifying. It would not be correct, though, to consider this a null operation. As we saw in the Francis Macomber passage (Chapter 1), mentioning that the gunbearers took no part in the triumphal procession tells us a lot more than if the sentence had simply been omitted. We expect that we will, in good time, find out why they did not join in (Macomber is being feted for catching a lion, but only his wife, Wilson the guide, and the black gunbearers know that he actually panicked and ran). Thus, although in strict *prima facie* terms, there is no difference between a situation in which the gunbearers took no part, and one in which, say, the gardeners took no part, we now know that there are gunbearers, and that there must have been a reason for their not taking part in the celebrations. In the case of text (39), we are told that there are no bathing-steps, so we take it to be the case. But this is not the limit of this information's significance: there are presumably no Gothic cathedrals either – a piece of information which is every bit as true, notice, but which is totally irrelevant. There is, that is to say, a further significance in the absence of bathing-steps, which is at least as important as the presence of bazaars.

So this means that although the character-accessible negation might leave the situation in equilibrium from a logical point of view, this is not the case in functional terms. Functionally speaking, the negated proposition introduces a sort of delayed-action information-bomb into the world. When the appropriate time comes, the dormant proposition will suddenly gain full significance. In the case of Francis Macomber, for example, we read, fourteen pages later:

43. ... Macomber, standing by himself in the clearing where he had run, holding a loaded rifle, while two black men and a white man looked back at him in contempt, knew the lion was dead.
Thus, despite the fact that it is negated only for the time being, negative accommodation remains essentially similar to positive accommodation in that it introduces new information into the CG in an unconventional way. I will return to this important question in the next chapter.

Notes

1 A clear example occurs in Philip K. Dick’s novel Do Androids Dream of Electric Sheep? (1968; filmed as Bladerunner), in which the androids (or ‘replicants’, as they are called in the film) are provided with spurious memories. Since the audience is aware of this, the ‘memories’ in this case will also be translated into character-accessible sub-worlds.

2 I am grateful to an anonymous reader, who opened up this line of thought for me. Mick Short makes the point (p.c.) that le style indirect libre classically includes both speech and thought, and is deictically ambiguous between Direct and Indirect varieties.

3 Also known as Free Indirect Discourse (FID), Represented Speech and Thought (RST) and Represented Discourse (RD).

4 Fillmore (1981b) also in fact operates from a more contextual perspective, by considering who knows the anaphorically represented material in FIS (viz. the reference of pronouns, definite NPs, etc.), as opposed to that in narrative, expository text. His finding is that FIS encapsulates character-knowledge, whereas narration reflects author/persona (at any rate, participant)-knowledge, since anaphoric material in FIS is not standardly introduced. However, as we have seen, this phenomenon is not confined to FIS, but occurs widely in narration also. In Chapter 3, this was discussed under the term ‘accommodation’. For further discussion, see Werth (1993a), and Chapter 9 below.

5 There are in fact even more: the author brings no fewer than six people under suspicion for the death of John Paul I later that same night, so there are actually seven windows open for our scrutiny at this stage in the account.

6 In Werth (1980) and in Chapter 9 below, I call this kind of context iterative.

7 In fact, since (14c) is a dialogue, all the propositions also form Direct Speech sub-worlds, with the desire and belief spaces as sub-sub-worlds. I have ignored this factor in Figure 8.7, however.

8 The so-called ‘Historical Present’, i.e. present tense narrative, is in isolation indistinguishable from commentary. In context, however, the overlap is much more restricted, since the topics of commentary are ritualised events such as sporting occasions, demonstrations and stage instructions.

9 These are ‘speech-act conditionals’, in the sense of Sweetser (1990).

10 Pointed out to me by Nanda Poulisse.
The same is true of *would*, which has a limited, and to my mind, disappearing root volitional sense, as in Conrad (1897/1950: 52):

Captain Allistoun, looking more hard and thin-lipped than ever, hung on to full topsails and foresail, and *would* not notice that the ship . . . appeared to lose heart altogether . . .

Otherwise, *would* seems to have become specialised as the marker of remoteness, as we saw in the previous section.

The audience knows that Algernon has been eating them, but not, usually, that he has finished them! For Lady Bracknell, though, the situation is different – since her expectation rests on a promise, it is necessary to play out a special charade to explain the apparent non-fulfilment of the promise. Lane, the butler, however, is perfectly capable of understanding the situation and smoothly repairing it, all without blinking an eyelid.

This is not in every case, however: when it concerns part of the answer to a question, the assumptions behind the question will often be in the pending file only, and will not have been absorbed into the CG.
Chapter 9

Revealed reference and accommodation

9.1 Revealed reference

Revealed reference is an invented, but useful, term for a common phenomenon in all types of discourse, in which references are established not in the conventional way of upfront introduction (*There was a woodsman's cottage* . . . ), but instead via a variety of techniques which, as it were, assume the uncontroversial presence of the referent in the text world without special efforts to establish it there explicitly (*The/A woodsman sat at the door of his cottage* . . . ; *The door of the woodsman's cottage stood open* . . . ; *The cottage at the top of the hill belonged to Charlie Golden, the village woodsman* . . . ; and so on). We will now go on to investigate some of the formal and logical techniques which have been employed in order to capture this phenomenon, before returning to a common-sense cognitive solution.

9.1.1 Opaque expressions

The term 'opaque expressions' is used here as an abbreviation for 'expressions occurring in opaque contexts'. This conventionally refers to sentential contexts in which the substitution of like terms does not go through, particularly under **intensional verbs**, for example. The opacity problem, in this traditional view, applies to **believe**-class predicates, but not to **know**-class predicates. In brief, the problem is that a proposition P may be truth-conditional (and also perhaps true) when independent, but when dependent under a **believe**-class predicate B(P), the whole sentence (complex, or 'second-order', proposition) is *not* truth-conditional, e.g.:

1. (a) The FBI are after me.
   (b) I believe that the FBI are after me.

(1a) is straightforwardly true or false, whereas (1b) is impossible to assess. It may be true that the speaker *believes* that the FBI are
after him or her and false that the FBI are after him or her, or any other possible combination of truth-values. It is, in other words, impossible to ‘read off’ the truth-value of the complete sentence (complex proposition), even though you can assess the truth of its separate parts. (This, at any rate, is the received wisdom.)

By the same token, the received wisdom that know is factive guarantees that the opacity–transparency distinction does not apply to its complements (as we have already seen). This is clearly not so:

2. (a) John knows that Mrs Scuttlebutt is a real blonde
   (b) John knows that my next-door neighbour is a real blonde

will not be substitutable for each other unless John also knows that Mrs Scuttlebutt is my next-door neighbour. Thus each of (2a) or (2b) could be false on the opaque reading, while the other one was true.

Consider, furthermore, sentences with different predicates:

3. (a) Jim denied killing his father.
   OPAQUE EXPRESSION: Jim killed his father

4. (a) John claimed his brother was alive.
   OPAQUE EXPRESSION: John’s brother was alive.

In isolated sentences such as these, the conventional wisdom is that the propositions marked as ‘opaque expressions’ are inaccessible to truth-conditionality. In other words, predicates such as deny and claim, in the absence of further context, do not allow us to assess the truth or falsity of their complement propositions: Jim may or may not have actually killed his father, John’s brother may or may not actually be alive. In discourse contexts, however, we may find other, perhaps surprising, effects:

3. (b) The evidence had been overwhelming: two eyewitnesses, opportunity, means and motive, and a great deal of forensic testimony. The jury unanimously found Jim guilty of the wilful murder of his father. He received a sentence of life-imprisonment with the recommendation of no parole for twenty-five years. Yet to the end of his life, Jim denied killing his father.

4. (b) John’s only brother, Colin, was alive and well and living in Winchelsea, where he ran a winkle-stall. When he saw Colin playing golf one day, John claimed his brother was alive.

4. (c) John’s only brother, Colin, had died in a tragic golfing accident. Apart from normal grief, John seemed to be taking it very well. Then suddenly one day, John claimed his brother was alive.
Perhaps what (3b) shows most of all is the difficulty of being certain about anything. The law is based on the notion not of Truth, but of ‘absence of reasonable doubt’. We also know, of course, that a guilty person as well as an innocent one can claim to be innocent. So in this case, the opaque context (3a) hardly seems to cast any doubt at all on the truth of the opaque expression it contains (which in this case would seem to have exactly the same degree of truth as The court found John guilty of killing his father). (4a), on the other hand, is almost unacceptably tautologous in the context of (4b), just as in the context of (4c), it is almost unacceptably contradictory—though only on one reading (in which John claims that his brother is simultaneously alive and dead). On another reading, however, John is claiming that his brother’s death was not what it appeared: e.g. it was faked, or there was a mistake in identity and his brother is running around with amnesia, etc. Indeed, many a thriller starts with just such a situation. (4b) might also be susceptible to some similar kind of analysis, e.g. John might be claiming that Colin had undergone some kind of spiritual rebirth on the golf-course, before which he had not really been (fully) alive (in some special sense of the word). These possible interpretations, however, are not compositional readings springing out of the linguistic nature of the text. Rather, they are extended inferences arising out of ‘co-operation failure’, and are thus perhaps better thought of as conversational implicatures (Grice 1975). It seems clear, however, that the conventional notion of opacity has little to contribute.

If an opaque context is one which rejects the substitution of like terms, or more generally, one which renders a proposition contained in it inaccessible to truth-conditionality, we can presumably extend the notion beyond the sentence. This is useful, in fact, when the context is something like ‘perceived reality’. Just as, in the conventional wisdom, a belief-context is opaque to a proposition below it, so, one might argue, the ‘perceived reality’ context is opaque to propositions which are non-referential within it. Thus the proposition that there is a King of France is a transparent expression in an appropriate historical reality such as (5):

5. The King of France was, at the time, a tall, balding melancholic
but is an opaque expression in the perceived reality of the late twentieth century (hence the century-long debate about such sentences), as in the familiar example-type (6):

6. The King of France is tall.
Further cases would include stipulative and other ‘unreal’ contexts, which we will now discuss.

A discourse approach containing text worlds, such as is outlined above, allows us to gain useful insight into ‘non-referential’ uses of terms. ‘Non-denoting descriptions’ have constituted a problem for semantic theories since Frege (see van der Sandt’s concise overview (1988: Ch. 1)). Conventionally, denotation or reference has been viewed as ‘existence in the real world’, and this has excluded from referentiality a great number of common uses: terms used in non-declarative contexts, such as questions and commands, mythological and fictitious uses, stipulative, generic and conditional uses. However, as long as this traditional orthodoxy rests on anything resembling a notion of ‘reality’, it is clearly on very shaky ground (cf. Werth 1988a). Furthermore, this whole enterprise rests on the assumption that there exists a data-type known as presuppositions. A presupposition in general terms is an assumption which it is necessary to make before interpreting a given sentence (cf. Werth (1986) for a general discussion). For example, the conventional wisdom is that (6) above contains the ‘presupposition of existence’: ‘There is a King of France.’ It can easily be shown, however, that the very datatype ‘presupposition’ is actually an artefact of the sentence perspective. In a genuine discourse grammar, such a data-type cannot exist (see Werth (1993a) for full argumentation). Text (14) in Chapter 8 is an example of a ‘King of France’ sentence embedded in a stipulative context, which, from a conventional viewpoint, is an opaque context.

We may easily ascertain from such cases that the entire classification of propositions as so-called presuppositions is completely dependent upon the (discourse) context they occur in. In (12) of Chapter 8, a recognisable ‘King of France’ sentence occurs (i.e. The King of France is tall . . . (= (6))). Nevertheless, it appears quite evident that in this sentence there is no ‘presupposition’ to the effect that there exists a King of France, and neither is there any such suggestion in its containing text.

Van der Sandt (1988: 161) allows that one and the same sentence may be presuppositional in one context and nonpresuppositional in another. His actual examples are:

7. (a) That was really a disgusting party! Everybody was drunk. Charles drank at least half a bottle. Cecilia tried to stop Peter, but without success, unfortunately. She was furious that everybody was drunk.
(b) That was really a disgusting party! Charles drank at least half a bottle. Cecilia tried to stop Peter, but without success, unfortunately. She was furious that everybody was drunk.

He implies that presupposition is not a sentential phenomenon, as is usually assumed, but is instead a contextual phenomenon (he speaks of a text presupposing, rather than a sentence or an utterance, as in other treatments). I argue in (1993a), however, not that (7b) is presuppositional while (7a) is not, but rather that neither is presuppositional. Instead, the final sentence of (7b) introduces the new (but entirely inferrable) information that everybody was drunk, together with Cecilia’s attitude to it. A consequence of my claim is that the final sentence of (7b) is semantically equivalent to both (7c) and (7d):

7. (c) Everybody was drunk, and Cecilia was furious about it.
    (d) Everybody was drunk. Cecilia was furious about this.

Van der Sandt’s approach, on the other hand, must deny this equivalence, since in his terms, neither (7c) nor (7d) is presuppositional, whereas (the relevant sentence in) text (7b) is. Thus, despite his welcome attention to the effects of the textual context, van der Sandt remains committed to the sentential viewpoint.

There is, however, a more radical point, which is that even the ‘King of France’ proposition in text (14) of Chapter 8 is a referring expression given the assumption that the text world is the proper domain of reference: text (14), in fact, builds up a stipulative text world. Given the stipulations, then, the expression ‘the King of France’ is referential, and as text (14) shows, can even institute reference chains of pronouns. See also Fauconnier (1985: 39 ff.). The basis of this approach, as has been demonstrated fully above, is that discourses are ‘world-building ventures’, and that even the ‘actual world’, also known as ‘reality’ (part of which constitutes the discourse world), is a mental construct. This means that there is no principled, logical difference between the actual world and imaginative and speculative text worlds, and explains why linguistically they behave identically with respect to anaphora. See section 10.2 below.

9.1.2 Invited inferences

Invited inferences (Zwicky and Geis 1971; van der Sandt 1988: 138) is one name given to inferences which survive opacity or presupposition failure, although the nature and extent of their survival
seem neither clear nor consistent from one account to another. In the case of opacity examples (3a) and (4a), there may be invited inferences to the effect that Jim had (or has?) a father, and John has a brother, respectively, though the former, whether represented as an invited inference, as here, or a secondary presupposition, as in Werth (1993a), adds no further information. (3a) also contains the more important invited inference that Jim’s father is dead. In any event, it seems clear that from the point of view of the system of discourse described earlier, invited inferences are propositions like any other, and so backgrounded information if mentioned previously. Thus in the case of texts (4b) and (4c), for example, the so-called invited inference of sentence (4a), ‘John has a brother’, is explicitly mentioned earlier and is therefore already in the CG of the text – and thus backgrounded. If they have not been mentioned before, or do not occur in the CG for any other reason (e.g. entailment, inference), then they amount to assertions which can be accepted with a degree of confidence ranging from complete to very weak. We will have more to say about this in the section on accommodation (9.3), but first let us investigate the notion of assertion.

9.1.3 Assertions and foregrounding

Let us now consider what would in isolation be the same sentence (8a), having so-called presuppositions (8b, c), embedded in somewhat different contexts: texts (9) and (10):

8. (a) John realised his brother wasn’t dead.
    (b) John had a brother.
    (c) John’s brother wasn’t dead.

9. John had a brother, Colin, who was missing, presumed dead. John was beginning to lose hope, until he spoke to Colin on the telephone. Then John realised that his brother wasn’t dead.

10. Colin had disappeared six months ago. There were persistent rumours that he’d been disposed of by the Mob, or hacked to bits in the Amazonian jungle. John was beginning to lose hope, until late one night he received a telephone call. Then John realised his brother wasn’t dead.

We can think of (9) as the simple case of classical presupposition, in which the truth-value of the final sentence is computed on that of the main clause, which requires the truth of the embedded clause as a precondition. Since the truth of the latter is guaranteed in
the text itself, as part of the text world defined by that text, and assuming that the entity John actually did go through the mental process of ‘realisation’ with respect to the proposition embodied in the dependent clause, then the whole sentence is true.

(10), on the other hand, is a more complex undertaking. None of the propositions under consideration is actually explicit in the text. Thus, the presumption of Colin’s death, the relationship between Colin and John, and the context of John’s realisation are all matters of inference; none of them is backgrounded information already present in the CG. Furthermore, none of them is inference based on standard logical entailment; rather, they arise out of neo-Gricean principles of co-operation and relevance (cf. Sperber and Wilson 1986; Werth 1986). Let us just consider this for a moment: how do we infer Colin may be dead from (10)? Disappearance is not death, but at most a suspicious piece of circumstantial evidence. Disposed of can suggest ‘murdered’ which entails death, to be sure, particularly in the context of the Mob, which refers to the Mafia, but disposed of can also mean simply ‘placed in some convenient position’. The assessment of the probabilities here is aided by relevant parts of our frame knowledge, evoked by the mention of such items as the Mob. Hacked to bits similarly suggests death, but both these possible fates are presented in the context of There were persistent rumours . . . , which reduces the certitude of Colin is dead to the mere possibility that Colin may be dead. Now clearly, whatever is going on here is not one of the conventional notions of presupposition, entailment or implicature. (10) provides an opaque context in the extended sense we have already described.

Sentence (8a), though, might still be presuppositional in conventional terms (since in an isolated sentence, the distinction is completely invisible), but from the textual and functional viewpoints, it represents a totally different kind of utterance. In the last sentence of (10), the embedded clause imports a fresh proposition into the CG, which, moreover, denies an inferred proposition previously drawn and temporarily incremented into the CG (Colin may be dead). Furthermore, it manifests the new propositions There is an entity, John; John has a brother; Colin is the brother of John, and it disallows the (possible sentential) reading, John realised that x’s brother wasn’t dead (x ≠ John), since no other individual entity than John or Colin exists in that text world.

There is, then, a clear communicative distinction between the two occurrences of (8a) in these distinct contexts. We might say that the embedded clause in (10) his brother wasn’t dead has
the **communicative function** of assertion, since it introduces new information into the CG. On the other hand, it does not satisfy the **speech-act function** of asserting there, since it is in a non-declarative form (being just a subordinate clause). Conversely, the matrix clause *John realised that S* arguably satisfies neither the speech-act function nor the communicative function, since its purpose is not to assert that John went through such-and-such a ratiocinative process, but rather to inform the listener as to the reliability of the information embedded below it (assuming that *realise* means approximately ‘come to understand that *P* is true’). See the discussion of authoritativeness in Chapter 5 and of factivity in Chapters 4 and 8.

Consider the status of *John has a brother* in the discourses (9) and (10), respectively. Both of these have a cast of two characters, John and Colin, but only in the former is it conventionally asserted that John has a brother, and that Colin has this role. In (9), we immediately learn that this person is very possibly dead, a proposition which must, clearly, be incremented into the CG. In (10), though, we know only that a person named Colin had disappeared; the proposition that he is very possibly dead is inferrable, but nowhere asserted. Nevertheless, as a possible state of affairs in that text world, it is entered into the CG.

After the telephone call, though (explicitly linked to Colin in (9), but not in (10)), the listener is forced to take different paths. In (9), we may understand that Colin-the-possibly-dead-brother-of-John is not dead. In (10), we learn that some-entity-who-is-the-brother-of-John is not dead. Were it not for contextual effects, this would be all we would learn. But the predicate NOT-DEAD is normally **assumed** of a living being rather than asserted, unless there is information to the contrary in the CG (cf. the remarks on the negative in Chapter 8). The only such information in (10) concerns a character called Colin. Since both co-operation and coherence imply Occam’s Razor (no unnecessary multiplication of entities), we must infer that it is Colin who is not dead, while at the same time gleaning the extra piece of information about his relationship to John.

All this information, note well, is information about the **text world** in question, just as any assessment of truth or probability is an assessment about the text world in question. In this world, *John does* have a brother, since this is information which is freely given, albeit by way of an unconventional assertion, and it is nowhere doubted or challenged. If we were told that *John realised his brother*
wasn’t dead in a text world where John is an only child, then we would have reason to complain that we are being lied to, or are in the presence of a lunatic; or it may be that we are mistaken in our CG proposition that John is an only child. Either way, a revaluation of the CG is forced upon us.

The further fact that this entire proposition is in both cases below the matrix verb realised tells us that both John and the speaker of (9) and (10) had no reason to believe anything else. This is the communicative equivalent of the notion of ‘factivity’. Had the verb been thought or claimed, however, the speaker would be merely reporting John’s opinion, without assuming a position personally. It is in this last case, of course, that all the traditional problems of opacity, projection, and invited inference crop up.

9.1.4 Unconventional assertions

There is another possible interpretation of sentences like (8a), and indeed all of the sentences we have so far been discussing in this chapter. This is when the speaker’s audience in (8a) has no prior knowledge of the speaker’s family circumstances; in such a case, it seems obvious that the same proposition-schema as (8a), with appropriate changes of pronoun, presents the Hearer with new information:

11. A: How’s life with you?
    B: Great! I realised last night that my brother wasn’t dead.
    A: I didn’t know you had a brother!

The presentation of new information is the role which we typically assign to assertions (see previous section); but since it here occurs in a very unconventional format for an assertion (i.e. the noun phrase of a subordinate clause), I have dubbed it the unconventional assertion (more generally, it is a type of accommodation).

Let us now characterise unconventional assertions. These are propositions which, by definition, are not yet in the CG, so they are informative (cf. the principle of communicativeness, section 2.3). To enter the CG, they must be relevant, i.e. coherent (the principle of coherence, section 2.3), and interpretable as co-operative (the principle of co-operativeness, section 2.3). Formally, as I have already pointed out, they occur in dependent positions (subordinate clauses, NPs): they are therefore dominated by other constituents (matrix or other ‘higher’ clauses, i.e. S’, or predicates, i.e. V”). The propositions underlying these dominating constituents (let us call
them matrix propositions – MPs) will not necessarily be semantically dominant in any sense – this depends entirely on the CG in which they occur. Like UAs, MPs have to be either in the CG already or not. But there are patterned tendencies: if the dependent constituent is already in the CG, then the accompanying MP will not be, otherwise the sentence will contain no new information. This gives the kind of interpretation (14) of a sentence like (12) that it receives when embedded in text (13):

12. Miss Otis regrets she’s unable to lunch today.
13. Butler: Miss Otis has asked me to tell you that she has been forced to cancel your luncheon appointment, Madam.
   Madam: Is that all she said? Was there no apology?
   Butler: Indeed there was, Madam. Miss Otis REGRETS she’s unable to lunch today.
14. ASSERTION: Miss Otis regrets that PR
   PRESUPPOSITION (PR): Miss Otis is unable to lunch today.

As text (13) shows, this interpretation corresponds to the situation in which the proposition that Miss Otis is unable to lunch today has already been expressed, and is thus incremented into the CG (i.e. the case which I call the classical presupposition, but which van der Sandt claims is not presuppositional at all1). The case in which the MP is also in the CG can arise, but is pathological in the sense that questioning it will receive a testy or irritated reaction from its original speaker:

15. Butler: Miss Otis regrets that she has been forced to cancel your luncheon appointment, Madam.
   Madam: Is that all she said? Was there no apology?
   Butler: I did say that she REGRETTED the fact, Madam.

If the dependent constituent is not in the CG already (is a UA), then the MP will usually not be, either. Indeed, the interpretation it receives in such cases suggests that it is not really propositional at all in that situation, but functions rather as a Specifier: consider the (near-) synonymous2 utterances in (16), and their common interpretation (17):

16. (a) Miss Otis is unable to lunch today, and she regrets this.
    (b) Miss Otis is unable to lunch today, regrettably.
    (c) Miss Otis is unable to lunch today, much to her regret.
    (d) Miss Otis is unable to lunch today, sad to say.
    (e) Sorry – Miss Otis is unable to lunch today.
17. ASSERTION (A): Miss Otis is unable to lunch today.
RELATIVISING CONTEXT: Miss Otis/Speaker regrets A.

In this latter case, I will refer to the MP as the relativising context. It is a feature of relativising contexts that they display a distinct mismatch between the syntactic presumption of dominance, or government by the MP, and the semantic reality. Thus in (12), the relativising predicate appears merely polite or conventional, and particularly so in this case, where in the text world of the song Miss Otis Regrets (from which the first line of the example is taken) the ‘regretter’ has in fact committed suicide and is thus in no position to regret anything; cf. also (18):

18. The DHSS regrets that World War I pensions will be discontinued as from January 1st.

Here, too, the expression of regret is presumably made merely for social reasons. If we had a means for testing the truth of the MP, it would come out False, or near-False.

As we have seen, it is not an attitude of sorrow which is conveyed, but rather a polite apology. In fact I will argue that what is going on in (16a) is that a meaning is being expressed which is not so different from that of the simple sentence Miss Otis is unable to lunch today. (16a) actually expresses a modalised version of this proposition, namely one which expresses the proposition along with a phatic commentary, whose function is to observe the social deixis required by the situation of calling off an appointment.

I refer to this process of modalisation as relativising, and the expression of social attitudes is only one form of it, associated with predicates such as regret. In such cases it is obvious that the crux of the message is given by the apparently dependent clause (hence a UA), while the apparently dominating clause serves to situate the message in the outer world of social attitudes proper to the speaker.3

There is, though, an even greater difficulty than opacity (which, as I will show below, can be naturally explained in a discourse grammar). The problem of relativisation, stated simply, is: the whole range of ‘propositional attitude’ verbs is frequently used not to predicate a propositional attitude of their subject but to express a degree of relativity towards the embedded proposition. Example (19a), for instance, normally expresses no real belief vis-à-vis its complement:

19. (a) I believe this is yours.
It is, rather, a polite or self-depreciating way of saying ‘This is yours’. I will look at this too in greater detail below.

The problems surrounding the concept of relativisation have on the whole gone unnoticed in both philosophical and linguistic accounts. Relativisation is associated with the notion of information – if the complement proposition brings new information to the total, this has an unexpected effect on the predicate of the MP: it relativises the complement proposition to its social or attitudinal context. Here are a few more examples:

(b) **It is regretted that** pets are not allowed in the hospital.
(c) **The hotel staff hope that** you’ve enjoyed your stay at the Fairmont.
(d) **I imagine** you’ll want to freshen up.

In each case, the proposition grammatically in the subordinate clause represents the normal informative message-content of the utterance. Conventional linguistic and logical analysis, however, tends to follow the syntactic indications in assuming that the grammatical main clause contains the main semantic material also.

9.2 World-building predicates

In this section, I want to pay special attention to WB elements (see Chapter 7) which are themselves predicates. There are at least five classes of world-building predicate:

I **propositional activity** (*say, realise, know, believe*),
II **attitude** (*regret, hope, want, dream*),
III **aspect** (*stop, keep*),
IV **modality** (*may, must have*) and
V **iteration** (*be bald, punch*).

It is no accident that this is a familiar list, for the relativising predicates include both the so-called ‘presupposition-triggers’ (Levinson 1983: 181 ff., cf. also Seuren 1985: 230 ff. and van der Sandt 1988: 9–10) and the opacity-inducing predicates. In terms of the information contained respectively in the matrix proposition and the embedded proposition, there are just three possible combinations, as we saw above (CG = Common Ground):

A: NOT IN CG + NOT IN CG
B: NOT IN CG + IN CG
*C: IN CG + IN CG
D: IN CG + NOT IN CG
Pattern A is completely new; patterns B and D are partly new; pattern C is entirely old, and therefore in violation of the principle of communicativeness: it adds nothing to the CG. In each case, I will give contextualised examples in which P (shown in bold type) is respectively in the CG (+CG = pattern B) and not in the CG (−CG = patterns A or D). UAs constitute the latter case. The relevant predicates appear in small capitals.

9.2.1 Propositional activity

20. (a) +CG (pattern B)
George had heard that he had passed his driving-test. George’s mother swore that he had passed his driving-test. George knew in his bones that he had passed his driving-test. But he didn’t believe it until the Chief Examiner TOLD him he had passed his driving-test.

Propositional activity (PA) includes both linguistic and mental activity. If the proposition embedded below such a predicate is + CG, then the PA verb is truth-conditional (i.e. must be taken literally) although the authoritativeness of the speaker remains a factor in its truth-assessment, as (20a) clearly shows. Tell is not in itself factive, but given a highly authoritative speaker, it approaches factivity. So-called factive verbs such as know, realise, on the other hand, are not always predicative of truth. In fact, this property depends entirely on the pragmatics of the proposition they ‘govern’. No amount of factivity in the matrix verb can guarantee the truth of a proposition expressing a non-verifiable state of affairs:

(b) I know that my Redeemer liveth.
(c) I realise that I’ve offended the fairies.

Since the highlighted part of (20a) is already in the CG, the new information in this sentence must be contained in its matrix clause, or otherwise the sentence would be in violation of the condition of informativeness. Thus, truth-assessment will be carried out on the propositions contained in the matrix. Depending on the previous context (i.e. the CG), either or both of told or the Chief Examiner could be in focus (i.e. a new or a contrastive item). If told alone is in focus, then it is assessed as truth-conditional; if the Chief Examiner is in focus, either alone or with told, then the scale of authoritativeness still applies. In (20a), assuming no further context, the focus of the last sentence is likely to be the Chief Examiner, which is probably contrastive in this context (with George’s
mother, and George (himself)). Then, the point of the sentence is to stress that only the top authority is sufficient to convince George in this matter. (Note in passing that full conviction is expressed by believe, not know).

20. (d) – CG (pattern A)
The Chief Examiner told George that he'd passed his driving-test. Later, George saw that his name wasn’t on the pass-list. But this didn’t really worry him.

When used above a proposition which is not yet in the CG (– CG), PA predicates also relativise it along a scale of speaker authoritativeness, hence message reliability. So, in (20d) the proposition that George has passed his driving-test is not yet in the CG at the time the highlighted section is uttered. This weakens the impact of its matrix clause, as compared with the opposite case in (20a) where the latter carries the information load of the sentence. The (20d) kind of situation is equivalent to a simple assertion ‘George passed his driving-test’, together with the grounds for believing this to be true: ‘The Chief Examiner told him so.’ Degree of probability is assessed by considering the predicate itself: tell constitutes an opaque context, in conventional terms, since the truth of a proposition that someone simply tells you cannot be guaranteed on that evidence alone. However, if that someone is authoritative with respect to that subject-matter, then the probability-assessment of the told proposition is correspondingly raised.

9.2.2 Attitudinal predicates

Attitudinal predicates, taken literally, express the speaker’s emotional response towards the proposition embedded below them. They are usually factive (so-called), i.e. not opacity-inducing. If the embedded proposition is + CG, then as in the previous case the burden of informativeness is on the matrix clause, which will therefore be assessed truth-conditionally. Nevertheless, complicating social deictic factors – chiefly, politeness and irony – do exist.

21. (a) + CG (pattern B)
He left the Mayor in the car. The young priest, he knew, was at the church […] Outside the Mayor impatiently sounded the horn.
'I'm sorry to have kept you waiting.' Father Quixote said.

(Greene 1982: 43 f.)
This exhibits the most straightforward case of pattern B, where \( P \) is in the CG (here, clearly inferrable), and the MP obviously contains a sincere use of the attitudinal predicate.

(b) + CG (pattern B)

'Torquemada at least thought he was leading his victims towards eternal happiness.'
'And Stalin too perhaps. It is best to leave motives alone, father [ . . . ]
'So Franco succeeds Torquemada.'
'And Brezhnev succeeds Stalin.'
'Well, father, we can at least agree with this: that small men seem always to succeed the great, and perhaps the small men are easier to live with.'
'I'm glad you recognize greatness in Torquemada.'

(Greene 1982: 47)

This is a more complicated case: the gladness comes from satisfaction at winning a debating point, which again is in the CG by inference. However, the communicative intention here is clearly ironical: the inference attributed to the Communist mayor (Quixote's modern Sancho Panza) hardly being one which he would accept into the CG. Nevertheless, the superficial meaning is as we have described it.

If the embedded proposition is – CG, then the literal meaning of such matrix predicates can be much weakened: they often become, in effect, conventional and polite rituals, or 'phatic communion', in Malinowski's ringing phrase. The Miss Otis sentences, discussed above, also provide relevant examples here.

(c) – CG (pattern A)

Father Quixote returned to the bishop in a troubled state of mind, carrying with him a half-bottle of malaga. He was glad when the bishop accepted a glass and then a second one. Perhaps the drink might confuse his tastebuds.

(Greene 1982: 16 my emphasis)

In this case, glad is polite rather than accurate, (an accurate rendering might be 'relieved' rather than 'glad') and this is a nuance which can only happen with attitudinals and in the – CG situation. Thus, glad in (21b) really means 'glad', at least on the non-ironical surface level; but glad in (21c) means something else, at all levels. Nevertheless, in many cases of UAs under attitudinal predicates, especially those expressing stronger attitudes, the matrix verb is fully truth-conditional. Some matrix verbs, on the other hand, such
as *fear (that)*, *be afraid (that)*, are rarely truth-conditional, so they almost always introduce a UA. For a fuller discussion of this class of predicates, see Werth (unpublished c).

9.2.3 Aspectual predicates

Aspectual predicates are somewhat similar to attitudinal ones, except that they remain truth-conditional in both circumstances:

22. (a) + CG (pattern B)

In their youth, both brothers had been avid philatelists. In middle age, though, George enthusiastically **continued collecting stamps**, but Norbert had long ago **stopped sticking the little bits of paper into albums**.

(b) − CG (pattern A)

In response to the Presidential appeal for a kinder, gentler America, Gordon **stopped beating his wife**. His wife, however, **started to beat Gordon**.

The special feature of the aspectuals is their tense-like behaviour, which constitutes the relativising effect in their case. Thus in (22b), the locution *Gordon stopped beating his wife* contains the following propositions and assumptions:

(i) Activity *a* was of Gordon beating his wife.
(ii) Gordon no longer performed activity *a*.
(iii) Previously to the reference-time of the text, Gordon had performed activity *a*.

Thus comparing a locution with an aspectual to one without (e.g. *Gordon beat his wife*), the aspectual situates the ‘simple’ activity with respect to the reference-time (RT) of the text. The predicates *stop, cease, finish, discontinue, no longer*, etc., place the embedded proposition **before** the RT; *continue, keep (on), remain, carry on, persist in, still*, etc., place it **at the same time** as the RT; *start, begin*, etc., place it **afterwards**. This applies whether the embedded proposition already occurs in the CG or not. The predicates *remember* and *forget* should also probably be placed with this group, although their behaviour is somewhat less regular than that of the other members.

9.2.4 Modal predicates

**Root modality** is truth-conditional only in the case of *can*, in its ‘pure ability’ sense, and *used to*. The other senses of *can*, and the rest of the root modals, have an element of **intentionality** in them,
whose force (i.e. closeness to an 'unrefusable command') is assessed in terms of speaker authoritativenss, together with the inherent forcefulness of the modal selected (e.g. must and will are 'highly forceful' whereas could and might are 'low' in forcefulness). These different possibilities are exemplified in (23).

23. (a) + CG (pattern B)
    Uh-oh, here come some Douane officers. John, you can speak French. YOU tell them about the herbal tobacco.
(b) - CG (pattern A)
    Well, I live and work in Holland. My hobbies are reading and playing the violin. I can speak French and some Dutch. I have no vices, and few virtues . . .
(c) +/- CG (pattern B/pattern D)
    Didn't you use to live in York? No, but I used to go there at least once a week.
(d) -/- CG (pattern A/pattern D)
    You will be taken from this court to one of Her Majesty's high security prisons, and there you will serve out the rest of your days in penal servitude.
(e) - CG (pattern D)
    Stop worrying about your exam! You'll pass it with flying colours. Believe me, a mother knows these things.
(f) - CG (pattern A)
    As a Queen's Counsel of many years experience, I consider that you could try pleading not guilty on grounds of diminished responsibility.
(g) - CG (pattern A)
    Well, I dunno, Des. You could try pleading not guilty because you've just been ill, I suppose.

In (23a), I assume that 'x speaking French' is implicitly in the CG since the participants are obviously faced with French-speaking Customs officials. In (b), on the other hand, this proposition is in no way inherent in the context. In both cases, though, 'ability can' is truth-conditional (though since there are degrees of speaking French, one could argue that its truth-conditionality is gradated). The form of question in (c) assumes the probability (in this case mistakenly) that its proposition is in the CG. The assumption is nevertheless straightforwardly truth-conditional, as is its response. (23d–g) all contain non-truth-conditional root modals. (d), obviously uttered by a judge – a highly authoritative figure in that CG - brooks no refusal: it has the status of an unimpeachable account, albeit of future events. (e), on the other hand, is supported (insofar as the world of examinations is concerned) by no more
than a Jewish mother's unshakeable faith in her son. Thus, for the onlooker, it has the status of a personal wish, however fiercely expressed, and is neither an unrefusuable command, nor a reliable prediction. (f), though using a low force root modal, has a highly authoritative speaker, which increases the force of could from a statement of possible action to a fairly strong recommendation. (g), though, with its low authority speaker, remains no more than a tentative suggestion.

**Epistemic modality**, conversely, is always probabilistic, i.e. such modals relativise their embedded proposition along the scale of **probability** (see section 5.3.3). Epistemics are exemplified in (24):

24. (a) + CG (pattern B)
   From the size of these tracks, there **MUST** be an enormous hound in the vicinity, Holmes.
(b) + CG (pattern B)
   That **COULD** of course be the case, Watson. But if
   – CG (pattern A)
   such a beast does indeed exist, it might **BE UNWISE** to stand just there.
(c) – CG (pattern A)
   By Jove, Holmes, it **MUST HAVE** been an uncanny sight!
(d) + CG (pattern B)
   It **MAY HAVE** been an uncanny sight, Watson. On the
   – CG (pattern A)
   other hand, it **COULD HAVE** been that funny little man over there in the Snoopy costume.

Epistemics operate along a scale of probability. Epistemic **must** (and its past tense equivalent **must have**) predicate virtual certainty of the proposition beneath them, normally acquired indirectly from evidence (e.g. the tracks in (24a)). **Could, might** and **may** (and their past tense equivalents) all predicate no more than possibility, i.e. they occur approximately halfway along the scale. An interesting and possibly significant fact is the apparent homomorphy between this scale and the scale of forcefulness which we needed for the root modals. That is to say that perhaps at some cognitive level, we equate force of intention with probability of occurrence (cf. Sweetser (1982, 1990: Ch. 3), who makes this equation via metaphorical mapping). Irony (as in (24d)), like authoritativeness, has an effect on the assessment of truth or probability, but it appears to be an inverse effect, i.e. it raises the assessment of items low on the probability or force scale, and it lowers that of items high on one of these scales.
9.2.5 Iterative predicates

Finally, iteratives are state or event predcations which present a situation as actual within the text world (cf. Langacker’s ‘perfectives’, in (1987b: 78 ff.)). This means that any NPs associated with such predications must be referential, and in particular, existential (again, both within the particular text world). (For some discussion on this point, see Werth (1980).)

25. (a) + CG (pattern D)
Mrs Hellstrom lived in that peculiarly English kind of squalor achieved by elderly unmarried ladies who love animals. There seemed to be dozens of small canines and felines underfoot and on every available surface. As I stumbled into the darkened living-room, a small dog bit me.

(b) – CG (pattern A)
Dogs of all shapes and sizes came streaming out of the houseboat. Amsterdam’s famous ‘dog-boat’ was being demolished.

(c) – CG (pattern A)
Some dogs were patrolling the factory premises. I decided that I would leave to a later occasion the opportunity to become more closely acquainted with the Rottweilers and Dobermanns.

Here are some non-iterative examples, for comparison:

26. (a) A dog bites from fear.
(b) Dogs come in all shapes and sizes.
(c) Some dogs patrol with great enthusiasm.

The iterative predication is at the basis of a state-of-affairs predication. This in its turn is a complex of certain kinds of predicate, in particular contextual circumstances, involving deictic conditions such as tense, concreteness and specificity. Given such a strongly slanted predication, the presumptions on its subject are very strongly existential – but that existence is in the text world stipulated by the discourse. Thus iterative predicates function to relativise the embedded proposition to the text world context, and specifically in terms of existence or possession.

I suggest that iterativity, therefore, is simply the function-advancing phenomenon in text-world operation, as distinct from the deictic or world-building function (see Chapter 7). Anything predicated in a function-advancing proposition in a text world is, then, necessarily referential within that world.
The effect of these different classes of relativisers is to modify in some way the assessment of the truth of the propositions within their scope. We can present this in tabular form (see Figure 9.1).

From the list in Figure 9.1, it may be noted that relativisers of propositional activity, of attitude and of modality are all protagonist-orientated, whereas relativisers of aspect and iteration are situation-orientated. This is directly related to the truth-conditionality of the predication: the situation-orientated group is always truth-conditional; the participant-orientated group is, on the whole, non-truth-conditional.

It is, however, instructive to examine the apparent exceptions, which are:

(i) attitudinal predications where the embedded proposition is already in the CG (i.e. the type which I take to exemplify standard presuppositional behaviour);
(ii) the few root modals (or, more neutrally, ‘anomalous finites’) not expressing intentionality.

The first class of exceptions involves predicates such as hope, regret, fear. These may vary as to truth-conditionality: to my ear, the last of these, when used with a that-complement, is perhaps never truth-conditional, since it always expresses a subjective response to the embedded proposition. This implies that ‘x fears that p’ is truth-conditionally equivalent to ‘p’, at least in the UA reading that we are discussing. Thus:
27. (a) I fear that you have failed

is equivalent to:

(b) You have failed (+ I am concerned that this is true).

Does the second proposition in (26b) affect the truth of the first? I would say it affects the truth-assessment of the first, by relativising it to the attitude of the speaker. Although the assessment of the probability of You have failed on its own is straightforward, the assessment of its probability when embedded under I fear is complicated by the question of the speaker’s authority for saying this.

A more important difficulty, then, is that of truth-assessment, notoriously problematic with cognitive states (and cf. the discussion in section 5.3.3). It is not merely that we have no method of verification, but rather that these states may be mixed with others, with no way of adjudicating the proportions. Thus, to take an illustration sometimes used in the literature:

28. Jim regrets that he killed his father,

and assuming that Jim killed his father is already in the CG, the truth of (28) rests on the proposition that Jim regrets this act. But in order for this latter proposition to be truth-conditional, its model (the state-of-affairs it refers into – its text world) must make it possible to distinguish in principle what it is for the proposition to be true or false. My point is that the truth-rating in such cases is undecidable, however many values of probability there are. This applies to all the attitudinals, so it seems reasonable to conclude that they are all non-truth-conditional.

The second class of exceptions is a ragbag of so-called ‘anomalous finites’. Indeed, the very heterogeneity of this set leads one to doubt its unity. Thus, along with ‘ability’ can, there is used to and dare, both of them dubious as modals, since they have no epistemic sense, nor are they futurate, like the other root modals. Their classification with the modal set comes entirely from the formal behaviour they share with the true modals (though (iii) and (iv) only partially):

(i) defective paradigm
(ii) no subject concord
(iii) inversion with subject in questions
(iv) attachment of negative.
This distribution of properties, however, is shared with ought to, which is semantically a true modal. We must conclude, therefore, that it is the semantic properties which are decisive. If we define modals, therefore, in terms of the semantic properties of futurateness or epistemicity, we automatically exclude ‘ability’ can, used to and dare, and thereby our second class of exceptions to the generalization.

9.3 Accommodation

We now have some idea of the various types of UA and how they function. I now want to characterise the underlying process which operates to bring about the phenomenon. Consider the type of case shown in (11) where the so-called presuppositional content does not reflect backgrounded information, and therefore has to be regarded as assertive. In fact, the phenomenon of unconventional assertion precisely reverses the usual expression of presuppositions and assertions: thus, like presuppositions, UAs emerge in dependent structures – and in fact every so-called presupposition has a corresponding UA – but on the other hand, like assertions, they express new information.7

We can perhaps best characterise accommodation in the following way: accommodation is the presentation of new information in a backgrounded way. This means that if it is grammatically independent, it occurs in Topic rather than Comment positions, and if dependent, it occurs in non-dominant positions.

Both Karttunen (1974:191) and Soames (1982) regard the phenomenon as somehow anomalous, and a special form of presupposition which has to be incorporated into, and accounted for by, the general theory. The implicit claim, here, is that accommodation is, in a sense, parasitical upon ‘ordinary’ presupposition.

But, one has to ask, why are these things regarded as some kind of presupposition? The answer surely has to be something to do with their appearance: they look like presuppositions. But this is an aspect of their sentential form, and certainly should have nothing to do with speaker-presuppositions.8 I would suggest that the provision of new information, which Soames admits is the purpose of these phenomena, is functionally distinct from the purposes of presupposition.

Van der Sandt also attempts to include accommodation in his approach, but like the other accounts of this phenomenon I have mentioned, he regards it as a kind of ‘funny presupposition’, even
though he states that it is 'a well-known fact that presuppositional sentences are often used to convey new information' (1988: 10). For full discussion of these various approaches and others, see Werth (1986, 1993a).

9.3.1 The importance of being accommodating

What the preceding argumentation amounts to is that accommodation is actually one of the central processes of world building. The accommodation process represents an act of faith on the part of both speaker and hearer. The Speaker introduces new information a propos of some other information presented as more important. This is done in the belief that the Hearer will pick up the new information as new, and not anomalous. The Hearer, on the other hand, assumes that the Speaker is being coherent and co-operative in introducing this out-of-the-blue information as though it were already present in the CG. It is for this reason that I have referred to the phenomenon as 'Revealed Reference', since it requires a level of co-operation and open-mindedness on the part of S and H which goes beyond the normal assumption of tightly controlled world-building behaviour.

Thus the text-driven nature of discourse representation, discussed in Chapter 5, can be seen as a process by which the text-form is monitored and 'checked off' against the current CG, and specifically against the text world as it appears up to that point. The normal expectation is that discourse proceeds by way of Accented new information presented in independent grammatical form. Dependent grammatical form will not be fully Accented, but rather will display some degree of Reduced emphasis.9 This form of expression will normally be expected to correspond to given information, and the monitoring process will check this. In these fairly common cases the standing instruction is:

**Accommodation heuristic:**

*Where a dependent grammatical form contains new information, take it as coherent, but secondary, information. Increment it.*

Consider the case of logs in the Hemingway passage discussed above in section 2.5:

29. Dick Boulton came from the Indian camp to cut up logs for Nick's father.
This demonstrates what happens when an item is introduced via a character belief-world. The neutral form of reference establishment, it should be said, is as in the case of logs, with some kind of indefinite noun-phrase. Apart from logs, then, which is a belief-world entity, other referents established in the 'regular' way are cant-hooks and axes. In such cases, we would expect later reference to use the definite article: the cant-hooks, etc. But there is a third way of introducing new entities: by far the greatest proportion of noun phrases in the text have a definite article right from the start: the Indian camp, the woods, the back gate. They are not established in the normal way, with an indefinite article, but are given immediately as though already established (in medias res). We have no prior knowledge of any Indian camp, but the fact that its presence in this world is presented as part of the background tells us that it is to be regarded as an unremarkable background element. This last group constitutes the accommodation cases.

This is a very common device in fiction, but also perfectly normal in everyday usage. It is a way of presenting new information not by asserting it, but by giving it deictically, so that it is taken to be background material by the reader. (See also Werth 1993a.)

9.4 Unconventional assertions in a text-world theory

9.4.1 Overview

In section 2.2, I defined a text world as a subset D of deictic terms occurring among the actually expressed propositions in a discourse. In general terms, this was characterised as the conceptual space into which the discourse refers. Text worlds are not defined once and for all at the beginning of discourses; they are changing spaces, developing along with the discourse, and capable of being modified.

So, deictic and referential elements are given by the discourse, and they specify such things as place and time details, the persons and objects present in this world, with their properties and interrelationships. These various elements, in their turn, activate areas of memory in those taking part which relate to areas of experience and knowledge, encoded as frames (cf. Fillmore 1985 and section 4.4 above). A text world, we have posited, is a special case of a frame generated ad hoc for a particular discourse; it activates further generalised situation-types which are stored frames, and which operate to 'flesh out' the indications contained in the discourse.
9.4.2 Using the text worlds approach

I previously brought up the question of how a so-called non-referential object such as logs is to be handled in the very concrete model of discourse set out above. This state of affairs is of the kind discussed extensively earlier in this book: within the text world, which is 'externally' specified by the discourse, there also exist 'belief-worlds', which are 'internally' specified by the characters. These are also expressed in the discourse, but they have a different status from the propositions denoting the text world, since they lead to problems of referentiality, opacity, projection, etc. (cf. Chapters 7 and 8 above). The belief-worlds of the characters may turn out to be consistent with the main text world, contradict it, or even be logically incompatible with it. In this particular case, the existence of the logs in the main text world is confirmed ten sentences later.

The model which I am proposing is based on assumptions about the speakers who construct discourses, and apply equally to the characters peopling these discourses. If I say any of the following to a friend in the appropriate social context:

30. (a) I think Manchester United will win
(b) Manchester United are gonna win for sure
(c) If you wanna know what I think – United’ll pull it off
(d) I just know United’ll win

he will certainly interpret it as predicting that Manchester United will win some impending football match. What are the components of this prediction? The first is the proposition that Manchester United will win, and the second is a relativising context. We might ask, though, why is it that the proposition is not uninterpretable? After all, it is in an opaque context (in most cases). Conversely, if it is (30d) that has been uttered, why is it that this is considered practically the same as (30a–c), despite the fact that it contains a factive verb, and therefore provides a transparent context for its embedded proposition?

Perhaps I am simply substituting the term ‘relativising’ for ‘intensional’ or ‘opaque’? There is an important difference, however. A relativised proposition still has a perfectly calculable truth-value (or rather a probability-value); an opaque expression, on the other hand, is quite simply undecidable as to truth-value. The approach via discourse reveals that this traditional problem has been a delusion, and provides a natural way of characterising how the meaning of relativised propositions is to be explained.
I am assuming that in the case where I am uttering the sentences in (30), I am projecting a text world in which Manchester United wins, and I am informing my listener how that text world hooks on to the situation of the current discourse. That is why it is sometimes important to be able to include in one’s assessment of the relativisation some evaluation of the authoritativeness of the speaker. Thus the joint perceptions of the participants go into the construct that we call the discourse world (cf. Chapter 3), within which the speakers will also negotiate a text world. Whichever kind of construct is appropriate in a given case, it has been jointly negotiated, and its conditions and values are jointly known, so in the context of the construct propositions may be jointly evaluated for their degree of likelihood.

Text worlds are constructs which are relativised to the discourse situation (the immediate situation of the discourse). Relativisation may be by various means:

- deixis and reference
- propositional activity
- attitudinals
- aspectuals
- modals
- iteratives
- conditionals
- hypotheticals
- social deixis.

These are not all totally distinct from each other: in particular, as we have seen, aspectuals seem in many ways to be equivalent to tense, which is deictic; iteratives are bound up with referentiality; conditionals and hypotheticals have much in common, and like social deixis (including politeness phenomena), use the ‘remoteness’ system, which is parasitical upon deixis. As we have seen in the previous chapters, text worlds may themselves contain embedded text worlds, or sub-worlds, having exactly the same kinds of possible relativisation relationships. Sub-worlds may themselves contain sub-worlds, and so on.

We are now in a position to characterise the notion of relativisation more precisely. It is part of the system of modality, which in general terms relates the propositional content of the discourse to its setting. The most concrete manifestation of the setting is the discourse world, which, though a conceptual construct, like all the worlds we deal with, is perceived as being close to what we call
'reality'. Relativisation at this level involves deixis and reference, iteratives and social deixis. To the extent that a text world is derivative of its discourse world, the world-building process is a relativising one. Since deixis essentially involves the basic co-ordinates <here> and <now>, both of which are located in the discourse world, it is a relativising operation: deixis relativises the location and time of the discourse to these basic co-ordinates. To the extent that the nomination of text-world characters and objects (i.e. reference establishment) is based on equivalent discourse-world characters and objects, then it too is a relativising operation: 'counterparts', for example, must be compared to their discourse-world originals. Iteratives are the essential function-advancing predicate category for text worlds, although they do not necessarily function to relativise the text world to the discourse world, but rather to relativise the text-world foreground to the text-world background. Finally, unless the text world is founded on an entirely fictitious culture (for example, Frank Herbert's *The Dosadi Experiment*), then social deixis is founded on the cultural norms (represented in the discourse world as being) established in its corresponding reality.

The remaining relativising contexts in the above list are among the sub-world types dealt with in the previous chapter. This suggests that their relativising function takes place between sub-world and text world, or possibly within sub-worlds. For this kind of relativisation, then, the world-building predicate functions as an attitude held by a character which builds a sub-world. Within the sub-world, the dominated *P* is a function-advancing proposition which is to be taken at face value. *Relativisation as a process is thus seen to be a side-effect of world-building.* The difference between an unrelativised proposition and the 'same' proposition in a relativising context is that the former simply occurs as a function-advancing proposition in its text world, whereas the latter is built into a sub-world of the appropriate kind (i.e. as signalled by its world-builder, the relativising context). The world-builder also signals what kind of relativisation is going on.

To return to the Hemingway example, we may now characterise the text world given in Figure 2.1, section 2.5, as being relativised by the deictics and references to the outer aspect of the reader’s situation (and originally to the writer’s situation). At certain points, this text world contains sub-worlds, which contain the contents of characters’ text worlds, relativised to their world by the same range of devices. For example, Dick Boulton’s intention ( (1) in Figure 2.2 in section 2.5) is characterised as a sub-world in which the
The proposition ‘Dick Boulton cuts up logs’ holds. This sub-world is relativised to the text world depicted in Figure 2.2 in section 2.5 by the purpose clause construction. We may therefore easily interpret this proposition as something which constitutes an intended action, and wait to see whether this intention ever becomes reality in the text world. In this case, Dick’s cutting of logs will be a proposition in the text world, as well as in the sub-world. Notice that in the sub-world, since the proposition that Dick cuts logs holds, there must be logs. In the text world, though, these logs remain in Dick Boulton’s intention-world until otherwise determined.

Abductive inferences, on the other hand, are not made by characters, but by recipients (listeners/readers). Consider ‘The Indian Camp is in the woods’: the reader has constructed a text world such as is shown in Figure 2.2 in section 2.5. That text world is indeterminate in certain respects, since the information given is not always complete. However, there is a potential chain of inference based on the Path a which holds that there is a possibility that the Indian camp is in the woods. I suggest that this is equivalent to a modalised statement like: ‘The Indian camp may be in the woods’, and that both would be handled in the text-world/sub-world setup by creating a sub-world in which the proposition that the Indian camp is in the woods holds, and relativising this to the text world by means of the epistemic modality of possibility. This sub-world is then retained until further evidence is acquired, at which time, if the evidence is conclusive one way or the other, the sub-world is ‘closed down’.

Briefly, the opacity and reference problems associated with real propositional attitude sentences resolve into two parts: how to express the propositional attitude itself; and how to ascertain the meaning of the subordinate clause. I propose that the machinery of text worlds and sub-worlds will handle these cases: in general, the propositional attitude will operate in the text world, and will have the effect of establishing a sub-world (a belief world or whatever), in which the subordinate clause will operate. In the non-relativised cases, the sub-world formed is at a remove from the text world in which it originates. Thus its contents cannot be verified in the text world, but only in the sub-world itself. Thus, in the mini-text:

31. John went home. At least, I think John went home

the P ‘John went home’, which would otherwise be incremented, is rendered opaque by the verb of propositional attitude think. The listener therefore must remain uncertain as to John’s where-
about. This is the traditional opaque context and is shown graphically in Figure 9.2.

![Figure 9.2](image)

With relativised propositions, the sub-world is formed as part of its originating text world: thus its contents are in principle accessible from its containing text world. (For the necessary distinctions, see Chapter 8.) For example:

32. I think I'll go home now.

Here, the information-content of the utterance is contained in I'll go home now, and I think serves to suggest the speaker's reluctance, or politeness, or other possibilities depending upon the social context (Figure 9.3).

![Figure 9.3](image)

Sentence-grammars (i.e. most current approaches) cannot in principle distinguish between these two possibilities, since in order to do this, you need to take a contextual viewpoint.
Notes

1 He does not, however, comment on the very common kind of circumstance where the information contained in the subsequent presupposition is present in the previous text (or, *a fortiori*, in the discourse), but in scattered or disguised form, as for example in text (10).

2 Synonymous or near-synonymous because they denote situations where either the Speaker or Miss Otis or perhaps both are sorry.

3 Assuming, of course, that the 'most important' function is the purveying of a message. It might be that the relativising of this message in terms of its reliability or probability outweighs the content of the message itself. But to decide this would require a much more powerful theory of communication than we now have.

4 In order to examine this phenomenon properly, you have to do so from a viewpoint which includes both the complex proposition and its context. But most contemporary theories in linguistics and formal semantics take only the proposition (i.e. the sentence-isolate) into account.

5 Of course, as Geoff Leech has pointed out to me, there have been observations dating back to the early 1970s that tag-questions, for example, agree with the embedded clause rather than the matrix – but, note well, in exactly the same types of sentence.

6 Example from Mick Short, with thanks.

7 Note, however, that UAs do not have to occur in declarative sentences. Cf. the discussions of presuppositions in indirect questions and non-declaratives in Karttunen and Peters (1976, 1977), Kempson (1975), Levinson (1983), Seuren (1985).

8 Perhaps with utterance-presuppositions, but these too are based on – or ‘closely related to’ (Soames 1982: 486) – speaker-beliefs and not at all on form. Soames also has sentential-presuppositions, but these are derived from utterance presuppositions, rather than the reverse.

Chapter 10

Linguistic perspectives on incrementation

10.1 Incrementation

A point made rather frequently in the foregoing pages has been the lack of fixedness of text and other levels of world. A world is set up in the first place in order to satisfy a particular set of contextual requirements in a discourse. But since a discourse is not itself a fixed sequence, but a changing activity, it follows that any world which represents it will necessarily reflect any alterations brought about by these changing circumstances. In the present chapter, we will return to the largely deictic processes which help to regulate this process of incrementation. I will propose that incrementation is actually an integrated three-fold process, consisting of reference-updating, deixis-updating and predication-updating. These elements of the process are in their turn dependent upon the referential, deictic and predicational composition of the ongoing text world, each of which we will now review.

10.2 Reference-updating and anaphora

In Werth (1984: 61), I broadly defined anaphora as follows:

a semantic relationship between one entity (call it A), which may be linguistic or not, and another one (call it B), which has to be linguistic, such that in some text world, B corresponds to A.

See also Werth (1984: 4.21 and Ch. 8) for further explanation. My intention in the present section is to explore the notion of ‘correspondence in a text world’ to which I will also add ‘correspondence between worlds’. In Chapter 7 above, there is an example of cross-world anaphora. I will attempt to find any regularities that may be stated about this variety also. We will also see what insights this brings to the question of text world incrementation.
10.2.1 Correspondence in a world

Once the WB parameters of a world are set up (and amended from time to time as the discourse proceeds), then anaphora is a question of simple reference-chaining (see Chapter 6 above). This applies whatever the nature of the antecedent: it may be what is traditionally called ‘referential’, but it may also be any of the non-referential varieties. Once it has been nominated, whether it is an imaginary entity, an abstraction, a speculative construct, a set or a quantified potential, it is deemed to be present in its text world. The only issue of real interest is the question of which anaphor to use in a given circumstance. The alternative possibilities are:

(A) pronouns of all kinds, except in 1st and 2nd person
(B) one-anaphora
(C) zero-anaphora
(D) one or another form of definite NP:
   (D1) repetitions
   (D2) epithets
   (D3) virtual synonyms
   (D4) metonyms

I will now illustrate all these possibilities in a text based on a passage from Evelyn Waugh’s The Loved One (my additions are marked by square brackets). The various possibilities in the above list are indicated by examples from only one reference chain:

1. (a) We had an unfortunate case some years ago of a very decent young fellow [and a reasonably well-off one (B), too] who (A) came out as a scene designer. (C) Clever chap but he (A) went completely native – (C) wore ready-made shoes, and a belt instead of braces, (C) went about without a tie, (C) ate at drug stores. [Even the accent (D4) began to take on a nasal quality.] Then, if you’ll believe it, he (A) left the studio and (C) opened a restaurant [an Italian one, of course] with an Italian partner. (C) Got cheated, of course, and the next thing he (A) was behind a bar (C) shaking cocktails. (C) [Did it with a flick of the wrist (D4).] Appalling business. We raised a subscription at the Cricket Club to send him (A) home, but the blighter (D2) wouldn’t go. [The fellow (D1)] said he (A) liked the place, if you please. That man (D3) did irreparable harm, Barlow. He (A) was nothing less than a deserter. Luckily the war came. He (A) went home then all right and got himself (A) killed in Norway. He (A) atoned, but I always think how much better not to have anything to atone for, eh? (Waugh 1948; my additions in square brackets)
(1a) is an anecdote told by a character in the novel. So for us it is a narrative sub-world, though for the character and his listener, it is a narrative text world. It is generally assumed in orthodox grammar and semantics that anaphors must be bound to an antecedent element. I would agree with that description, though I would describe the process of binding very differently from the conventional approaches (none of which works for all cases). Binding in discourse results not from all-or-nothing rules identifying, for example, linked syntactic positions, but rather from a rational process of hypothesis-formation based on the text-world situation as it is at the moment of interpretation. The advantage of this over the syntactic solution (apart from the fact that it works) is simplicity and flexibility.

Consider the very first anaphor in the text, the relative pronoun who. A typical generativist account of this, for example, will maintain that the complement position (COMP) in which who sits ‘governs’ the V” came out as a scene designer and functions as a ‘landing site’ for the missing thematic role there. The COMP is in its turn governed by an N” (or NP) in the upper clause, which therefore provides the interpretation for the missing NP role. The explanation for the pronoun he in The fellow said he liked the place or the zero-anaphor in he was behind a bar Ø shaking cocktails is similar. But the account of he in Clever chap but he went completely native, or the zero-anaphors in Ø wore ready-made shoes ... Ø ate at drug stores, or he left the studio and Ø opened a restaurant is different, involving ‘disjoint reference’ (see Werth (1984: Ch. 8), for criticisms of these and related notions). Of particular note here is that the latter set of cases, involving disjoint reference and other processes, are in generative terms not anaphoric at all, but a third type of reference somewhere between antecedent and anaphoric reference. What this implies semantically is not clear. We have a reasonable idea of what antecedence is, and we know that anaphors have a relation of identity of reference or of sense with the antecedent at the beginning of a chain of connections. But what do disjoint referents refer to; what is their semantic function? If a disjoint referent is at the beginning of one of these chains (as must be the case for sentences like (He or Ø) Got cheated, of course, and the next thing he was behind a bar shaking cocktails), what is the eventual meaning of the anaphors later in the chain?

Irrespective of whether any solution to a partial or limited subset of cases works (and there is severe doubt about even this), it seems obvious that a very different approach is necessary here. Firstly, a general solution is clearly preferable to a limited one.
Secondly, a motivated solution is preferable to an ad hoc one. And, thirdly, a solution which refers to people using language in real situations is preferable to one which considers language to be a system of signs divorced from real settings.

Cognitive Discourse Grammar (CDG) offers these preferred solutions. Anaphora is considered to be a unitary phenomenon: the only distinction necessary is within-world and cross-world anaphora, which are in any case fundamentally similar. In broad terms, CDG follows the general tenet of Cognitive Linguistics that sameness of form implies shared meaning. This applies to anaphors no less than any other phenomena. Thus there is no artificial distinction made between ‘true’ anaphora, on the one hand, and disjoint reference or free (or ‘arbitrary’¹) reference (latterly known as PRO) on the other. This amounts to a distinction between sentential phenomena (though excluding conjunction and parataxis), and discourse phenomena. The basic function of everything I call anaphors, on the other hand, is to maintain reference – if an item so functions, then it is an anaphor, and a theory accounting for it has to be found.

Anaphors, then, are reference maintainers. This implies that they are specialised forms whose function is to maintain a particular concept in the active register of the discourse. In order to do this, it is essential that they be traceable to the concept they are maintaining. Generative theory does this by an elaborate syntactic system of protocols and restrictions. CDG does it by two commonsense recommendations:

**Anaphora rule:**

(a) The text world state-of-affairs is defined by its CG.

(b) Interpret an anaphor by using the CG to keep track of the entity it refers to in the TW.

These misleadingly simple dicta are actually instructions to keep a watch on the frame relationships (cf. section 4.4) built up as the discourse proceeds. Frame relationships may be thought of as scenarios which trace the interrelationships of all the entities (i.e. characters and objects) in the text world. Text (1a) concerns a young man in his interrelationships with the studio and its location (Hollywood), his dress and habits, a restaurant, an Italian partner, a bar, cocktails, the Cricket Club, home, the war, Norway and, not least, the speaker and his coterie. If we consider (1a) to be tracing a
series of states of affairs involving the young man with these various other entities, then keeping track of the anaphora in the text is in effect keeping track of these relationships. So, for example, how do we know that it was the young man who got cheated, and who ended up behind a cocktail bar, rather than the Italian partner? The answer is that if it were the latter, then the text would suddenly involve the Italian rather than the young man. Such topic-switches are not impossible, but they have to be signalled. Consider another example from (1a) (not coded in the text, since it is not in the reference chain of the young man):

1. (b) We raised a subscription at the Cricket Club to send him home, but the blighter wouldn’t go. The fellow said he liked the place, if you please.

The item the place is a very generalised reference to location – but which? The bar? The restaurant? The studio? The Cricket Club? Home? Hollywood? It is not possible in this case to be definitive, but nothing says that you always have to be. There are many cases where a range of possible meanings give a very clear sense of what is meant without the necessity of being absolutely precise. In any case, there are some interpretations we can definitely discard: he left the studio voluntarily, and the restaurant was a failure, so he is no longer there either. We know that he is working in the bar, and that this is in Hollywood, so those are both possible references. We can, though, interpret but the blighter wouldn’t go as elliptically meaning that he would not go home, so it is unlikely to be home that he is referring to. Furthermore, it is clear that he has no relationship with the Cricket Club except as a potential recipient of their largesse. So this place might refer either to the bar or to Hollywood, and our general knowledge tells us that it is more likely to be Hollywood than some nondescript bar, especially given the fact that no attempt is made in the text to particularise the latter.

Anaphora, then, falls out naturally from our reasoning about the situation in question. Where there is a potential ambiguity of chaining – as explained in the preceding paragraph – we assign a probability to each possible reference, based on our frame knowledge of the specific situation and our general knowledge of the situation-type. In the example of the place, then, we can assign a very high probability to Hollywood as the antecedent, and a low probability to a bar. See also Brown and Yule (1983), Emmott (1992, 1994, 1997: 28, 166–73).
10.2.2 Cross-world anaphora

Cross-world anaphora essentially involves what has been called the problem of *counterparts* (cf. Lewis 1968; Lakoff 1968; Fauconnier 1985). Counterparts are entities in different worlds which are equivalent with respect to some function:

2. The Chinese government must be secretly relieved that the British forced their predecessors to let them rule Hong Kong until 1997. If it had stayed in Chinese hands it would still be a small fishing village.

In this case we have an *if*-sub-world, projected from a text world containing the proposition that the Chinese government must be secretly relieved that the British forced their predecessors to let them rule Hong Kong until 1997. In the if-world there is a counterfactual WB assumption that the Chinese kept control of Hong Kong, with a further counterfactual, function-advancing, proposition that Hong Kong is a fishing village. Essentially, the problem of the counterparts, stated in the specific terms of this case, is how can Hong Kong be simultaneously ruled by the British and the Chinese? Can we hold, in other words, that the Hong Kong in the text world (the populous and energetic city we all know about) is the same Hong Kong as the fishing village in the sub-world? The answer is: yes, we do consider them ‘same enough’. The anaphoric pronoun ‘it’ in the sub-world means approximately ‘the same entity, but with the stated difference’. Such a difference can turn out to be absolute, because it operates in the totally conceptual world of a hypothesis:

3. If your father had an entirely different character, and he didn’t look so stupid, and he wasn’t your father, then maybe I’d get along with him.

All that remains of your father in this hypothetical world is his identity, which somehow carries across and remains quite distinct from his other ‘accidental’ characteristics.

However, as Fauconnier convincingly shows (1985: 35 sqq.), preservation of identity is neither necessary nor sufficient to guarantee cross-world anaphora. He cites one example involving a movie about Hitchcock’s life, directed by Hitchcock himself, and with Orson Welles in the title-role. Hitchcock himself plays a man at the bus stop. In such a case, cross-world anaphora preserving identity over the counterparts fails, since if we maintain that the real Hitchcock is identical to the counterpart Hitchcock, while Orson
Welles is also identical to the movie Hitchcock, then given that the counterpart Hitchcock is the movie Hitchcock, it must also be the case that the real Hitchcock is identical to Orson Welles. Other cases can easily be found. One is the famous (if scurrilous):

4. If Chomsky had been born twins, they would have hated each other.

No identity solution between counterparts can work here. On the other hand, the notion of correspondence works without strain. So we can easily hold the notion that in the Hitchcock example, there are two people in the real world who in some sense correspond to the movie Hitchcock: the original Hitchcock and the actor who plays him. In fact, figurative representations have this as a systematic ambiguity, cf. Jackendoff (1983: Ch. 11). Similarly, with (4) it makes good sense to say that the individual Chomsky in our world corresponds to twins in the hypothetical world, though we could not maintain identity between Chomsky and the twins.

What, then, is correspondence, if it is not identity (= equivalence)? Logical equivalence is an either–or notion, hence the problems encountered by logicians with counterparts. ‘An entity exactly like Hong Kong, but which was not ruled over for 100 years by the British simply cannot be handled by an identity statement. But the term ‘correspondence’ also has a logical sense (see O’Connor 1975). This essentially involves a belief, statement or proposition ‘matching’ the facts which it denotes. Obviously, such a broad characterisation requires more precision: what exactly are ‘facts’, and what does ‘matching’ involve? ‘Facts’, in the sense needed here, are not only filtered through our conceptual machinery, they are also actively shaped (‘interpreted’) by that machinery (see O’Connor 1975: 68). A purely objectivist view of something called ‘the outside world’ is, for us humans, an impossibility.

Correspondence, though, is more difficult do characterise, since, as O’Connor points out, the term is used in ordinary language with many possible kinds of application. The most obvious is one-to-one mapping. More difficult kinds of correspondence involve symbolic systems (O’Connor 1975: 74), where there is no necessary one-to-one match involved, and the relationship between the signifiant and signifié, as all structuralists know, is conventional (l’arbitraire du signe). An example would be a symphony and its score. So correspondence involves an isomorphism or mapping between what O’Connor calls status rerum and language. The thing that makes this relationship difficult to define is that a mapping, while retaining a general one-to-one character, is never complete
– a mapping is a representation, but not a duplicate. Furthermore, in practice, mappings are a mixture of iconic and symbolic representation: a street-map, for example, will contain lines whose topographical relationship is iconic with the directions and connections of the streets on the ground, but it will also contain purely symbolic signs, such as those for a church or a car park. We do not expect a map to contain a replica of a church; conversely, if our map has the symbol for ‘church’ at a particular location, we do not expect to find on the site itself a large black rectangle with a cross on top.

Returning to the problem of cross-world anaphora we can say that the relation holding between counterparts is correspondence in this general sense. Thus a Hong Kong never ruled by the British in the if-world of example (2) is indeed a mapping of the city that we know and love in our general knowledge – but, like all mappings, it is not complete and it differs in some aspects from the antecedent. The difference in this case is an important one, of course – Hong Kong’s British rule was a major factor in its growth from a small fishing village to a major city. Thus this is not merely a question of symbol simplification, as in the example of the church above. Symbol simplification falls out naturally from the fact that map-symbols have a practical purpose – to indicate in two dimensions the presence of a complex three-dimensional reality in a particular location. In the case of example (2), we can say that the mapping difference results from the exploration of an alternative reality, similar to our own in many ways, but containing at least that one crucial difference which is the whole point of the speculation. The if-clause in (2) is, by this approach, an invitation (what we earlier called a ‘WB assumption’) to take part in a thought experiment: ‘consider a world with Hong Kong in the same position as was in the 1980s, but having this crucially different property’. Let us now examine some textual cases of cross-world anaphora:

5. (a) ‘When I was a child I thought there was a dragon living here in an old dug-out down there among those trenches [. . . ]

‘Once I saw smoke coming out of a trench and I thought it was the dragon [. . . ]

‘All the world hated my dragon and wanted to kill him. They were afraid of the smoke and the flames which came out of his mouth when he was angry. I used to steal out at night from my dormitory and take him tins of sardines from my tuck-box. He cooked them in the tin with his breath. He liked them hot.’

‘But did that really happen?’
‘No, of course not, but it almost seems now as though it had. Once I lay in bed in the dormitory crying under the sheet because it was the first week of term and there were twelve endless weeks before the holidays, and I was afraid of – everything around. It was winter, and suddenly I saw the window of my cubicle was misted over with heat. I wiped away the steam with my fingers and looked down. The dragon was there, lying flat in the wet black street, he looked like a crocodile in a stream.’

(Greene 1978: 59 f.)

The principal WB element for the dragon world is the propositional attitude prediction I thought. This links the character’s discourse world (which is of course our text world) with an imagined world just like that inhabited by the character, except that it contains a dragon. Within that world, there are perfectly normal reference chains, such as:

(b) **He** cooked **them** in the tin with **his** breath. **He** liked **them** hot.

However, there is also quite a lot of cross-world anaphora, since the other characters in our principal text world (the narrator’s schoolmates) and the narrator himself behave as though the dragon world were assimilated into their real world.

(c) All the world hated my dragon, and wanted to kill him.
(d) I used to steal out at night from my dormitory and take him tins of sardines from my tuck-box.
(e) I wiped away the steam with my fingers and looked down. The dragon was there.

Normally, dream worlds, imaginary worlds and the like are insulated from the ‘reality’ of their containing text world, since their WB elements have the effect of separating them from the parameters of the text world. It sometimes happens, though – as in (5) – that fantasy and reality become intertwined. This can be used to represent madness, or, as here, the force of childish imagination. Yet this does not seem to affect the normal workings of anaphora. Consider the second sentence of (5b): **He liked** **them** hot. Here there are two pronouns: **he** in the reference chain of **the dragon**, and **them** in the reference chain of **the sardines**. Yet semantically, these two pronouns are quite different, since **he** connects up with the fantasy world of the dragon, while **them** connects up with the real-world item **sardines**. Yet the process of ‘connecting up’ is itself fundamentally similar: once the dragon in the fantasy world has been ‘made public’, as it
were, it is accessible from the main text world, and may be accessed by the same common-sense procedures of following the CG and tracing every anaphor back to a full antecedent.

It might be claimed that these procedures overlook a potential source of ambiguity: example (5d), for instance, might be seen as linking the text world with the sub-world of fantasy, or alternatively might take place entirely within the fantasy world. In this particular case, such a blurring seems integral to the discourse. But in all cases, this is a matter of the conceptual division between text world and sub-world, where different arrangements of 'original' and 'counter-part' figure in the two worlds. The fact that anaphora operates regardless of these distinctions seems to be prima facie evidence of a unitary account of anaphora not sensitive to world distinctions.

This means that same-world (or participant-accessible) anaphora and cross-world (or character-accessible) anaphora consist essentially of the same process of common-sense tracking of elements in the CG. The difference seems to be that in the former kind, identity is a sufficient criterion for anaphora, whereas in the latter kind (whose singularity often resides in the fact that they are exploring counterfactual or imaginary possibilities), what we might call 'motivated similarity' is often the point at issue. In other words, the differences between the two kinds of anaphora are actually differences in the function of the kind of world they occur in.

Cross-world anaphora can cross between text world and sub-world (as in the examples we have looked at), but it can also cross between discourse world and text world. This latter type is common, since it includes so-called 'pragmatically controlled anaphora' (Hankamer and Sag 1976) as well as ordinary demonstratives. In both, the antecedent is of the non-linguistic kind, i.e. some-object or situation manifest in the discourse world.

Such a system allows us to put reference and deixis where they belong: in the mind rather than in the world (pace Situation Semantics; Barwise and Perry 1983) or in the text (pace the Cohesion account; Halliday and Hasan 1976). Reference and deixis are mental constructs because they answer human conceptual needs: deixis defines the conceptual space appropriate for the processing of a particular discourse; reference fills the need to keep track of entities present in that conceptual space. If there were no linguistic beings, the world would have no reason for either process, so there is no justification for viewing them as ontologically real; furthermore, as is well known to everybody, including adherents of text-based accounts, both reference and deixis often occur 'extralinguistically', i.e. without the medium of text. The only factor
which is common to all occurrences of the processes in question is mental representation.

10.3 Deixis-updating and tense variation

We now come to the deictic sub-system of time. I have above shown (Chapter 6) that the basic temporal system of English has a parallel structure, consisting of three time zones corresponding to the possible relationships between Speech Time (ST) and Reference Time (RT) in a Reichenbach-type system, and then a ‘fine-tuning’ cycle, corresponding to the relationship between the time zone and Event Time (ET). In Chapter 6, these relationships were depicted as layers of detail: the ST/RT relationship providing the general time-signature, as it were, while the RT/ET relationship is responsible for the various possibilities within each time zone. In text-world notation, this can be depicted as shown in Figure 10.1.

Figure 10.1

This is a generalised diagram of the system. The ST/RT relationship is depicted by the larger squares. The Present, since it contains the egocentric ‘now’, is the central square, marked ST = RT. Future is iconically placed higher, to the right and in front; Past is placed higher, to the left and behind. The RT/ET relationship is shown within each square (and is of course the same for each time zone). The same iconicity is employed here, with RT in each case occupying a notional central point or zone. In any specific case, one of the time zones will be activated, say, the Past time zone (ST – RT), and within that, one of the tense areas, say
Past Perfect (RT - ET). In terms of text worlds, we can say that the general time-signature of a discourse, which sets the temporal part of the deictic specification of the corresponding text world, will be one of the time zones. Specific clausal tenses will correspond to a temporal area within the activated time zone. Changes of time zone within a single discourse are possible, but they are prime signals of a sub-world change of type (a) (see section 8.2).

In order to see how tense works across a discourse, and utilises the text-world system, let us examine a fairly long text.

6. **Students pluck Heart Strings of Hong Kong**

Steve Vines reports on the colony's new-found love of the mainland

Torrential rain was soaking the huge crowd listening with intense concentration to speeches denouncing Chinese Prime Minister Li Peng. Oblivious to the downpour, the mother of a four-year-old explained to her daughter that she had to raise her fist at the same time as shouting: 'Down with Li Peng.'

'Why are you here?' I asked her. 'It's the least we can do,' she replied. 'We are Chinese. We must support Chinese people.'

You have to pinch yourself to realise that you are in Hong Kong — a place where political activists could once have assembled in telephone boxes, where the mere idea of such activism was treated with derision.

Yesterday the youth of Hong Kong gave an exuberant display of their continued support for the democracy movement in China as hundreds of thousands packed into an open air pro-democracy concert featuring practically everybody who is anybody in the usually strictly apolitical world of Cantonese pop-music.

Many of the performers were in tears as they told television viewers why they were lending support to the event and described their feelings on hearing the latest news from China.

It has been the same story every day since the student protests began in earnest as the streets filled with hundreds of thousands of demonstrators yelling their lungs out in support of China's democracy movement.

Schools have ground to a halt as pupils have suddenly marched out of the gates in the direction of the New China News Agency, which acts as China's de facto embassy in the colony. Taxi drivers have abandoned their trade and formed long convoys to the agency building.

Even the bar girls took the night off last Thursday to stage their own protest.

Students have been at the centre of things, but the protests have embraced literally every sector of society, even employees of mainland China companies. Businesses have been keen to make sure their names were on lists urging support.
The newspaper Wen Wei Po, which made its name as the main apologist for every twist and turn of the Government in Peking, has given up all attempts to defend the Chinese leadership. The day after martial law was declared, it cleared its editorial column to insert four large Chinese characters saying: ‘With grief and sorrow.’

The students in Tianamen Square have done something the Chinese leadership, with all its talk of patriotism, has never managed: they have made the people of the British colony feel proud to be Chinese.

One local columnist, Ong Hock Chuan, wrote: ‘Being Chinese, in the last few days, is to live with a lump in your throat and tears welling as you watch televised images of other Chinese being suppressed by Li Peng’s decisions.’

There are profound political implications for Hong Kong in this new-found Chinese nationalism and political activism. For a start, the initiative has been seized by the liberal or pro-democracy lobby, which has always had a respectable but not a majority following.

What previously gave the appearance of public apathy now appears to have stemmed from a feeling that nothing could be done to move the massive juggernaut of the People’s Republic of China offcourse. The protests in China have shown that movement is possible; even if the protests are quashed, they have given Hong Kong people a confidence they themselves find surprising.

Living under the British flag, the people of Hong Kong have often had identity problems. Few regard themselves as British, and Britain has made clear that it has no desire for anyone to adopt this bizarre idea. At the same time, they have also found it difficult to identify with China.

Practically everybody in Hong Kong left the motherland of their own accord or came from a family which quit China out of a sense of deep dissatisfaction.

Hong Kong’s people are making it clear that they are proud to be Chinese, but equally clear that they see democracy as an integral part of their identity with the Chinese nation. Whatever happens in China, this poses a serious problem both for the outgoing British administration and for the incoming Chinese one.

(The Observer, 28.5.89)

Text (6) moves mainly between the Past time zone and the Present time zone, the former employing the simple past (ST − RT) = ET to report single events, the latter using the present perfect (ST = RT) − ET to signal trends which help to explain the preset situation. Examples of the narrative past are:

7. (a) The mother of a four-year-old explained . . .
(b) The youth of Hong Kong gave an exuberant display
(c) The bar girls took the night off last Thursday
(d) [The newspaper] cleared its editorial columns . . .
Examples of the explanatory present perfect:

8. (a) Schools have ground to a halt
(b) Pupils have suddenly marched out...
(c) Taxi drivers have abandoned their trade
(d) The protests in China have shown that movement is possible
(e) The people of Hong Kong have often had identity problems

Other tenses are also represented. There are present tenses (ST = RT) = ET depicting the current situation, be this a state (simple present) or an action (present continuous):

9. (a) You are in Hong Kong
(b) There are profound political implications
(c) Few regard themselves as British
(d) Hong Kong’s people are making it clear...

There is one past continuous (10a) and one remote (10b), the former depicting simultaneity in the past, the latter a hypothetical situation:

10. (a) Torrential rain was soaking the huge crowd listening...
(b) Even if the protests are quashed...

And of course the occasional direct speech denotes single incidents but as contemporaneous commentary. All cases in (6) are in the present, mainly simple, but with one continuous.

Analysing the discourse of which (6) is the textual expression, we arrive at the following situation: the author (Steve Vines) is preparing his report on the current situation in Hong Kong. He is writing it ‘today’ (ST), but his intention is not to depict what he sees around him at the time of writing, but to assess the current situation (a much more abstract object than the immediate situation), and attempt to explain it in terms of past events. Viewed in this way, the narrative sequences are seen to be subordinate to the general discussion about Hong Kong attitudes. Figure 10.2 shows the main concentrations of the text: the inactive areas are shaded out. The principal focus is on the current situation, but this is fed by an explanation based on patterns found in past events. Thus the taxi drivers have staged a protest whose pattern consists of the abandonment of their trade. The bar girls’ protest, on the other hand, was presumably much more symbolic in nature: they only stopped work for one night, thus setting up no pattern. The pattern of past events is fed by sets of past events, which happened yesterday, and which might yet form their own pattern, or contribute to an existing pattern.
For the reader, as for a person living through the events themselves, Figure 10.2 seems to turn too much on hindsight. For the reader and the experiencer, things happen in real time, and not in an arrangement which is achieved by analysis and contemplation. The real-time sequence looks rather different: it is not a set of linked text worlds, but a *succession* of text worlds, each comprising an update of the one before. Figure 10.3 below shows the three main tense-blocks in real time, as they would be read or experienced, starting at the top left and working downwards.

We can think of the tense blocks as representing successive deixis-updates. Each of them, in addition, happens to contain a ‘digression’ of some sort: the past block contains direct speech; the present perfect block contains several flashbacks; and the present block contains a hypothesis, which has a tense meaning distinct from that of the present. The actual mechanisms here are the *subworlds* which we examined in great detail in Chapter 8. My purpose is to show that there are patterned tendencies in the tense deployment in a discourse, and that the underlying motivation for the patterns is functional in nature. Thus the simple tenses are used to denote situations (states, actions) in and for themselves. We experience the past as entirely finished with, something which can no longer affect our lives. The present, on the other hand, is thought of as something which is still potent. The future is not here yet, and it may never happen: it therefore lacks urgency. The perfect tenses have an explanatory function: they seek to explain the current situation in their time zone in terms of earlier situations. Again, our different experience of the tenses leads to subtle variations of emphasis in the different time zones.
Figure 10.3
10.4 Predication update a world: FA component

Our text-world parameters consist of three elements, as we have amply illustrated: the WB elements are referential and deictic, and those we have just reviewed in their primary functions of anaphora and tense variation. The third component is the FA system, which takes the text world from its initial state to some subsequent point dictated by the purposes of the discourse. Clearly, this can happen in a smooth connected way which leaves us still within the same text world, and with no need to revise our bearings, as it were. In the same way, if we find ourselves in a practical situation in which nothing surprising or untoward takes place, we are content to consider ourselves as still in the ‘same situation’, though presumably somewhat ‘farther along’ – perhaps in the direction of an explicit goal. If, on the other hand, an unexpected or cataclysmic turn of events takes place, then obviously we are more predisposed to consider that the situation has changed radically. As in life, so in discourse. After the ample discussion and illustration of text worlds in all their variations which we have by now experienced, I propose to give no more than a number of short texts to illustrate this rather evident point.

11. While the present century was in its teens, and on one sunshiny morning in June, there drove up to the gate of Miss Pinkerton’s academy for young ladies, on Chiswick Mall, a large family coach, with two fat horses in blazing harness, driven by a fat coachman in a three-cornered hat and wig, at the rate of four miles an hour. A black servant, who reposed in the box beside the fat coachman, uncurled his bandy legs as soon as the equipage drew up opposite Miss Pinkerton’s shining brass plate, and as he pulled the bell, at least a score of young heads were seen peering out of the narrow windows of the stately old brick house. Nay, the acute observer might have recognised the little red nose of good-natured Miss Jemima Pinkerton herself, rising over some geranium pots in the window of that lady’s own drawing-room. (Thackeray 1843–4: 1)

12. The thirty-second day out of Bombay began inauspiciously. In the morning a sea smashed one of the galley doors. We dashed in through lots of steam and found the cook very wet and indignant with the ship: ‘She’s getting worse every day. She’s trying to drown me in front of my own stove!’ He was very angry. We pacified him, and the carpenter, though washed away twice from there, managed to repair the door. Through that accident our dinner was not ready till late, but it didn’t matter in the end because Knowles, who went to fetch it, got knocked down by a sea, and the dinner went over the side. (Conrad 1897/1950: 52)
Text (11) represents a somewhat static scene, with all the WB elements nicely laid out for our information (it is, in fact, the very beginning of the novel). Into this scene, a number of unsurprising events take place: there drove up . . . a large family coach; a black servant . . . uncurled his bandy legs; he pulled the bell; young heads were seen peering out of the . . . windows; the nose of . . . Miss Jemima Pinkerton herself [was] rising over some geranium pots. Nothing, in other words, appears to disturb the essentially static nature of the original TW as defined in the opening WB statement. The reason for this, it seems, is fairly clear: (11) represents a clearly recognisable frame. All the events which happen within this frame are perfectly compatible with it; there are no jarring notes, and therefore no need to radically revise the frame by updating the TW.

Text (12), though, is rather different. It is, for one thing, not set out with clear WB parameters. Nevertheless, we can surmise that this thirty-second day is going to be somewhat different from the previous thirty-one. Still, we have the (normally) somewhat static backdrop of a sailing ship, i.e. the frame expectations that it has a certain form and equipment and crew, and perhaps cargo and supplies and a purpose for its activities. These, though not explicit, would form a kind of accommodated WB for the frame. If we compare the events of (12) with those of (11), they are much more radically jarring: everything which takes place seems to call for some reorganisation of place or entities, though perhaps in the end there has been no real root and branch updating of this TW. Consider the events: a sea smashed one of the galley doors; we dashed in . . . and found the cook; the carpenter [was] washed away twice from there; [he] managed to repair the door; the dinner was not ready till late; Knowles . . . went to fetch it; [he] got knocked down by a sea; the dinner went over the side. Apart from the permanent loss of the dinner (cf. the cucumber sandwiches in Chapter 8!), many things here are temporarily affected by the violent predication, but most get repaired in the end. There are no permanent changes in entities, that we can see. So it is not mere violence of predication which brings about predicational-updating. Frames appear to be rather robust entities, so what we have to look for is a kind of frame in which the discourse predications actually usher in permanent changes. Here, then, is a much more convincing example (I apologise to the more squeamish among my readers!):

13. Out of the window was a field that had been plowed under, but now had burgeoning islands of plant growth in brilliant colours bursting out of the brown dirt at odd intervals. In the air above them, small shapes flitted about and larger creatures darted between
the plant islands. They were moving too fast to catch any detail, but there was no doubt that what they saw was not natural in the usual sense of the word.

By the time they pulled off the main road and onto a gravel one, the alien bioscape was in complete control, with little natural vegetation left, except for a few trees that seemed to be wilting as if turned to rubber. As they passed close by, Jessica could see that all the tips of the limp tree branches were twisted into a curious spiral shape. [ . . . ] Ahead and to the right was what must have been the Johnson farm. No longer. Whatever this place had recently been was in the later stages of being totally consumed and transformed. [ . . . ]

As they entered, the first thing Jessica noticed was that through some remarkable quirk, the lights were still working. But that was the end of normalcy for the Johnson house. The rug was covered by a cloud of light green and white sprouts, and dotted with clusters of something that looked like the top of a cauliflower plant, except that it had a crown of pale yellow balloons, some of which had burst and created a stream of clear fluid that attracted mobs of insects. The teak coffee table sported ragged groups of small holes, where things resembling caterpillars crawled in and out. The walls were almost entirely covered with huge pink boils that dripped a gray pus down over the baseboards and attracted yet another horde of insects. The lamp shades had disappeared under a bright blue moss, the surface of which squirmed and contorted.

[ . . . ]

But then there was the kitchen. [ . . . ] The centerpiece of the scene was one of the giant multi-eyed plants, which was growing straight out of the drain in the sink and staring at them.

(Quellette 1993: 344–5)

This hellish vision is the result of runaway genetic engineering. What is interesting from our point of view is that there is a clear need to increment this scene, since the transformations which have taken place are all, though far-reaching, incomplete. Parts of the original TW (which we must infer from our frame knowledge of farms, fields, vegetation and the like), are still visible, and even recognisable. Yet even though we might be tempted to see this updating as referential in nature, since it concerns objects in the TW (tables, rugs, etc.), there can be no doubt that the force motrice is in fact the predicational transformations brought about by the genetic program.

10.5 Summary: Incrementation in action

Our first guess (section 5.3.3) was that updating was a question of adding the function-advancing propositions to the existing
Common Ground. The resulting arrangement was then a text world in which the WB parameters remained the same, but more information was added about the foreground events. The machinery of sub-worlds enabled these parameters to be departed from: participant-accessible sub-worlds allow temporary departures (flashbacks and the like), character-accessible sub-worlds allow more radical departures in that they promote inaccessibility; but, in both cases, the main focus remains firmly in the text world, with its WB parameters intact.

However, there is more to updating than simply adding details of an ongoing story. There is also the difficult and important question of topic change. This occurs as a result of some more or less important change in the WB parameters – not merely a temporary change, but a permanent one. This includes sub-topic change also – i.e. where the general topic remains the same, but there is a change of direction in the discussion of it.

Furthermore, as we have seen in the present chapter, there is a fundamental use of the notion of updating which has to do with a change in understanding: namely, that we are now dealing with a distinct state-of-affairs from that recently in force. This involves, then, a new, distinct situation of interpretation, represented as a further stage of TW. The set of parameters defining a TW, that is to say, has a limited life-span, particularly in a dynamic text (narrative, argument) which by its very nature moves on. There comes a point in such a discourse when the TW in force is no longer appropriate to the ongoing state-of-affairs. The question is: what point is this, and how do we recognise (or alternatively, signal) it?

Sub-worlds and digressions, as we have seen, though they may be substantial, do not involve permanent departures from the matrix TW. Topic changes presumably do depart from TW parameters more radically, but the notion of ‘topic’ in this extended sense is too broad to be useful in characterising updating. We therefore have to try to break it down somewhat. In general, changing a topic has to do with changing the subject-matter of the discourse. This in turn will normally involve (permanently) changing some of the WB parameters currently in force.

One common manifestation of this involves the tracking of entities in a situation. Tracking an entity consists of recording it as present in or entering the TW, but not exiting. Indications of presence include direct address in Direct Speech (vocatives, 2nd person pronouns) and agentive function in action predications. The absence of an entity, on the other hand, is indicated by it
being recorded as elsewhere than the current TW, or as exiting from the current TW.

14. The Corcorans were upstairs, dressing. Cloke and Bram and Rooney drank coffee with their elbows on the table and talked in low voices. They were freshly showered and shaven, cocky in their Sunday suits but uneasy, too, as if they were about to go to court. Francis – puff-eyed, his stiff, red hair full of absurd cowlicks – was still in his bathrobe. He had got up late and was in a state of barely contained outrage because all the hot water in the downstairs tank was gone. [ . . . ]

It was a little after nine-thirty by the kitchen clock. The funeral was set for eleven. Francis went off to dress and Marion to take her rollers out. The rest of us were still sitting round the kitchen table, awkward and inert, pretending to enjoy our second and third cups of coffee when Teddy’s wife marched in. [ . . . ]

Mrs Corcoran came down about twenty minutes later, in black crepe de chine, riffling through a quilted leather clutch. ‘Where is everybody?’ she said when she saw only Camilla, Sophie Dearbold and me loafing by the trophy case.

When no one answered her, she paused on the stair, annoyed. ‘Well?’ she said. ‘Has everybody left? Where’s Francis?’

‘I think he’s dressing,’ I said, glad she’d asked something I could answer without having to lie. From where she stood on the stairs she could not see what the rest of us saw, quite clearly, through the glass doors of the living room: Cloke and Bram and Rooney, Charles with them, all of them standing around under the sheltered part of the terrace getting stoned. [ . . . ]

Mrs Corcoran was looking at me as if I’d uttered some Nazi oath. ‘Dressing?’ she said. [ . . . ]

‘Well?’ she said. ‘Would somebody tell him to hurry up?’

Camilla jumped up. ‘I’ll get him, Mrs Corcoran,’ she said, but once she was around the corner she scooted over to the terrace door. [ . . . ]

Cloke looked up, bloodshot and uncomprehending, at Camilla’s soft rap on the glass. Then he looked past her into the living room, and all of a sudden his face changed. *Shit,* I saw him say, noiselessly, and a cloud of smoke escaped from his mouth.

Charles saw, too, and almost choked. Cloke snatched the joint from Bram and pinched it out with thumb and forefinger.

Mrs Corcoran, in big black sunglasses, remained thankfully unaware of this drama unfolding behind her back. . . .

(Tartt 1992: 481–5)

In text (14), the initial text world is set in the kitchen, before and a little after 9.30. There is a cast-list of nominated characters,
including the 1st person narrator, Cloke, Bram and Rooney, Francis and Marion. The Corcorans are not in this TW, but elsewhere in the house (in an alternative, rather unspecified, TW). Francis and Marion exit, and Teddy's wife enters. Despite this coming and going, though, the TW appears to remain intact: no updating is yet necessary. A simple change of personnel is therefore evidently not enough to count as incrementation.

Now consider the second part of (14), beginning Mrs. Corcoran came down about twenty minutes later. . . . Twenty minutes is in itself not a great lapse of time, and although the cast-list has changed, it is at least partially the same as before. The place is different too, though presumably adjacent to the previous location. So why is it that we have the distinct impression that this is a separate stage in the state-of-affairs depicted, i.e. an updated TW?

The deictic distinctness between TW1 and TW2 comes about from the following factors:

- There is a time gap between TW1 and TW2 ('about twenty minutes') – viz. **deixis-updating** is necessary here.
- During this time gap, the location has changed ('by the trophy case' – which frame-knowledge tells us probably is not in the kitchen) – also **deixis-updating**.
- During this time gap, the personnel present have probably changed. The gap, that is to say, represents a discontinuity in our tracking capacity, so that we can no longer guarantee the presence of the same roster of characters. In fact, of the three mentioned, only the 1st person narrator was explicitly present in TW1. This is **reference-updating**.

Mere change in time and/or location is not in itself enough to trigger a subsequent world. In a narrative, time is rolling on inexorably anyway; and given that motion is the most common event-type in narratives, location changes are the norm rather than the exception too. I surmise that the crucial element for world-updating is **discontinuity**, in time and/or place. For a detailed examination of the notion of 'keeping track', see Werth (c).

But as we have just seen also, the third component of incrementation is **predication-updating**. If we now look at the remainder of text (14), we can see how this also plays its part – not so dramatically as in text (13), to be sure, but nonetheless in a decisive manner which contributes further to the discontinuity which we have posited is at the root of TW incrementation.
Let us begin from ‘I think he’s dressing’. The next section makes it clear that because of Mrs Corcoran’s particular sequence of actions up to that point, all of them doubtless perfectly frame-worthy, she has now ended up in a position with a different viewpoint from the people she is addressing:

15. From where she stood on the stairs she could not see what the rest of us saw, quite clearly, through the glass doors of the living room: Cloke and Bram and Rooney, Charles with them, all of them standing around under the sheltered part of the terrace getting stoned.

Note that this is not a SW: its time and (general) place parameters remain the same, and its entities are simply a subset of those in the house anyway. It is in fact an alternative TW, incremented away from the TW currently in focus. This is how Camilla is in fact able to go there and warn them; a SW, on the other hand, would be quite inaccessible to her. Similarly, the entities in the alternative TW become aware of Mrs Corcoran’s presence, bringing about some updating of their TW also:

16. Cloke looked up, bloodshot and uncomprehending, at Camilla’s soft rap on the glass. Then he looked past her into the living room, and all of a sudden his face changed. Shit, I saw him say, noiselessly, and a cloud of smoke escaped from his mouth.

Charles saw, too, and almost choked. Cloke snatched the joint from Bram and pinched it out with thumb and forefinger.

The crucial point about incrementation would therefore appear to be that it is an integrated process, involving all three types of element in a TW. You have to keep track of referential elements, but in order to do this you must continually scrutinise their deictic setting and their predicational activities. What was earlier given as the ‘Anaphora Rule’, in fact, turns out to be of wider significance. I therefore will replace it with the more general ‘Text World Coherence Rule’, of which the Anaphora Rule is a special case:

**Text world coherence rule:**

(a) *The text world state-of-affairs is defined by its CG.*

(b) *Ensure TW coherence by using the CG to keep track of the entities referred to in the TW.*

(c) *Where discontinuity occurs, increment the TW to a further stage no more than is necessary to incorporate the discontinuity into the CG.*

The last heuristic adds what we have postulated about the essential nature of incrementation, with the reasonable proviso that updating should be comprehensive, but minimal.
Notes

1 This is blinkered sentence-grammar thinking. No antecedent can be found in the same sentence – therefore any antecedent will do. As if he in *He was nothing less than a deserter* in (1a) could refer to just any (masc., sg.) element picked at random – Mickey Mouse, say, or Attila the Hun.

2 Obviously some departures are less temporary than others. Dascal and Katriel (1979) discuss the subject of *digressions*, which are temporary departures of a very substantial kind, giving stories within stories, plays within plays, the elaboration of lengthy illustrations and examples, etc.

3 Changing all of the parameters will presumably result in a totally new discourse, rather than a topic change within the same discourse. Updating has to do with different stages of the same discourse.
11.1 Metaphor

The study of metaphor is, probably, the most venerable topic in the whole of the humanities, going back at least to Aristotle. It therefore dates from thousands of years before modern linguistics. But it is no exaggeration to claim that this ancient field of interest has been revolutionised in the last ten years by the work of George Lakoff and Mark Johnson (1980) and others. These scholars have shown that metaphor, far from being a mere rhetorical embellishment confined to literature, advertising and sports reporting, runs wide and deep through our everyday language.

They argue that metaphor is one of the most powerful mechanisms in language. We obviously have a very rich vocabulary for talking about our physical surroundings – names for parts of the body, physical objects we see around us, physical activities, types of people and so on. But we lack a basic vocabulary for our conceptual life – our emotions, mental reactions, abstractions such as relationships, causes and effects, etc. We fill this lack by using metaphor – we find a physical domain that seems to have something in common with the conceptual domain we want to talk about, and then we use the physical language to talk about the conceptual subject-matter. Suppose, for example, you want to talk about ANGER. Anger is an emotion associated with an increase of body heat and constriction of air – so a natural physical domain to compare it with is that of a cooking pot, or in general a container which is being heated up to the point of bursting. So we talk about letting off steam, of bursting with rage, of bottling up one’s anger and so on. (Cf. Lakoff 1987a: 380 ff.)

To take an example from the domain of linguistic semantics, the meanings of the modals, both root and epistemic, are rather abstract, so they provide a likely domain for metaphorical language. It has been suggested (see Talmy 1988 and Sweetser 1990)
that the relevant physical domain in this case is that of **force**. Stripped to its essentials, force is a matter of controlling the movement of an object. In the physical world, you can get an object to move by exerting pressure, or by removing a barrier. Similarly, you can stop an object from moving by exerting counter-pressure, or by placing a barrier.

Of the common root modals, the only one which regularly has something to do with physical force is *can*. The others all concern **social** or **psychological** forces. Here is a list of the major modal verbs in English, with an explanation using the force metaphor:

- *will* – unrefusable command (**SPEAKER** EXERTS **STRONG** PRESSURE)
- *will, shall* – volition from the person, strong intention (**PERSON** UNDERGOES **PSYCHOLOGICAL** PRESSURE)
- *must* – obligation imposed by the speaker (**SPEAKER** EXERTS **PRESSURE**)
- *should* – obligation imposed by duty (**SOCIETY** EXERTS **PRESSURE**)
- *ought to* – obligation imposed by morality (**SOCIETY** EXERTS ANOTHER FORM OF PRESSURE)
- *can* – ability (**NO BARRIERS EXIST** AGAINST THIS ACTIVITY)
- *can* – permission (**PERMISSION-GIVER** REMOVES BARRIERS AGAINST THIS ACTIVITY)
- *may* – permission (**DITTO**)
- *needn’t* – absence of obligation (**NEITHER PRESSURE NOR BARRIERS EXIST**)

For the epistemic modals, which are even more abstract than the root modals, the domain is not so rich. The domain for the epistemics is not social or psychological pressure, but, as Sweetser argues, the pressure of **logical** conclusions. Here is the list of epistemics:

100% **probability**
- *will* – confident prediction (**LOGIC AND KNOWLEDGE** FORCE THIS CONCLUSION)
- *must* – very high probability, based on logical deduction (**LOGIC FORCES** THIS CONCLUSION)
- *should* – high probability, based on previous knowledge (**KNOWLEDGE** FORCES THIS CONCLUSION)
- *ought to* – high probability, based on evidence (**EVIDENCE** FORCES THIS CONCLUSION)
- *can, could* – possibility (**THERE IS NO BARRIER** TO THIS CONCLUSION)

50% **might** – possibility (**DITTO**)
- *may* – possibility (**DITTO**)
- *shouldn’t* – probability not (**NEGATIVE CONCLUSION** FORCED BY KNOWLEDGE)
Lakoff and Johnson (1980) point out how much of our ordinary language is metaphorical – in fact, non-metaphorical language in a pure form is rather rare. It is non-metaphorical language, nevertheless, which serves as the basis for our metaphors, and particularly the language of spatial deixis. What I earlier referred to as our 'conceptual landscape' is made up of an overlapping set of frames. Each frame models an area of human physical experience – experience of our bodies, our physical space, our immediate environment, our closest associations. These may then be mapped metaphorically onto areas of mental experience or speculative abstraction, enabling us to talk about conceptual domains for which we have no direct terminology. There is an important caveat, however – the match, or mapping, as we already saw in the discussion of cross-world anaphora, is never perfect. What is so exciting about Lakoff and Johnson’s work is their demonstration that because it is frame-based, metaphorical usage is not confined to a single sentence at a time, but opens up a whole domain of experienced relationships and conveyed meanings. Metaphors, that is to say, come not as single spies but as battalions.

For example, around the basic metaphor life is a path, there is a whole cluster of associated metaphors for different aspects and stages of life. Thus, we progress down life’s road, and an uneventful life is described as a smooth path, whereas troubles are a rocky road. A pointless existence might be described as having lost one’s way. Doing something new is a change of direction, while doing something you have done before is backtracking. Temporary problems may be described as leaving the rails. Death might be referred to as passing away or going over to the other side. Lakoff and Johnson’s point is that life (which they call the target domain) is ‘mapped on to’ paths (the source domain). In other words, our human experience of travel is made to apply, part for part, to the more abstract notion of life’s occurrence through time.
Let us now consider the frames associated with spatial deixis. It is important to realise how intimately the conception of spatial relationship is bound up with our human experience. Concepts like <up, down, over, behind, in front>, etc., are classical categories which cannot be defined 'scientifically' in terms which exclude human interaction. They are, on the contrary, essentially terms which require the viewpoint of the user in their definition. It is possible to define <up> and <down> as 'moving perpendicularly away from the centre of gravity' and 'moving perpendicularly towards the centre of gravity', respectively. However, this is of no help for such basic directional cases as up the street, he looked up, the book is up on the top shelf, down on the ground, down the road and down in the valley, in which there is no movement, but visual connection, or the direction is not perpendicular. This is even clearer with the lateral directions <behind, in front, left, right>, which require not only an observer's viewpoint in their definitions, but also a conventionalised view of objects: for example, what constitutes the front of a house or a cow or a teapot? Thus a user-free definition of <(in) front> is actually impossible even in principle.

Metaphorical uses based on spatial deixis are very widespread – so much so, that they are often invisible to us as metaphor. Lakoff and Johnson cite many metaphors which suggest something like positive is up, negative is down. This relates to a 'family' of metaphors:

<good, happy, conscious, health, life, control, more, virtue, status, rational> are all up;
<bad, unhappy, unconscious, sick, death, subjection, less, vice, lack of status, emotional> are all down.

Here are some examples of common English expressions based on these metaphors:

1. (a) UP: In high spirits, wake up, on top of the situation, rise in pay, things are looking up, high-minded, higher mathematics, high status, overprivileged
   (b) DOWN: Depressed, fall asleep, drop dead, at the bottom of the ladder, falling income, the lowest of the low, underhanded, descend to pathos, low status, below the poverty-line, under pressure, underpaid.

So far, these are all – to quote Lakoff and Johnson’s title – metaphors we live by. These are everyday metaphorical usages which affect our frame of reference, and thus our interpretation
processes, our decision-making and, ultimately, our actions. We need to explore how metaphors operate in discourse, and more specifically, how they utilise the machinery of text worlds.

In Werth (1977), I suggested that metaphor employed 'double vision'. I meant by this that metaphor (in common with irony and deliberate ambiguity) consists not only of two levels, the literal and the figurative or, to employ I.A. Richards' (1936) terminology, the 'tenor' and the 'vehicle', but that its special quality is that we see both simultaneously, or one through the other. Metaphor does not merely substitute one area of experience for another; it combines the two kinds of experience into a third new way of seeing. The machinery that I proposed then is of no interest here, but the idea of double-layering is, I think, worth another glance.

Lakoff and Johnson and other linguists studying metaphor (e.g. Sweetser 1990) have remarked on how metaphor extends through whole areas of experience. You do not get just a single metaphor for a particular notion, but a whole connected set of them covering an entire area of experience. I want now to look at another kind of extension, where a metaphorical field extends through an entire discourse (see Werth 1994). We should probably make at least a working distinction between ordinary-language metaphor (such as the Lakoff and Johnson study) and literary, or at least composed, metaphor, such as is studied by Lakoff in a later work, with Mark Turner (Lakoff and Turner 1989). For Lakoff and Turner, this is not a difference in kind, but only of degree: 'great poets, as master craftsmen, use basically the same tools we use; what makes them different is their talent for using these tools, and their skill in using them' (1989: xi). This view, which I would only partly agree with, is reflected in their approach, which is basically similar to that of Lakoff and Johnson, in that what they are studying are still areas of metaphor in the language, but exemplified from poetry rather than ordinary language.

I believe that there are actually real differences between literary (or 'composed') – I would include certain 'non-literary' areas, such as advertising) and everyday metaphor (although I would agree that the basic machinery and constraints are the same). One of these differences is the occurrence of sustained metaphor through a single text (indeed, Lakoff and Turner devote a large section to a 'global reading' of a William Carlos Williams poem, but I still find their analysis rather atomistic). Another difference, I believe, stems from a difference in what impels the producer of literary metaphor as opposed to the producer of ordinary metaphor. The
latter, according to Lakoff and Johnson, uses language from known areas of experience (usually physical, concrete experience) in order to be able to express more abstract, emotional experiences for which no *sui generis* language exists. This explanation seems to make a good deal of sense. However, it does not explain much poetic metaphor, unless one wishes to argue that the poet's thoughts are always so ineffable that he or she has to use better-understood areas of language to express otherwise inexpressible concepts. This may be true in some instances. However, there are many cases where the metaphor is used simply to make the expression more striking, and still others where using a metaphor allows the topic to be viewed simultaneously from more than a single perspective (my double-vision cases). Metaphor in such cases is much more a question of *poetic choice*, then, rather than being forced on the producer because of the poverty of the language. Here are some examples of sustained metaphor; we will look at the double-vision aspect later:

2. It is spring, moonless night in the small town, starless and bible-black, the cobbled streets silent and the hunched, courters'-and-rabbits' wood limping invisible down to the sloe-black, slow, black, crow-black, fishing-boat-bobbing sea. The houses are blind as moles (though moles see fine to-night in the snouting velvet dingles) or blind as Captain Cat there in the muffled middle by the pump and the town clock, the shops in mourning, and the Welfare Hall in widows' weeds. And all the people of the lulled and dumbfound shop are sleeping now. (Thomas 1954 (1962): 1)

3. Except for the Marabar Caves – and they are twenty miles off – the city of Chandrapore presents nothing extraordinary. Edged rather than washed by the River Ganges, it trails for a couple of miles along the bank, scarcely distinguishable from the rubbish it deposits so freely. There are no bathing-steps on the river front, as the Ganges happens not to be holy here; indeed, there is no river front, and bazaars shut out the wide and shifting panorama of the stream. The streets are mean, the temples ineffective, and though a few fine houses exist they are hidden away in gardens or down alleys whose filth deters all but the invited guest. Chandrapore was never large or beautiful, but two hundred years ago it lay on the road between Upper India, then imperial, and the sea, and the fine houses date from that period. The zest for decoration stopped in the eighteenth century, nor was it ever democratic. There is no painting and scarcely any carving in the bazaars. The very wood seems made of mud, the inhabitants of mud moving. So abased, so monotonous is everything that meets the eye, that when the Ganges
comes down it might be expected to wash the excrecence back into the soil. Houses do fall, people are drowned and left rotting, but the general outline of the town persists, swelling here, shrinking there, like some low but indestructible form of life.

(E.M. Forster 1924: 1)

Both these texts are notable for what we might call the ‘underground metaphors’ they reveal. By this I mean that the obvious surface metaphors in the text combine to point to a compelling subliminal message. In the case of the Dylan Thomas, SLEEP IS DISABLEMENT, DISABLEMENT IS DEATH; in the case of the E.M. Forster, POVERTY IS NEGATIVE, NEGATIVE IS DOWN. But there is no single location where these conclusions are expressed: they are cumulative, and, crucially, achieved by way of text and discourse processes, rather than sentence processes.

I do not propose at this point to give a detailed analysis of these passages, but merely a few indications to support my claims, before going on to consider what the text-world approach can tell us about these matters. Text (2) contains a major metonymy: A PLACE IS ITS INHABITANTS, and a number of overt metaphors arising out of it: the wood is hunched, the wood is limping invisible down to the sea, the houses are blind, the middle of the town is muffled, the shops are in mourning; the Welfare Hall is in widows’ weeds, the town is lulled and dumbfounded. We could take each of these separately, and pronounce on the metaphor each exemplifies: DARK IS BLIND OR SILENT IS DUMB, for example. We could then find other examples of the same metaphor both in other literary cases and in ordinary language. We could perhaps investigate what happens when the metaphor is reversed: BLIND IS DARK, for example. But this would all be missing the essential point: it is the accumulation of different metaphors clustering around a single broad frame which gives this text its incredible power. Apart from the initial metonymy, which allows a metaphorical transfer of personal characteristics to the town, the separate metaphors all concern physical or mental disability, sometimes viewed objectively (BLIND, DUMB), sometimes subjectively (INVISIBLE, BLACK, SILENT), sometimes ambiguous between these two views (HUNCHEO, LIMPING, MUZZLED, LULLED). Notice that the initial metonymy does not force this: Thomas could have talked about, say, the face of the town, or its clothing. But instead, he confines himself to this particular accumulation of images. What at first appears to be a rather romantic description of a small town at night turns out to have some very sinister undertones. The people in the town are all sleeping, and this state
is transferred to the town itself. Sleep is a non-typical activity in which the senses operate at a vastly reduced level, in which alertness is minimal and where any movements are small-scale, uncoordinated and uncontrolled. The zero-level of all these activities is death, and indeed the death is sleep and sleep is death metaphors are very common figures in literature (Lakoff and Turner investigate the former of these quite extensively, but the latter is also widespread, as any dictionary of quotations will testify). Thomas makes quite sure that this comparison is made by the references tying blackness to mourning and hence death. If we investigate the source domain of the metaphor, we note that death takes all the 'little' disablements, which are for sleep reversible, and makes them absolute: in death, we are deaf, dumb, blind and immobilised.

We previously examined the E.M. Forster passage (3) in the section on negatives (section 8.3.4). We will now see how the negatives function as covert metaphors. (3), which is the opening paragraph of the novel, has an extremely striking effect, whose cause appears to be almost entirely hidden. This is because, as was the case with the Hemingway passage discussed in section 2.5, there is a strong underlying metaphor, in this case one of negativity. The text is replete with negatives of all sorts and also with concessives:

- straight negatives: nothing extraordinary, no bathing-steps, not holy, no river front, never large or beautiful, nor was it ever democratic, no painting;
- negative modification: scarcely distinguishable, scarcely any carving, the very wood;
- words with negative meaning: trails, rubbish, shut out, mean, ineffective, hidden away, filth, deters, stopped, mud, abased, monotonous, excrescence, fall, drowned, left,rotting, persists, low;
- concessives: except for the Marabar Caves, and THEY are twenty miles off, edged rather than washed, happens not to be holy, indeed, though a few fine houses exist, houses DO fall, people ARE drowned.

The metaphors underlying this list never quite surface into explicit form: they are something like the city is a pile of rubbish, the people are a low form of life. The image this gives me is something like a rubbish-dump inhabited by rats, or perhaps a compost heap inhabited by woodlice. Before taking this explanation any further, let us look at its context, namely, the rest of the introductory chapter of A Passage to India (Forster 1924: 1–4):
4. Inland, the prospect alters. There is an oval maidan, and a long sallow hospital. Houses belonging to Eurasians stand on the high ground by the railway station. Beyond the railway – which runs parallel to the river – the land sinks, then rises again rather steeply. On this second rise is laid out the little Civil station, and viewed hence Chandrapore appears to be a totally different place. It is a city of gardens. It is no city, but a forest sparsely scattered with huts. It is a tropical pleasaunce washed by a noble river. The toddy palms and neem trees and mangoes and papul that were hidden behind the bazaars now become visible and in their turn hide the bazaars. They rise from the gardens where ancient tanks nourish them, they burst out of stifling purlieus and unconsidered temples. Seeking light and air, and endowed with more strength than man or his works, they soar above the lower deposit to greet one another with branches and beckoning leaves, and to build a city for the birds. Especially after the rains do they screen what passes below, but at all times, even when scorched or leafless, they glorify the city to the English people who inhabit the rise, so that new-comers cannot believe it to be as meagre as it is described, and have to be driven down to acquire disillusionment. As for the Civil station itself, it provokes no emotion. It charms not, neither does it repel. It is sensibly planned, with a red-brick Club on its brow, and further back a grocer's and a cemetery, and the bungalows are disposed along roads that intersect at right angles. It has nothing hideous in it, and only the view is beautiful; it shares nothing with the city except the overarching sky.

The sky too has its changes, but they are less marked than those of the vegetation and the river. Clouds map it up at times, but it is normally a dome of blending tints, and the main tint blue. By day the blue will pale down into white where it touches the white of the land, after sunset it has a new circumference – orange, melting upwards into tenderest purple. But the core of blue persists, and so it is by night. Then the stars hang like lamps from the immense vault. The distance between the vault and them is as nothing to the distance behind them, and that further distance, though beyond colour, last freed itself from blue.

The sky settles everything – not only climates and seasons but when the earth shall be beautiful. By herself she can do little – only feeble outbursts of flowers. But when the sky chooses, glory can rain into the Chandrapore bazaars or a benediction pass from horizon to horizon. The sky can do this because it is so strong and so enormous. Strength comes from the sun, infused in it daily; size from the prostrate earth. No mountains infringe on the curve. League after league the earth lies flat, heaves a little, is flat again. Only in the south, where a group of fists and fingers are thrust up through the soil, is the endless expanse interrupted. These fists and fingers are the Marabar Hills, containing the extraordinary caves.
The first point to make, now that we have further contextual and situational information available to us, is that the political power-relationships are about as we would expect: the colonialist English are at the top, with people of mixed race (the Eurasians) playing a middle role, and the native Indians at the bottom of the power ladder. There is also a strong cultural assumption that humankind is at the top of the ecological scale – so below the Indians would be the local flora and fauna. This is the very common power is up metaphor (see Lakoff and Johnson (1980: ch. 4) and Lakoff and Turner (1989: 149) under control is up; see also Lakoff and Turner (1989: ch. 4) on ‘The Great Chain of Being’). However, this is not necessarily the pecking order from all points of view, as we will see.

Remember that the people of Chandrapore – that is, the native Indians – were characterised as mud moving, and the whole place was like some low but indestructible form of life. Compare now the Eurasians and the English in Forster’s next paragraph (the first paragraph of (4)): the imagery describing their environment is predominantly geometrical and impersonal: oval, long, parallel, laid out, sensibly planned, disposed, intersect at right angles. The metaphor underlying these uses, I suggest, is something like geometrical is inorganic. The natives by contrast may be a low form of life, but they are a form of life. In stark opposition to ‘man and his works’, however – both native and colonialist – is the vegetation. This is almost violent in its mobility and vitality: the trees rise, burst out, they seek light and air, and are endowed with strength, they soar and greet and beckon and build, and they glorify the city. The most powerful movement that mankind can summon up, by contrast, is swelling and shrinking. We can nevertheless say that movement is life – the vegetation (and by extension the land, as opposed to the people) is what is truly living in this landscape. There is also an irony in the reversed topography (see Figure 11.1).

The vegetation has movement, but oddly enough, no colour, except by assumption (we assume it to be green normally, and brown when scorched – but this is nowhere stated explicitly). It is the sky which is the repository of colour, which is presented as the ultimate property, since it carries with it qualities of divinity. So the colour scale follows the vitality scale, with the sky at the top (colours fully specified), next the vegetation (colours strongly implied), then the natives (mud-colour, presumably), and finally the colonialists. Thus we can say that, locally in this novel, colour is vitality, and we can draw further implications like earthly power is lifeless, earthly power is colourless.
<table>
<thead>
<tr>
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<td>TOP</td>
<td>SECOND (HIGHER) RISE</td>
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<td>EURASIANS</td>
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<td>NATIVES</td>
<td>THIRD</td>
<td>GROUND LEVEL</td>
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<tr>
<td>VEGETATION</td>
<td>BOTTOM</td>
<td>IN THE GROUND</td>
<td>VERY ANIMATE</td>
</tr>
</tbody>
</table>

**Figure 11.1**

The sky (which ‘contains’ Heaven, of course) is described in terms of a temple (*dome of blending tints, stars hang like lamps from the immense vault*), but it can also act divinely (*glory can rain, a benediction pass*). So, the land may be where the vegetation springs from, but it is the sky which is responsible for this (*By herself [the earth] can do little – only feeble outbursts of flowers*). Thus the vitality quotient – which, as we have seen, runs counter to both the topography and the political power – is actually in the gift of the sky. The sun infuses the earth with its power, and the vegetation reflects this directly. The native Indians, closer to the earth (even appearing to be made of it) benefit from some of this vitality, having at least life and movement, while the ‘ruling classes’, far away from the life-infused earth, lack vitality entirely. The sky, then, which is highest of all, restores the topographical metaphor: POWER IS UP, while at the same time ‘explaining’ the contrary direction of the vitality quotient. The colonialists are in a sense suspended between sky (*strength*) and land (*size*), thus partaking of neither.

Notice that in both the Dylan Thomas and the E.M. Forster passages, it would not have been possible to arrive at these rather subtle readings unless the whole text had been taken into account. It is not enough to say, therefore, that metaphors simply *cluster*. The fact that metaphors can also be *sustained*, as a kind of ‘undercurrent’, over an extended text allows extremely subtle conceptual effects to be achieved.⁴ I will refer to the sustained metaphorical undercurrents discussed above as *megametaphors*.

In terms of the text-worlds approach, metaphor is essentially a participant-accessible phenomenon. What it does is to provide a sub-text which sheds light on the topic of discourse, and the one who provides this sub-text is usually the author, and not a character. Of course, it is possible to put metaphorical language into the mouth or thoughts of a character, but I can think of no coherent instance where we would need to postulate a metaphor which was opaque to its originating world, hence character-accessible. Accepting, then, that metaphor is participant-accessible, we can see that it works by opening up an area of experience in terms of which the
discourse topic can be (partially) interpreted. This is the ‘double vision’ which was discussed in Werth (1977).

Ideally, our text-world notation for metaphor should be able to reveal, perhaps indirectly, the following characteristics:

(i) *Metaphor is participant-accessible*
(ii) *The relationship between source and target domains*
(iii) *The ground of the relationship*
(iv) *Any megametaphors*
(v) *The ability to switch back and forth between source and target domains.*

The first of these poses no problem, since we already have the means of making the distinction between participant-accessible and character-accessible. Characteristic (ii) is a question which boils down to: ‘How much detail should the notation show explicitly?’ This question crops up in one form or another throughout linguistic discussion. In the present model, for example, we might demand that coherence relationships should always be explicitly shown; on the other hand, it is more efficient and more linguistically significant to give the constraint governing such relationships, and leave the specific details in any given case to be read off automatically. This is the view I will take for metaphor: details may be given in the discussion, but the principles should be stated generally, and the notation should only allude to this. Characteristic (iii) involves much the same rationale: the points in common which allow the target domain to be compared with the source domain, may be specified in discussion; the notation should leave this implicit. On characteristic (iv), though, I am inclined to think that the notation *should* specify the megametaphors which bring together the metaphors in a text into an overarching structure, just as the function-advancing propositions in a world indirectly reveal the ‘macrostructure’ of the text. Finally, on (v) I would say that this characteristic – seen very clearly in the Thomas text, for example, where the wood (target domain) limps down (source domain) to the sea (target domain) – is a consequence of the way metaphors operate, i.e. by allowing target meanings to be understood in terms of domain properties.

To illustrate this last point: in Werth (1977), I discussed two lines from a Shakespeare sonnet which had this characteristic:

5. When forty winters shall besiege thy brow  
   And dig deep trenches in thy beauty's field...
To quote the article (1977: 7–8):

Here, fairly conventionally, Time is spoken of in terms appropriate to an invading army.6 (This is fairly commonplace even in non-literary language, where ravages, or assaults are quite common collocates of time). Disregarding the metonymy of forty winters (for ‘years’), and thy brow (for ‘face’, or ‘person’), we can distinguish the tenor-language: forty winters, thy brow, thy beauty, from the vehicle-language: besiege, dig . . . trenches, field (with deep belonging to both). This gives us the two situations, or implicational sets:

(A) When forty winters shall affect thy brow
And set deep wrinkles in thy beauty’s skin . . .

(B) When an irresistible army comes to besiege a city
And digs deep trenches in the battle-field . . .

What I am discussing at this point, however, is the formal characteristic of switching back and forth between source (S) and target (T) domains (Figure 11.2). When a text alternates between ‘literal’ and ‘metaphorical’, should our notation somehow reflect this? I would suggest that this is a matter for the detailed discussion of the text, and that, so far as the metaphor is concerned, all that is necessary is a general indication that the textual expression at this point is consistent with the TIME IS AN ARMY metaphor.

![Figure 11.2]

T(target)-language in this case literally concerns time and beauty (although the first time-reference is in fact a metonym). S(source)-language comes from the domain of TIME IS AN ARMY. Neutral terminology is in the middle. The back-and-forth motion gives a good idea of how metaphor very often works: S-language may be used predicatively (besiege, dig deep trenches) or obliquely (field). The T-language is there to anchor the references to the intended entity.

We have now reached a point, then, when we can specify the properties of the desired notation for metaphor. It must be (i)
participant-accessible, (ii) generalised and (iii) able to show the megametaphors.

Text (2), being a descriptive text, has a very heavy WB component, which the descriptions themselves relate to. The ‘parts’ of the town are shown as l/o: locative objects. I have made the simplifying assumption that the only function-advancing proposition is *the people are sleeping*, since this is at the root of the metaphorical structure of the text. I am assuming that the megametaphors shown in Figure 11.3 may in fact lead to a whole series of specific metaphors, of which the actually occurring set are but a selection.

![Figure 11.3](image)

The specific metaphors are, then, a subset of the possible metaphors which follow from combining the two frames in Figure 11.3: the metonymic THE INHABITANTS ARE THE LOCATION, and the metaphorical SLEEP IS DISABLEMENT. The reasoning goes as follows:

- If the people are sleeping, and the inhabitants are the location, then the location is sleeping.
• If sleep is disablement, and the location is sleeping, then the
  location is disabled.
• If the location is disabled, then its parts are disabled.

The details then follow an obvious parallelism, given the above
reasoning process:

DARK IS BLIND,
SILENT IS DUMBFOUND, MUFFLED,
ROUNDED IS HUNCHED,
(ABSTRACT) MOVEMENT IS LIMPING,
UNGUARDED IS LULLED.

There then comes the equation of disablement with death, and
the subsequent death references, chiefly BLACK IS MOURNING. (See
Werth (1994) for a more detailed treatment.)

Precisely the same principles apply to passages (3) and (4) also.
This opening chapter, taken as a whole, consists of a series of text
worlds as the viewpoint changes: first from ground-level, then on
the first rise, then on the second rise, and then panning back to
take a panoramic view. The metaphorical structure, on the other
hand, is all of a piece, so I am going to present the chapter as a
single text world.

Figure 11.4 overleaf is extremely selective; nevertheless, I think
it captures most of the metaphorical structure of texts (3) and
(4), if indirectly. Unlike text (2), which contained a large number
of locative objects, non-sentient entities playing a locative role, texts
(3) and (4) contain character objects (c/o), non-sentient entities
playing an agentive role.

Again, we need a clear procedure of reasoning in order to get
from these megametaphors to the metaphors actually occurring in
the texts. The procedure in this case is, I suggest, something like this:

• If power is up, then down is powerlessness.
• Thus sky and sun are powerful, earth and things of the earth
  are powerless.
• If the sun is the father, then the father has power.
• If the earth is the mother, then the mother is powerless.
• But the mother breeds life, so the earth breeds life.
• Thus entities near the earth have life, entities away from the
  earth lack life.
• The sun gives light and colour, and the sun is powerful, so light
  and colour are the signs of power.
So, entities close to the earth have life, but lack power; entities closer to the sky have power, but lack life.

Only the vegetation bridges the gulf between high and low: it combines life and power into vitality.

What I have been calling ‘megametaphors’, then, are close to the primal metaphors of our conceptual life. They represent the most prototypical and primitive frames in our culture and are the basic building-blocks of our world-view. So, family relationships, sexual roles, social attitudes of all kinds are represented in these primal metaphors in the most rigid of stereotypes. Extended metaphors have been shown to possess two linguistic properties which make the theory of text worlds especially appropriate for their explanation. The first is that they are quintessentially discursive; the second that they are founded on a concept of ‘metaphorical gist’ or ‘megametaphor’. Text-world theory has been especially
designed to handle the conceptual representation of discourse. Megametaphors appear to express fundamental cultural frames. When two or more of these frames meet, the implicational interplay between them provides the basis for the series of metaphors which actually occur in that discourse. For a somewhat more extended discussion of these matters, see Werth (1994).

11.2 The represented voice

In the foregoing, a distinction has been drawn between the participant role and the character role, though it has frequently been pointed out that, since characters are rational beings like their creators, these roles are fundamentally parallel. Nevertheless, there are also important functional differences, which ensure that a character ought not to be mistaken for his creator (though this is a mistake which is frequently made⁹). The most important of these has to do with the applicability of the principles of discourse, set out in section 2.3: communicativeness, co-operativeness and coherence. Since any discourse-producer (speaker or writer) and any discourse-recipient (listener or reader) has the chance of challenging any proposition which seems to fail any of these principles, he or she therefore bears the responsibility for the discourse adhering to these principles. Characters, on the other hand, bear no such responsibility for the text world they find themselves in, since they are not participants in it, but creations of it (though they have full responsibility for any sub-worlds they may create). Characters are, in fact, prototypical third persons.

A traditional problem has been the status of fiction. Up to the Renaissance and even later, and under the influence of various repressive Catholic opinions (and later Protestant too), fiction was regarded as lies. Now it is regarded as being a version of the truth; although it may depict characters who never existed in events which never happened, it is deemed to have a symbolic relationship with the world of experience. However, more relevantly to our present concerns, what is the status of authors towards their fictional creations? Are they obeying the principles of discourse, and specifically, the principle of co-operativeness? The immediate answer must be ‘no’ – a work of fiction is not co-operative in the strict sense of the term. What it is, though, is a representation of co-operativeness. Within the discourse world of the author and the reader, in first-person narrations there is an ‘envelope world’ (text world 1) where the persona figure tells his or her story. That story (text world 2) is itself embedded within the envelope world of text
world. The persona is both a character within text world 2 and a narrator in text world 1. So the persona gets the responsibility for the story world, while the author simply has responsibility for the envelope world in which the persona is located.

Strictly speaking, this is not an exclusive feature of fiction, although fiction often reveals it most clearly. It represents, rather, the fact that between the participant as producer and the participant as first-hand experiencer (e.g. the journalist writing about events even a little time after he or she witnessed them), there is a hiatus into which further experiences have crowded. Thus the speaker/writer is in this sense no longer the same person as the experiencer of the events. Exactly the same may apply to characters and their sub-worlds, as we saw in Chapter 6.

11.2.1 Authorial voice

The notion of 'authorial voice', as often as not, then, refers in fact to 'persona voice'. Of course, both Life and Art being what they are, these distinctions are subject to innumerable possible variations. As extreme cases of such variations, I want to analyse briefly two passages:

6. I had come to the Arts Festival incognito. I was there to watch a confrontation between two human beings I had created: Dwayne Hoover and Kilgore Trout. I was not eager to be recognised.

[...]

'Mr. Trout,' I said, 'I am a novelist, and I created you for use in my books.'

'Pardon me?' he said.

'I am your Creator,' I said. 'You're in the middle of a book right now - close to the end of it, actually'.

'Um,' he said.

[...]

'I am approaching my fiftieth birthday, Mr. Trout,' I said. 'I am cleansing and renewing myself for the very different sorts of years to come. Under similar spiritual conditions, Count Tolstoi freed his serfs, Thomas Jefferson freed his slaves. I am going to set at liberty all the literary characters who have served me so loyally during my writing career.' (Vonnegut 1973: 175 ff.)

7. And then to pass on to the next generation there was Tom's boy young Simon aged twenty, whose it is painful to relate

and his young cousin wife his uncle Sam's girl Ann, aged nineteen, whose it will be learnt with regret beauty and utility were greatly
diminished by two withered arms and a game leg of unsuspected tubercular origin, and Sam’s two surviving boys Bill and Mat aged eighteen and seventeen respectively, who having come into this world respectively blind and maim were known as Blind Bill and Maim Mat respectively, and Sam’s other married daughter Kate aged twenty-one years, a fine girl but a bleeder (1), and her young cousin husband, her uncle Jack’s son Sean aged twenty-one years, a sterling fellow but a bleeder too [...] Five generations, twenty-eight souls, nine hundred and eighty years, such was the proud record of the Lynch family, when Watt entered Mr Knott’s service (2).

(1) Haemophilia is, like enlargement of the prostate, an exclusively male disorder. But not in this work.

(2) The figures given here are incorrect. The consequent calculations are therefore doubly erroneous.

(Beckett 1958: 112 f.)

The ‘hero’ of the Vonnegut novel is Kilgore Trout, who is already one of the author’s own personae (another is Philboyd Studge, who writes the preface). On top of this, the author ‘himself’ enters his own novel in order to set his characters free. This gives a DW layer, inhabited by Vonnegut and the reader, a TW1 layer, inhabited by Philboyd Studge and the I of the narrative, and a TW2 layer, containing Kilgore Trout, Dwayne Hoover, etc. The Beckett text is even more iconoclastic. Here, the persona takes the form of the apparently scholarly writer of footnotes (except that their content is defiantly unscholarly). The world structuring in this instance, then, has the DW layer, containing Beckett and the reader, the TW1 layer with the footnote-writer, and the TW2 layer, containing Blind Bill, Maim Mat, etc.

11.2.2 Characters’ voices

Bockting (1991) is a study of the notion of personality in The Sound and the Fury by William Faulkner (1931/1989), and is part of a longer project (Bockting 1993) examining all the novels. She explores a number of related concepts around the notion of character, and defines personality as a pragmatic notion presented through text, and consisting of a more or less stable and consciously expressed set of habitual behaviours. The reader interprets the novel, as everything else in his or her conceptual life, by falling back on known frames, principles by which reality is organised: ‘Frames ... constantly create new inferences, causing the gradual
“filling out” of the character beyond that which is encoded in the text, making him into a “possible person”, a person that “might have been” (Bockting 1991: 15).

*The Sound and the Fury* is written through the eyes of the three brothers, Benjy, Quentin and Jason Compson. These brothers, comments Bockting, inhabit deviant worlds, since their mind styles (Fowler 1977, 1986) are disturbed or impaired: Benjy is retarded, Quentin is certainly psychotic and possibly schizophrenic, while Jason is a sociopath. The three worlds are distinguished from one another textually: Benjy’s world is concrete and non-abstract, his experiences are presented in chronological order, showing no trace of higher processing, non-temporal relationships, judgement, categorisation, transitivity, negation, modality. As Bockting points out, the picture built up of Benjy suggests at first that he is a young child – whereas in fact he is thirty-three.

Quentin’s world is very different from the simple unstructured world of Benjy. He is capable of a degree of abstraction far beyond Benjy’s simple report-like language, and uses the full range of modality, negation, causation, etc. Yet the content of Quentin’s language is obsessive and oppressive: bound up with the never-ending process of time and the cynical, nihilistic views of his father. Eventually, as his control breaks down, and his schizophrenia takes over, Quentin’s language ‘relaxes’ into the kind of simplicity found in Benjy’s narration.

Of the three brothers, Jason’s world is the most ‘normal’; but his language is aggressive and violent, and almost entirely external. He is the sole object of his mother’s obsessive affection, and in return is completely dependent on her emotionally, while at the same time being fiercely resentful and self-pitying about it. This comes out in the form of savage irony and a pretended indifference to her concerns, and a sarcastic condescension towards the rest of the world.

The innovation in Bockting’s approach is to view these three worlds in terms of frames. She shows that the first couple of pages in each of the three narrations establishes a frame within which the reader can interpret the character. In this way, the establishment of character is seen as entirely text-driven. I have had nothing at all to say about the sensitive delineation of personality and interpersonal conflict and dependency carried out by Bockting – in short, her approach to characterisation. Nevertheless, there are points of overlap between her approach and mine which I will now examine in order to throw more light on the notion of character.
Characterisation as such is beyond the scope of the present work. However, one of the functions of the characterisation in *The Sound and the Fury* is to help the reader decide on the reliability of particular narrator-characters as witnesses of the events and states reported. This is a notion I have touched on above (see particularly section 5.3.3), but I discussed it there only in terms of 'known authority', i.e. the status of a particular informant as reflected in general knowledge. As is made clear in sections 4.4 and 5.4 above, though, general knowledge is organised in frames and these frames are the result of a text-driven process. The process which Bockting hypothesises of erecting a frame in order to interpret a character, is nothing more or less than the normal way of processing information about persons. The kind of information which Bockting reviews, though extremely complex and subtle, is no different in kind from the kind of information we normally review in order to establish personality, status and the like. I point this out not to detract in any way from Bockting's achievement, which is to bring together the often-separate worlds of literary criticism and linguistic theory in an illuminating way, but to emphasise the feasibility of her approach, since it uses what is known about cognition and discourse to achieve considerable insight into the question of personality in general and Faulkner's depiction of character in particular.

How can a text-worlds approach throw further light on the matters which Bockting raises? Firstly, we can regard the character frames of Benjy, Quentin and Jason as both building up representations of their inner worlds, and also as providing vantage points from which commonly experienced events are viewed. Faulkner presents the three worlds 'raw', as it were: there is no narrative envelope within which the three stories unfold; they are simply presented one after the other. We can regard them, then, as three separate text worlds, representing a set of overlapping circumstances. It makes no sense to speak of 'outside reality' or the like - Faulkner makes us realise that 'reality' is always distilled from individual experience. Our privilege as readers is to be able to experience separate 'realities' vicariously. Within each text world, then, the details of characterisation perform a world-building function, while the observation of events is function-advancing.

The second way in which the text-worlds approach can help is with the division between what Bockting identifies as 'memories of feeling' and 'memories of words'. These are distinguished from each other by a combination of stylistic features. In the cases of Benjy and Quentin, there are sections in regular type and sections
in italics. In Jason’s case, the use or non-use of quotation marks seems to fulfil the same function. All three stories are conducted as monologues, so the feelings/words distinction has to do with the sources of the monologue. The ‘memories as words’ part represents the character’s version of his own and other people’s actions, including their spoken activity; the ‘memories as feelings’ part represents the character’s own inner landscape. It seems reasonable, then, to think of the ‘memories as words’ events as representing more or less public situations in which the character was present, while the ‘memories as feelings’ represent the play of emotions in the character, and as such are essentially private. It therefore makes good sense to represent the latter as character-accessible sub-worlds, since their content and significance are inaccessible (in the sense discussed) to the participants at either the persona or the author/reader levels.

One example will have to suffice. I will take it from Quentin’s story, in many ways the most complex of the three. The graphology is the author’s:

8. Thinking it would be nice for them down at New London if the weather held up like this. Why shouldn’t it? The month of brides, the voice that breathed She ran right out of the mirror, out of the banked scent. Roses. Roses. Mr and Mrs Jason Richmond Compson announce the marriage of. Roses. Not virgins like dogwood, milkweed. I said I have committed incest, Father I said. Roses. Cunning and serene. (Faulkner 1931/1989: 66)

As Quentin’s story proceeds, so does his mental degeneration, until at the end the two worlds of the schizophrenic merge into a single undifferentiated whole, and the typographical convention of italicising the painful emotional world is abandoned. In (8), the conventional social language of the first sentence concerning the seasonally good weather, gives way to thoughts of weddings, and thence breaks down into the painful memory of his sister’s wedding.Rejected by both his mother and his father in their different ways, Quentin becomes emotionally dependent upon his sister, Caddie. Thus Caddie’s wedding day is, in Quentin’s mind, the day when she abandons him (she ran right out of the mirror), unwittingly contributing to his mental deterioration and eventual suicide. At this point, though, he is still able to control the unwelcome memories by switching to a conversation with his father. So although Quentin’s language already shows the structural deterioration connected with ‘withdrawal from reality’, as psychiatrists call it, we can
nevertheless distinguish the italicised part as building up a sub-world (perhaps to be characterised as 'emotional', though in many ways similar to the flashback sub-world discussed in section 8.2.1), while the part in regular type is mainly concerned with the world of everyday events.

I would say, therefore, that Bockting's work, with its emphasis on the frame as a constitutive device, is essentially a more specified version of the text-worlds approach. It represents a more detailed application of the notion of sub-world in the literary delineation of character.

Notes

1 An associated metaphor is life is a conduit (i.e. a container open at both ends). Hence metaphors like 'entering' and 'leaving' life, and 'going through' life.

2 This approach, those of Lakoff and Johnson and of I.A. Richards and the classical Aristotelian approach to metaphor all have in common that it is regarded as a similitude. Recent work in Relevance Theory, however (e.g. Blakemore 1992: 51–2), is not based on the literal/figurative dichotomy.

3 E.g. 'Sleep... the death of each day's life', Shakespeare Macbeth, I.i.

4 For insightful recent work in this vein, see Freeman (1993a, b).

5 I assume that time is an army belongs, in general terms, to the cluster of metaphors discussed by Lakoff and Turner as special cases of time is a changer (1989: 40 ff.).

6 Most often when the character is also the narrator, as Mick Short has pointed out. Nevertheless, it does happen with characters too, e.g. how far does James Bond reflect Ian Fleming, or Lord Jim Joseph Conrad?

7 I am indebted to Richard Ohmann for this example.

8 See also Leech and Short (1981: 202–7).
12.1 Text-world structure and the ‘layered look’

I now want to consider the notion of text worlds from a much broader perspective. I have made much of the fact that discourse worlds, text worlds and sub-worlds are objects of the same type, containing elements of the same type. All that differs is the intensity of scrutiny: we tend to take the text world as a kind of ‘basic-level object’ (in the terminology of prototype theory), and think of the discourse world as being rather blurred and grand scale, while the sub-world is perhaps rather specific and special-purpose. However, I would like to suggest that the property of ‘self-similarity’ which I am claiming for all levels of world is of a piece with a fairly new view of the universe in general. I quote here from a popular account (excerpted below from a conversation between two characters in a novel) of chaos theory and the associated concept of fractal geometry – the geometry of fractional dimensions:

‘Fractals are a kind of geometry, associated with a man named Mandelbrot. Unlike ordinary Euclidean geometry that everyone learns in school – squares and cubes and spheres – fractal geometry appears to describe real objects in the natural world. Mountains and clouds are fractal shapes. So fractals are probably related to reality. Somehow.’ [ . . . ]

‘Well, Mandelbrot found a remarkable thing with his geometric tools. He found that things looked almost identical at different scales.’ [ . . . ]

‘For example, . . . a big mountain, seen from far away, has a certain rugged mountain shape. If you get closer, and examine a small peak of the big mountain, it will have the same mountain shape. In fact, you can go all the way down the scale to a tiny speck of rock, seen under a microscope – it will have the same basic fractal shape as the big mountain.’ [ . . . ]

‘It’s a way of looking at things. . . . Mandelbrot found a sameness from the smallest to the largest. And this sameness of scale also occurs for events.’ [ . . . ]
'And that's how things are. A day is like a whole life. You start out doing one thing, but end up doing something else, plan to run an errand, but never get there.... And at the end of your life, your whole existence has that same haphazard quality, too. Your whole life has the same shape as a single day.'

(Michael Crichton 1980/1991: 171)

A domestic example of a self-evident fractal object is the humble cauliflower (cf. Mandelbrot 1992: 123). The 'florets' resemble the whole 'flower', while themselves being made up of ever tinier mini-florets, each of which is made up of micro-florets.

Fractal geometry originated in an attempt to model mathematically complex natural objects and forces, such as mountains, trees, coastlines, clouds, weather systems and fluid motion. The natural objects show near self-similarity (unlike reduplicating geometrical figures, which show complete self-similarity), while the forces exhibit apparently chaotic behaviour (in other words, successive small changes build up into unpredictable large-scale fluctuations). Mandelbrot demonstrated that these apparently different manifestations are consequences of one and the same process: randomised reduplication. The basic mechanism consists of small incremental changes, distorted on each reiteration by a random element. For growing objects, like trees and cauliflowers, the change represents a regular growth pattern (which is presumably genetically inbuilt), while the distortions represent random external influences, such as weather, soil variations, etc. For fluids in motion (clouds, weather systems, waves), the change represents the basic physical properties of the fluid, while the distortions again represent environmental effects. The same is true for the results of essentially destructive processes (mountains, coastlines). For readable introductions to chaos theory and fractals, see Lauwerier (1991) and Hall (1992).

Now, it may be that the universe is really like that, in which case Mandelbrot's insight is a paradigm case of a new scientific observation, i.e. a new explanation of something that was always there, but was never thought of in those terms before. Alternatively, it may be, as Crichton says, that it is simply a new way of looking at things, in which case Mandelbrot has put forward a new interpretation of a set of known facts. My view is that this is an undecidable distinction: whichever way you look at it, human conceptualisation is right at the centre of the equation. I would like to consider conceptualisation itself as being structured fractally. The brain itself looks like a fractal object, and as we have already seen in Chapter 2, recent work in neural network theory and parallel distributed processing
is based on a system of complexity built up out of reiterated simple structures. See also Minsky (1986) for a similar system of reiterated elements; and Paulos (1992: 107 ff.) for the suggestion that human consciousness is fractal in nature.

I want to suggest that we take the neural-networks architecture as a serious model for both conceptual and linguistic structure. In this approach, the brain consists essentially of nodes and connections; I suggest that these two kinds of element are at the bottom of all the complex structures we have been examining. Nodes are focal elements, and therefore correspond to the figure in a figure–ground relationship, and are thus noun-like entities, while connectors are relational elements, and therefore correspond to the ground, and are thus verb-like entities. Over and above these constitutional elements, fractal theory also recognises a random environmental distortion which can be modelled. In language, as in the other areas mentioned, this is the effect of context, which we have seen is in any case of paramount importance in pragmatic explanation. The cognitive (as opposed to the mathematical) process of modelling involves recognising these random effects as contributing to the total context, and updating the latter accordingly. In discourse, this is the process of Common Ground incrementation (cf. Chapter 10). In the case studies which follow, I will try to flesh out these ideas, and show that they appear to have considerable explanatory value across very different areas of language.

This idea did not come to me in a flash of inspiration, nor can I say that I have been working steadily on it for many years. It is just that in a number of studies, done at different times, and not obviously connected with each other, what is in retrospect a kind of fractal solution presented itself as a reasonable way of treating the phenomenon under scrutiny. Thus my work on determiners was carried out in the late 1970s (Werth 1980); my work on tenses was first done in 1981 (1981b); conditionals came much later (1992a), though it obviously depended on the earlier work on tenses; while text worlds and sub-worlds, though a long time hatching, did not really see the light of day until 1990. The following sections, therefore, represent a belated attempt to bring together a number of originally separate themes under a single explanatory umbrella. The umbrella, I admit, is full of holes, but the very fact that it is capable of sheltering such a disparate set of data will, I hope, excite some curiosity about the conceptual structures that give rise to the data.
12.1.1 Equivalents in linguistic structure

I have surmised, then, that the basic fractal 'atom' of language is a reflection, at least, of the node-connector architecture of neural-network theory, and that this in turn corresponds both to the figure–ground structure of Gestalt psychology (also adopted by Talmy (1978), Givón (1979), Langacker (1987a) as a basic structure) and to the noun–verb distinction of conventional grammar. (Langacker's landmarks and trajectories also form such a distinction.) There are, however, other well-known binaries in linguistic theory which can also be added to this list. The focal-relational distinction may also be finessed into the topic–comment and subject–predicate relationships of emergent and automatised grammatical systems, respectively (cf. Givón 1993e, f), and into the argument–predicate distinction of conventional predicate logic. We might also think of the main clause–subordinate clause structure of sentences, as well as the distinction between central and adjunct phrases. At the paragraph level, there is the distinction between topic sentences and support sentences, which, for certain kinds of text (notably argumentative) is also echoed at the macro-text level, with theme statements and supporting paragraphs. At a more global, interactional level, we can compare the message with its context of situation.

The above suggestions also imply a second important property of neural-network architecture, as defined above, namely the quality of layering, the progression from more general, broadly sketched relationships to more specific, fine-tuned relationships. The hierarchical structure of all linguistic theories reflects this property. However, most linguistic theories do not have anything to say about generalised global constraints, i.e. constraints on the architecture of all layers; indeed, in current generative theory, the major layers are regarded as distinct ('autonomous') from each other by definition. In the present approach, on the other hand, the property of layering will be seen as constitutive, and each layer will be taken to reflect the basic node–connector structure of neurological processing.

The third important structural property of neural networks is the tendency for frequently connected neurons to clump into modules. This property translates at the cognitive level into expectancies, since items which recur in one another's company form the basis for what eventually becomes rule-like behaviour.
We may list the diagnostics for fractal-type analysis (at least for non-physical systems), then, as follows:

- a basic focal/connector (figure/ground) division;
- an architecture of layers;
- lower level elements clustering into higher level elements by an additive process;
- not perfectly rule-governed, but rule-motivated;
- departures from perfect rule-governed behaviour explained by contextual interference.

12.2 Tense-layering

Tenses (see 6.3) seem to display the additive structure that is characteristic of fractal systems. Thus the basic deictic zero time, ST, represents the participants' time of speaking/time of comprehending, i.e. the temporal parameter of the discourse world. The next layer, RT, establishes the basic time signature of the text world; at the same time, it represents the characters' time of speaking or comprehending. RT therefore sets the temporal parameter of the text world. Finally, ET establishes the time of the events in the text world; we can say, therefore, that whereas RT forms part of the world-building parameters of the world, ET marks the function-advancing propositions of the world. The basic structure, then, is one of two layers, representing the relationship between the discourse world and the text world.

\[
\text{LAYER I: DISCOURSE WORLD (ST/RT)} \\
\text{LAYER II: TEXT WORLD (RT/ET)}
\]

In Layer I, RT is established with reference to ST. Normally, this takes place as part of the deictic business of setting up a text world. That is to say, we need to know, in order to operate successfully in a text world, whether it is a past, present or future world. Furthermore, RT can be fine-tuned, or 'anchored' (Fillmore 1975; C.S. Smith 1978), usually by adverbials in the current sentence of the text. Nevertheless, the presence of a temporal adverbial of some kind does not guarantee anchorage, and anchorage can also be achieved without an adverbial, by elements in the broader context.

Layer II is the functional or main communicative layer; it is therefore also the layer where the 'story' composed by the speaker gets expressed. This is then the natural site for egocentric functions, such as aspect, to take effect. It might be objected that there is at least
one aspectual use which is clearly in the immediate situation and not the text world, namely the normal use of the present continuous as the 'true' present. There are a number of possible explanations for this, and I cannot yet adjudicate between them. The simplest is perhaps that when the immediate situation coincides with the text world, it is possible to get aspectual marking in an immediate situation use. Alternatively, we might hold, with Quirk (1986), that once one is in a particular time zone, the means of expression available have different implications: past and present are both 'experiential', whereas future is 'speculative'; but in the present we can generalise from experience ('the timeless truth of experience', Quirk (1986: 70)) as well as talking about a specific experience ('the instantial "accident" of experience' (1986: 70)), whereas the past is always specific. If this is the case, then we might simply claim that the present continuous form has been recruited to express specific experience in the present time zone (given that the simple present has been taken over for the timeless type), and that it is not a true case of continuous aspect, or not always.

A further refinement on the notion of tense-layering has been suggested to me by Jadranca Gvozdanovic, and also incorporates an explanation for complex (i.e. participial) verb forms. Her proposal is that Layer I establishes the finite verb, while Layer II fixes the predicate relationship to the finite verb. Thus, in:

1. John had already left

the finite verb had is marked ST – RT, while the past participle left picks up the RT – ET specification. In fact, the past participle is regularly the result of RT following ET, while the present participle occurs when ET = RT. Absolute aspect (i.e. simple) forms, on the other hand, are unmarked for event time, and thus represent single layer tenses. More complex forms, such as perfect continuous, show the establishment of a second RT:

2. Mary had been reading since 2 o’clock.

So, in (2), had represents the ST – RT layer once more, been, a past participle, is RT – ET as usual, which also sets up a new RT’, located before RT. Finally, reading, a present participle, equates RT’ with another ET’, i.e. RT’ = ET’.

A number of difficulties for this approach are offered by modalised complex forms, such as:

3. (a) It will certainly rain for the big game.
   (b) It will have been raining there all afternoon.
In these cases, the verb form following the modal, being infinitive, is **unanchored**. This means that it picks up its tense meaning from the context, rather than inheriting it from a progression of finite forms. In the case of (3a), then, the context will stipulate that this is a future time zone (SR + RT), the modal *will* must be epistemic here, with an impersonal subject, and so denotes 'high probability', while *rain* is unanchored. In (3b), the context will provide an (ST = RT) marking, *will* is 'high probability' again, *have* (an infinitive) is unanchored, *been* (a past participle) is regularly (RT–ET), while *raining* is regularly (RT' = ET'). The meaning of this complex expression should then be derivable simply by reading off the layers: in the Present time zone (ST = RT), there is a high probability (*will*) that at the time established as early in the time-zone period (− ET), raining occurred (= ET'). The durative implication often associated with forms carrying the present participle (viz. 'continuous' or 'progressive aspect') would then follow from world-knowledge about the particular activity associated with the predicate ('Aktionsart', 'valency', etc.):

3. (c) *Red Rum will have been passing the winning post all afternoon.
   (d) Red Rum will have been passing the winning post at around 3.37 p.m.

Something along these general lines promises to explain the form/sense relationship associated with the tenses and aspects. Nevertheless, there are still many difficulties to be ironed out, e.g.:

- number of layers,
- what they correspond to,
- the precise nature of the simple forms,
- the function of the unanchored forms, etc.;

so in the following section, I will not attempt to incorporate this approach to layering, but will stay with the system outlined earlier.

As far as the fractal premise is concerned, tenses display an architecture of layers, with lower level elements forming into the complex tenses. Where the tense formation is departed from, as in the case of modalised forms, infinitives and participles, temporal information has to be derived from the context. What we still have to establish is (i) whether there is a sensible figure/ground distinction operative here, and (ii) whether the contextual effect can usefully be thought of as a deviation from rule-governed behaviour.
The figure/ground distinction is quite an important feature of tense meaning, and is also prominent in the treatment proposed in this book. Thus, the different layers are defined in figure/ground terms. Layer I has a figure time (RT), which is established against a ground time (ST). Similarly, Layer II has a figure time (ET), established against the ground defined in Layer I, viz. the time zone (see also Langacker 1987a: 127).

Let us first review what the effects of context on tense selection and formation are. The ‘rules’ in this approach are the machinery of levels, which directly reflect the relationship between the discourse world and the text world (and as we will shortly see again, the sub-world, too). The ‘context’ for any proposition is the Common Ground of the discourse. This, to recapitulate, consists of the propositions expressed in the discourse so far, together with all resulting inferences, plus the frame knowledge evoked by any of these elements. For any level of world, the level below (with the discourse world as the ‘lowest’ level) constitutes part of its context; the remainder consists of the propositions and frame-knowledge evoked so far on the same level (including sub-worlds which are participant-accessible at that level, but excluding those which are character-accessible).

The default setting for tense in any proposition is that corresponding to the t-parameter in the world-building elements for the world currently in force. Thus, if t is set at \( (ST - RT) = ET \) (simple past), then that is the ‘expected’ tense of all propositions, both world-building and function-advancing, occurring in that world. Deviations from this basic tense include direct speech, conditionals and adverbial complements. Tense-sequencing cases – reported speech and the complements of propositional verbs – do not constitute irregularities, since they represent a process of conformity with the prevailing t-parameter (cf. Werth 1993b). This is because the matrix verb will follow the t setting, and the sequence of tenses operates in function of the matrix verb.

How far are these deviant cases the result of contextual influence? Before we can judge that, we need to know whether non-context influenced expressions are possible. It has been the constant refrain of the present approach that the context is all-pervasive and ever-present. Yet certain propositions are undeniably less modified by contextual effects than others. Contextual influence is, thus, a scalar characteristic, so what we are looking for is effects which rate highly on this scale. In this sense, all the cases mentioned above are contextually influenced.
In all cases that I am aware of, the contextual effect in question is brought about by change of context: the context established as the setting for the current world is departed from for some reason. In the case of direct speech and quotation, we have an inserted world with different world-building parameters (including a different Speech Time). In adverbial complements, the adverbial responsible for the deviating tense will always be a parameter-changing adverbial, introducing a sub-topic such as a flashback or a meanwhileback-at-the-ranch alternative locality. As we have seen in Chapter 8 above, all such deviations are handled in the present approach by the machinery of sub-worlds.

12.3 Conditional-layering

From the discussion above and in Chapter 6, we will assume that it makes sense to think of the ST/RT/ET relationship as twin-layered. The presence of any one of a number of other conceptual possibilities, including hypotheticality, social distance or uncertainty, will add a third layer to this system, a layer expressing remoteness. We can therefore add to the schema given in the previous section:

<table>
<thead>
<tr>
<th>LAYER I: DISCOURSE WORLD</th>
<th>(ST/RT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAYER II: TEXT WORLD</td>
<td>(RT/ET)</td>
</tr>
<tr>
<td>LAYER III: HYPOTHETICALITY</td>
<td>(Remote)</td>
</tr>
</tbody>
</table>

For Conditionals, the more specific version of Layer III looks like:

LAYER III: IF WORLD > PROBABLE CONSEQUENCE. (Remote)

Layer III represents a particular type of sub-world which explains the presence of the Remote system of deixis. Questions which naturally arise out of this include:

- are all uses of Remoteness Layer III cases?
- are all uses of would Layer III cases?

From the fuller discussion of the concept of 'Remote' in section 8.3.3, I would answer 'Yes' to both questions.

Let us test the above schema by working through some examples:

4. The situation is becoming tense. Wales has issued an ultimatum to Monaco, which it has until midnight to comply with. The Welsh Foreign Minister has refused to rule out force. But other bodies,
such as NATO and the Leek Marketing Board, are monitoring the situation closely. Indeed, **if Wales attacks Monaco after midnight tonight, the Gambling Commission will surely intervene.**

5. Of course, it's early days yet. But some experts consider that the clash between Wales and Monaco over casino royalties could deteriorate. Furthermore, many vested interests are involved in the dispute, and are exerting every effort to keep the present situation from flaring into all-out war. Even **if Wales attacked Monaco militarily, the Gambling Commission would have to intervene.**

6. The crisis now appears to be over. Wales' crack regiment, the Welsh Guards, are no longer on Red Alert, and Monaco has withdrawn its Croupier Brigades from the Nice border. A period of serious reflection, debate and speculation is now bound to follow. People are going to want to know: **if Wales had attacked Monaco, would the Gambling Commission have intervened?**

These are all 'three-layer predications'; 'two-layer predications' consist of propositions referring into a text world which is distinct from the discourse world (the immediate situation of speech), and corresponding to a remembered or imagined state-of-affairs: for example, a narrative or a 'confident prediction'. 'Single-layer predications', if they truly exist (cf. discussion above), would refer solely into the discourse world: a possible example would be a performative, including verbs of present location, mental activity, etc.

Let us first consider the *if*-clause, which expresses a more or less remote possibility. In section 8.3.3, the point was made that remoteness is linguistically expressed by putting the verb form *one step further back into the (apparent) past*. Thus conceptual Future (**(ST + RT) = ET** comes out as Present (**(ST = RT) = ET**), conceptual Present comes out as Past (**(ST – RT) = ET**), while conceptual Past comes out as Past Perfect (**(ST – RT) – ET**). Semantically, however, these are not genuine Present, Past or Past Perfect tenses, but Remote Future, Present and Past, respectively. I will therefore give them a differentiated tense formula: Remote Future is **(ST + RT)REM**), Remote Present is **(ST = RT)REM**), and Remote Past is **(ST – RT)REM**. The REM marking is structurally parallel with the ET marking in nonremote tenses. We can perhaps regard it as replacing the ET marking when in a hypothetical sub-world. The notation also effectively reveals that despite the change at the 'Conditional III' level from simple to complex tenses, the system is actually quite uniform: the variations represent Future, Present and Past, respectively. Linguistically, REM has the effect of selecting
one step pastwards, primarily affecting the RT marking; semantically, it suspends the temporal system, placing its proposition in a hypothetical space, which nevertheless belongs to one of the major time zones.

Next, consequence-clauses: these have the apparent form of, respectively, a Future, something called a Conditional, and something called a Conditional Perfect. In section 8.3.3 above, I gave reasons for deriving these from epistemic modal will. Thus, matching the Remote Future if-clause is the epistemic consequence clause with will, expressing near-certainty; matching the Remote Present in the if-clause is the Remote form of epistemic will in the consequence clause, namely would, expressing hypothetical certainty; and matching the Remote Past in the if-clause is the Remote Past form of epistemic will in the consequence clause, namely would have, expressing hypothetical certainty in the past.

We can now diagram these texts. For (4), the text world of Figure 12.1 takes place in the present; any attack is therefore a future of possibility, but because it is expressed as a hypothesis, it becomes Remote Future. The resulting consequence-clause is therefore also only a possibility, though one closely bound to its condition. A high-force epistemic modal is the obvious means of expression.
Text (5) gives Figure 12.2. Text (5) is speculative, considering possibilities that might arise out of a current situation. One of these possibilities is an attack, but it is in no way certain that such an event will take place – hence the Future is avoided. Instead, what is considered is a situation-type, which is most naturally expressed in the generic tense – the Simple Present.

![Diagram](image)

**IF-WORLD**

<table>
<thead>
<tr>
<th>WB t:</th>
<th>(ST = RT)REM</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: W. attack M.</td>
<td>Gam. Com.</td>
</tr>
<tr>
<td>(in affair)</td>
<td>intervene</td>
</tr>
</tbody>
</table>

**POSSIBILITY**

| situation | deteriorates |

**WB t:** (ST = RT)

| c/1: Wales, Monaco |
| experts, Gam. Com. |

Figure 12.2

Underlying the if-clause in this type of conditional is the tense form found in speculations: Say that Wales attacks Monaco – what then? In such cases, what is at issue is not temporality, but lexicality; not the time of the action, but the type of the action. Nevertheless I have retained the Present tense formula, since (i) distributionally the Present Simple is a Present tense, though semantically it is only Present time zone by virtue of covering all time; (ii) because it acts in parallel with the other if-clause tense forms in the presence of Remote, and (iii) because the resulting Remote Present acts just like a Remote – and not, for example, like a Past – with respect to
its consequence-clause. Following this last point, the consequence-clause contains the Remote form of epistemic will.

The diagram for text (6), the so-called counterfactual conditional, is shown in Figure 12.3.

The *if*-world in this case consists of a supposition concerning a possible alternative state of affairs: it is imaginary (though not impossible). Since it concerns a past state-of-affairs, it is in the Past time zone; but since it is a hypothetical state-of-affairs, it is Remote. The consequence-clause is still epistemic will, since it has to do with some degree of certainty, but now, due to the general Past time-zone status of the proposition, it is the Past form of the epistemic *(will have)* and, furthermore, because it is hypothetical, it is the Remote form of that *(would have)*.

Let us now investigate whether these hypothetical worlds are participant-accessible or character-accessible. In the notation, they have all been shown as separated from their matrix worlds, i.e. as character-accessible. On the other hand, there are no evident characters in the text worlds who might be represented as entertaining the hypotheses in question. So why are they not the participant’s hypotheses? If they were, we should be able to assess them for truth or probability, which clearly we cannot, since in all cases these
sub-worlds are founded on a non-actual (or 'irrealis') assumption, making their consequence propositions inaccessible. So we appear to have a dilemma: participant-erected hypotheses, yet inaccessible to participants.

The answer to this conundrum lies in the specialised nature of the Conditional form itself, which, in its various varieties, signals the construction of a sub-world inaccessible to participants. It says, in effect, 'What follows is speculation; handle accordingly'. So although there might be no appropriate characters in any given case, these sub-worlds are fully equivalent to sub-worlds in which characters do act out scenarios inaccessible to participants.

Finally, what would a participant-accessible hypothetical sub-world look like? No hypothetical sub-world can be fully accessible to participants, since this would destroy its special nature. The nearest we can come to such a situation would be where the Conditional forms part of a speculative question by the producer. For example, many science-fiction stories start from a 'What if?' question, in which the characters play out the consequences of a single historical event having been otherwise (examples are Philip Dick's *Man in the High Castle* (1962), Len Deighton's *SS-GB* (1979), and William Gibson and Bruce Sterling's *The Difference Engine* (1991)). The author poses the original question (which therefore opens up a pending sub-world). This contains the IF world, and the function-advancing part of the latter consists of the consequences, i.e. the events which take place in a world defined by this conditional assumption. But the *if*-world, by its very nature, is inaccessible to the participants; the nearest they can come to accessibility is by controlling the Conditional assumption. Nevertheless, they cannot gain access to the consequences. The most they can do is to judge these on feasibility, but they cannot even decide whether the consequences are likely to happen, let alone whether they are true or not.

With regard to the fractal-postulate, Conditionals also elicit a figure/ground relationship, the *if*-condition constituting the ground against which the consequence hypothetically takes place. As we have seen, they participate in a layered architecture (forming a third layer), by way of another added level of attention (the character-accessible sub-world). Finally, as we saw above, the unexpected departures from straightforward tense forms come from changing the contextual parameters, in this case in order to put forward a hypothesis in comparison with the state-of-affairs which constitutes the regular circumstances for the current world.
12.4 Definiteness-layering

Werth (1980) is a double-pronged approach to questions of both determiner-types and predicate-types, and examines some vexed semantic problems in the new light which a layered approach brings. The conclusions of the paper are that there are three basic kinds of determiner sense: **generic, specific** and **non-specific**. Generic determiners demarcate the totality of the indicated set (or subset); specific determiners allow reference to some existing entity or quantity; and non-specific determiners indicate that some proper subset has potential reference. In addition, the specific sense may be anaphoric or non-anaphoric (though both the other senses have anaphoric possibilities too, if somewhat more specialised).

The paper also suggests that there are just three predicate types: **generalising, iterative** and **stipulative**. Generalising predicates make criterial statements about sets or subsets; iterative predicates denote actual states of affairs within their Universe of Discourse; stipulative predicates state conditions necessary for the attainment of some goal.4

The next step is to examine the distribution possibilities between the determiner-types when occurring in subject NPs and the predicate-types. Since there are three of each, there are nine potential combinations. In practice, however, only three are possible, which are:

- **generic – generalising**
- **specific – iterative**
- **non-specific – stipulative**

The first predicates criteria of sets; the second predicates states of affairs of referents; and the third predicates conditions for set-membership on to potential proper subsets. Examples of **generic–generalising** propositions are (1980: 278 f.):

7. (a) The horse and mule live for forty years.
    (b) Water finds its own level.
    (c) Fools rush in where angels fear to tread.

**Specific–iterative** propositions look like:

8. (a) A horse on a neighbouring farm lived for fifty years.
    (b) The water quickly drained away.
    (c) Some fools tried to sell me a sweepstake ticket.
Non-specific-stipulative propositions look like:

9. (a) A horse would speed my escape.
    (b) Pure rain water should be used on house plants.
    (c) Only a fool would buy a car without inspecting it.

The layering is seen at its clearest in the analysis of the NPs. One finding of Werth (1980) was that there are different ways of achieving any given sense, depending on context (for the anaphoric uses) and semantic composition – layering – for different surface forms having a generic meaning, say. What we call ‘generic’, in other words, is a family of senses:

10. (a) the horse: ‘whole set’
    (b) horses: ‘every member of set’
    (c) a horse: ‘(any) one member of set’

having the following layered analysis:

11. (a) Set  \( (\text{horse}) \)
    Totality  all of \( (\text{horse}) \)

(b) Set  \( (\text{horse}) \)
    Membership  \( (\text{horse} \, 1, \text{horse} \, 2, \ldots, \text{horse} \, n) \)
    Totality  all of \( (\text{horse} \, 1, \text{horse} \, 2, \ldots, \text{horse} \, n) \)

(c) Set  \( (\text{horse}) \)
    Totality  all of \( (\text{horse}) \)
    Single member  one among \( (\text{all of (horse)}) \)

Generic is thus seen to be a combination of set and totality – though totality is the crucial characteristic, since all the analyses are founded on the set.

The specific sense, as in (8a), is analysed as follows:

12. Set  \( (\text{horse}) \)
    Membership  \( (\text{horse} \, 1, \text{horse} \, 2, \ldots, \text{horse} \, n) \)
    Single member  one among \( (\text{horse} \, 1, \text{horse} \, 2, \ldots, \text{horse} \, n) \)
    Specific  \( \exists x, x \text{ is (one among (horse} \, 1, \text{horse} \, 2, \ldots, \text{horse} \, n)) \)

glossed as ‘There is an \( x \), such that \( x \) is one among horses’. The non-specific sense, though, as is perhaps by now obvious, is like the specific, except for the ‘specific’ line itself. Thus, (9a) receives the following analysis:

13. Set  \( (\text{horse}) \)
    Membership  \( (\text{horse} \, 1, \text{horse} \, 2, \ldots, \text{horse} \, n) \)
    Single member  one among \( (\text{horse} \, 1, \text{horse} \, 2, \ldots, \text{horse} \, n) \)

The determiner senses are represented as being layered onto the basic noun meaning, which is that of the set denoted by the noun.
All uses of the, and all generic uses, contain the feature (totality), or alternatively 'V', while anaphoric the, in addition, contains the feature (specific), in common with specific a(n). The latter, of course, lacks the (totality) feature, but in common with all senses of a(n), has the (single member) feature.

The NPs analysed above, and the propositions they form part of, would, in real language, form part of discourses, occurring in real contexts. We have also found ample indications that discourses are fractal in their basic structures: that is to say, discourse worlds, text worlds, sub-worlds and propositions all share the basic structural elements of time and place, and nominated entities in relationships, all subject to contextual modification. The question now is, do NPs too have this basic structural form, and, if so, can it be linked to the version of layering that seems to apply to NPs?

The set indication which is at the basis of all NPs represents the non-deictified entity, i.e. the 'bare' entity, unattached to a context of situation. The function of the determiner is to perform this deictic attachment, so the nature of the context is crucial in all cases. As is the case with propositions, time and place are not necessarily present within the expression itself; they more often derive from the surrounding context. The very fact of being contextualised, though, means that a NP becomes deictically active: it becomes a spatio-temporal entity, although there may not be any precise coordinates. We have seen, furthermore, that layering in the case of determiners consists of the quantificational modification of the basic set. We can therefore think of the set as representing a one-place argument, with the quantified elements performing the function of operators. Thus, the horse next door would be analysed as:

\[
\begin{align*}
t & : \text{time of context} \\
l & : \text{next door (to: location in context)} \\
e & : \text{(i.e. 'entity'): (horse)} \\
A1: & \text{e is totality in context (i.e. there is just one member of (e) in the CC in this case)} \\
A2: & \text{e is specific.}
\end{align*}
\]

In a given context, the NP in question might also be anaphoric, in which case a third assumption would state this. This depiction of the semantic/pragmatic structure of a NP in context sees it as a miniature scenario in which the basic set is the entity, and the quantification constitutes an 'activity', or perhaps conceptually more appropriate, a 'process', of deictic framing. The basic set there-
fore constitutes the figure, with the ground being provided by the deictic frame. Time and place can also be elements specific to this scenario (e.g. the prehistoric horse, the horse in the Middle Ages; the Spanish horse, the horse next door), but are most often derived from the deictic parameters of the context. The deictically framed NP will in its turn form part of a proposition scenario, which will form part of a (sub-)world scenario, and so on. All the elements of a fractal explanation are present in such an account.

12.5 Sub-world-layering

We have seen repeatedly that sub-worlds consist of the very same elements in the very same kind of patterns as text worlds. I have also occasionally analysed examples in which more than one sub-world occurred, including (i) sub-worlds embedded in sub-worlds and (ii) simultaneous extensions within a text world.

The notion that language consists of repeated patterns is commonplace. But this is normally interpreted to mean the recurrence of a pattern on a particular level, e.g. the recurrence of syntactic structures on the syntactic level, or of phonotactic clusters on the phonological level. The fractal image suggests that that pattern-repetition goes on from one level to another – from the whole mountain to the speck of rock – so that there ought to be some fundamental structural similarity between syntactic patterning and phonological patterning, say. I will simply point out that it is possible to think of vowels as predicate-like (relational) and consonants as argument-like (focal) – thus, once again, ground and figure, respectively. Also, I have suggested elsewhere (Werth 1988b) that stress is essentially propositional in nature, whereas intonation is deictic – and I offer there too a layered analysis of these phenomena. The fractal account also suggests that complexity consists of the layering of one level upon another, while, as we have seen, change of contextual parameters appears to account for any deviation from a default setting.

To summarise, the basic fractal-type structure of node–connector finds its conceptual equivalent in the structure of entity + deictic/relational setting, and this is represented at all semantically charged levels, from the NP right up to the knowledge frame. Secondly, the notion of fractal reiteration is reflected neurologically in the concept of the neural level, and finds its linguistic expression in the process of building similarly structured levels in layers. Finally, the random element which is characteristic of naturally occurring fractal entities is equivalent to the effect of context ('extension')
on the basic linguistic properties of the items involved at any given level (their ‘intensions’).

Notes

1 Actually, as an anonymous reviewer has pointed out, (models of) physical fractal systems exhibit mathematical proportions such that each iteration is related to the one preceding and following it by a ‘fractional dimension’, e.g. the dimension of the function describing the form of a coast line might be 1.3 (which, in terms of scale, means that when measured from a height of x feet, it is 13 times longer than when measured from 10 * x feet. It is this fractional, non-integer dimension that produces (when the function is applied to its output) the particular properties of self-similarity of fractals. It is true that no obvious parallel to the fractional dimension seems to exist for non-physical systems. However, it should also be pointed out that it surely represents a modelling simplification: increasing the distance of view by y is taken to be equivalent to a fraction (1/y)th of the original. It seems to me, though, that self-similarity in general is more crucially defined in terms of the formula defining the fractal form, and that is something which both physical and non-physical systems evidently share. See also van Peer (in press), who quite correctly criticises certain over-enthusiastic literary colleagues for seeing the mathematical notion of chaos as somehow modelling the ‘irrational’ in literature. He makes it clear that any genuine chaotic system must be mathematically definable.

2 Langacker (1987a and 1991) puts forward a similar system.

3 Or any modal with an epistemic meaning, such as can in one of its senses.

4 In 8.3.2 above, the ‘specific’/‘non-specific’ distinction was found to depend on the predicational context of the NP. The present section is fully compatible with this generalisation.

5 This subsequently gets abbreviated to ‘((horse)s)’.

6 ‘Totality’, though, is contextually determined: i.e. if there is no contextual restriction, then totality has the sense of universal quantification; if the context includes some defined domain, then totality is relative to that domain (cf. Hawkins 1978: 129 f.; Werth 1980: 254).

7 The same anonymous reviewer claims that, based on these remarks, ‘a generative grammar would be a prototype of a “fractal system”, because of the built-in recursiveness of the phrase structure rules, which defines “the property of ‘self-similarity’ “ for clauses at different levels.’ Of course, my point is that the fractality of language extends to all those parts of language which in generative grammar (at least of the GB/P&P/minimalist stripe) are separate, autonomous, and by no means necessarily similarly structured, modules.
Chapter 13

Summary, claims and assessments

13.1 Summary of system

We can now review what a text-world analysis looks like. Firstly, we can divide the propositions in a text into world-building elements and function-advancing elements. The world-building elements constitute the deictic parameters which frame the text; the function-advancing propositions comprise the new information which gives the text its point. Among the world-building elements are representations of entities which constitute the referents in the text world. The active entities, or characters, must be considered as sentient beings, essentially like the participants in the discourse who are responsible for creating them. Propositions attributed to characters are not directly represented in the text world, but form sub-worlds which have different logical characteristics from the text world which contains them. There are three kinds of sub-world: deictic alternatives, propositional attitudes and modalisations. A further level of complexity comes from the fact that we can distinguish between literal and metaphorical situations. Time-relationships (and related phenomena) may be represented as deictic zones, i.e. as a kind of extended location, and so are also basically metaphorical.

World-building elements occur in an annotated list, marked as t, l, etc. Function-advancing elements are uniformly shown as various kinds of path. Paths or groups of paths which have the function of being part of another path are enclosed in a rounded rectangle. Pathways are shown as vertical, modification relationships (interpreted broadly) as horizontal. Each path is marked as a particular kind of ‘motion’, specified by the verb. Sub-worlds are shown as having a point of origin in their containing world, since the characteristics of the sub-world depend on what kind of sub-world it is.
13.2 What claims have I been making?

However powerful and suggestive the above system might be, without external justification it is no more than a notation. The external justification I am claiming comes from two sources:

- cognitive systems
- discourse perspective.

These areas interact in complex ways, some of which I have attempted to indicate in the above pages. However, for the purposes of this discussion I will try to tease them apart somewhat.

Let us start with the cognitive aspects. Since cognition is a human system, it must be intimately based on human experience. This is not to downplay the possibility that a certain proportion of cognitive structure is innate. However, it does say that even in those cases of cognitive or even physical systems which are quite self-evidently innate, such as vision or motor systems, experience is essential to activate and to maintain the systems in working condition. Children brought up in severely deprived circumstances, where their experience is grossly curtailed, will not develop these cognitive and physical systems fully or at all. So the undoubted necessity for positing a degree of innateness in language must be viewed in the light of the fact that experience is essential in order both to kick-start the system and to maintain it.

Experience of language has been presented over the last quarter-century as though it were exclusively a question of the quality or lack of quality of the syntactic input (what Hornstein (1990) calls ‘poverty-of-stimulus considerations’). What seems quite clear, though, is that the great majority of children receive extremely rich linguistic input, not just syntactic, but also from perception, memory, communication, meaning, inference, socialisation and acculturation. In general terms, they acquire the ability to cope with their environment. This has a number of consequences for the human language faculty. Firstly, language as a whole cannot be a formal, mathematically definable system, unless experience itself can also be mathematically defined. Whether this prevents any subsystem of language, such as syntax, from being mathematically definable is still an open question, though the burden of proof must be on those who claim mathematical rigour. Secondly, the conceptual representation of experience is more likely to reflect the richness discussed above than to reduce it to some non-distinctive minimal model. Thirdly, the input from physical experience is so
central to the organism – experience of self, the body, extensions to other people, experience of location and movement in space – that it is readily extended to conceptual domains that are not physical – emotions, relationships, abstractions and so on.

What, in practical terms, does this experiential basis entail? The main consequence is that the conceptual representations we use must reflect this richness. Whatever the actual ‘brain-code’ (cf. Cook 1986) used to represent memories, perceptions and so on, it must be capable of handling the complexity of experience. On the other hand, there is no evidence from Cognitive Science that mental representations should resemble the minimal systems advocated in current formal semantics. Moreover, the linguistic approach should be able in principle to account for the extension from physical to abstract. Finally, although the system must be capable of representing richness, it should itself be as parsimonious as possible. This entails that there should be no unnecessary duplication of resources, and this I take to mean that the shape of the system should be fundamentally similar at different levels. Hence the ‘fractal’ proposition in Chapter 12 above.

The second claim emphasises the importance of knowledge in the system. Knowledge of one kind or another is the residue of the experience of the individual. It builds up with experience into an enormous store-house of cross-classified information, and provides a constant background and support-system for all cognitive processes. In Generative Linguistics, the function of knowledge has been restricted to the question of what it is to know a language, and the answer that has been given has been ‘linguistic competence’, a formal, mathematically definable system. However, the importance of the knowledge-base in everyday cognitive processes of classification, inference and interpretation, all of them essential to language, cannot be overstated.

What a discourse grammar has over a sentence grammar is the principled inclusion of context, both linguistic and extralinguistic. The main contribution of context to the theory of language is, in my view, its anchoring function. Language without a context is purely schematic and generalised, in that it does not refer into a situation. Generative Linguistics has erected ‘freedom from context’ as a goal for linguistic theory, on the (correct) assumption that context introduces too many factors for a formal, mathematically modellable system to handle. Since many of the linguistic subsystems of central concern to current theories can be shown quite clearly to lie within the domain of context – deixis, reference,
anaphora, definiteness, tense – there is a fundamental mismatch between the data and the methodology espoused by generative theories. A further question, though, would be: is the context controllable enough to provide a theoretical basis for a linguistic account? It has usually been assumed that the answer to this is 'no' – context comprises in principle all knowledge. Even the simplest situation, viewed objectively, represents many gigabytes of information. No system which claims to be cognitive, hence restricted to brain-size processing, could, it is argued, possibly handle all that input. What we have here, then, is the problem of knowledge-partition or retrieval.

This is where the second discourse claim of the present work comes in. The saving factor in all this glut and complexity is, I have claimed, the phenomenon of text-drivenness. The text is responsible, in the first instance, not only for defining its own parameters, but also for stipulating which areas of the knowledge-base are to be activated, which kept active, which are to be further specified, and which are to be allowed to revert to a quiescent state. There is no need, therefore, for discourse participants to activate everything in readiness; they only have to take their cue from the text.

### 13.3 Assessing a cognitive model

By way of conclusion, it will be instructive to review a set of issues raised in van Dijk (1988: 14 f.) which can be taken as an instrument for assessing any theory of cognitive models, including that of text worlds. They are as follows (summarised in question form):

1. Has the nature and operation of each level, phase or dimension been worked out precisely enough for it to be subjected to computer simulation?
2. What is the relationship between knowledge and belief organisation and the cognitive model?
3. What does the cognitive model tell us about the relationship between cognition and formal semantic concerns (truth, reference, relevance)?
4. How are spatial, configural and sensory information (colour, sound, feel, etc.) – analog information – embodied in the model, and linked with other information?
5. How are models organised in episodic memory, what categories do they use, and how are they implemented?
6. How is the information needed in a model accessed and activated?
7. What is the relationship between particular models, generalised models and frames, scripts or other elements of social cognition?
8. What should language users know in principle about the communicative situation in order to participate adequately in it?
9. How does the model differentiate between different types of situation and their components?

13.3.1 Assessment

I will now try to reach some kind of assessment of the system presented in this book by answering each of these questions in turn. This will perhaps provide an idea of what has been achieved, what has been begun, and what has still to be tackled.

Nature and operation at each level

The various operative levels of the text-world model have been distinguished in this book, and there is a considerable amount of detail about how they operate. Van Dijk includes as a test of adequacy the notion of a computer simulation. My work has not yet achieved this level of explicitness, but the question is: how difficult would it be to reach this goal? In other words, where exactly is the system not explicit enough, and how can this be repaired? We also have to ask about the kind of computer architecture most appropriate for such a test: Von Neumann (i.e. the conventional digital architecture) or Connectionist (i.e. parallel distributed processing)? These are questions which I invite reviewers to answer, but Chapters 2 and 12 above, and Werth (forthcoming b), suggest that the Connectionist/neural-networks model fits the system advocated here most naturally.

Organisation of knowledge and belief

The text-world model incorporates knowledge by way of frames, which are also the units of organisation for knowledge in general. The model also incorporates a number of principled methods for distinguishing between knowledge (accepted information) and belief (unconfirmed information). The first of these is the representation of beliefs in terms of sub-worlds, which then presents the
unconfirmed nature of beliefs in terms of participant inaccessibility. Knowledge, on the other hand, comes in via frames, which, although open-ended, comprise information which is, at least for the time being, accepted by all participants. The second method operates within the discourse world and is social-deictic in nature. It involves the assessment of speaker authority, which relativises the proposition under consideration along a scale of authoritativeness, related to the scale of probability. The mechanism would then be a participant-accessible sub-world. The third method is 'relativisation', i.e. the positioning of a proposition in terms of the social, psychological or epistemic context. This can operate at any level and also uses the sub-world mechanism, depending on the nature of the relativising predicate used. Thus, the mechanism of sub-worlds enables the distinction between knowledge and belief to be drawn.

Cognition and formal semantics

The text-world model is explicit about the central notions of formal semantics. Truth is never absolute, but always relative to a text world (or sub-world), and only valid within its world. Reference is also relative to a world, and is generally established by nomination among the world-building elements defining the world. Reference maintenance (anaphora) then takes place as a simple process of Common Ground management, while cross-world reference behaves identically, except that there is a restriction on the direction it may take: it may go 'upwards', viz. from discourse world to text world, or text world to sub-world, but not 'downwards'. Relevance is taken to be a question of applying the notion of coherence properly, i.e. within a discourse grammar which incorporates a knowledge-fed Common Ground. In general, however, we can say that the theory applied here replaces objectivist categories with experientially based equivalents.

Analog information

The experientialist basis of this work also suggests that information should be represented as closely as possible to how it is perceived. Space is taken to be the central cognitive experience, and the model is capable of handling analog spatial configurations. Other kinds of analog information are represented metaphorically.
Organisation and implementation of model

There is a great deal of detail in this book about the organisation and structure of the model at all levels, and this is backed up by the proposal that organisation and structure are essentially similar from one layer to another. Van Dijk characterises implementation as retrieval, application, updating and de-activation of the world (1988: 15). This reveals some critical differences between van Dijk’s conception of a cognitive model and my notion of a text world. Since a text world is an on-line representation of (one aspect of) a specific discourse, the notion of retrieval is irrelevant. You might retrieve a memory of a specific text world, but otherwise, retrieval is a matter for generalised representations, or frames. Similarly, the application of a text world is restricted to the discourse it springs from, and deactivation occurs when that discourse is over. What does remain an open question for the theory of text worlds, however, is the problem of updating, or incrementation. Although the general mechanism seems clear enough (subjecting each successive proposition to coherence with the Common Ground, applying frame knowledge and inferencing to it), there are important questions which remain without a definitive answer (but see Chapter 10): at what point do we stop adding information to the current text world and start a new one?; what counts as an update point?; what is a new topic?; a new sub-topic?; what about digressions (Dascal and Katriel 1979)?

Information access and activation

This is the problem of knowledge retrieval. As we have already seen, an important component of the present approach is that knowledge retrieval processes are text driven, i.e. the text is the sole instrument by which the producer selects the relevant knowledge domain, and it is the text which directs the recipient as to which areas of knowledge should be activated.

Relationship between worlds and frames

I suggest that the text world is an on-line representation of a specific state of affairs, which is then stored in episodic memory. When some critical number of similar TWs have been stored (perhaps as few as two), generalisations can begin to be drawn,
and this represents the genesis of a frame. An essential difference between TWs and frames is that the former contain no variables: by definition all terms present in the world refer into that world.

The communicative situation

The present approach defines the communicative (or immediate) situation as the discourse world. An essential point about the DW is that it too is a construct, just like the TW and the SW. This means that although the participants are not responsible for their surroundings, they do actively select only those elements of the situation which have a bearing on the purposes of the discourse. This will probably include the assessed knowledge-base of all other participants, but will not include objects in the environment, unless these become mutually manifest to the participants as a result of being indicated in the discourse.

Situations and their components

Situations are defined in the present approach in terms of a configuration of a place, a time and entities (protagonists, objects) in relationships and having properties. However, it was demonstrated that a situation cannot be a mere configuration of such elements, since the essential nature of a situation is that it does not come into being unless conceived of by a sapient entity. Thus the presence of a protagonist (participant, character) becomes a necessary element in the definition. In the implementation of the theory, all these elements figure in the world-building (deictic) component of a text world.

13.4 In conclusion

As lifelong members of a cultural community, each of us is the sum total of his or her experiences in that community. Whenever we participate in fresh experiences, whether directly or vicariously, whether through an act of language, a memory-record or a feat of the imagination, we have to interpret them in terms of the frames which we already have. In order to do this, we must first represent the 'new' current situation and then match it up with our stored repertoire of frames. In the foregoing book, I have suggested that the first of these processes involves the construction of a nested series of worlds, with due attention paid to the
need to anchor these in the context of situation and to provide lines of communication between them. Worlds are essentially nonce-forms: if a world is truly unique and unrepeated, it may be stored as an incident, but not as a frame. Frames are situation-types, representing repeated world-configurations. They are the basic storage-unit of human experience.
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The focus of this new series is on the stylistic analysis of literary and non-literary texts, and the theoretical issues which such work raises. Textual Explorations will include books that cover studies of literary authors, genres and other groupings, stylistic studies of non-literary texts, translation study, the teaching of language and literature, the empirical study of literature, and corpus approaches to stylistics and literature study. Books in the series will centre on texts written in English.

Readership of the series will be mainly undergraduate and postgraduate students, although advanced sixth formers will also find the books accessible. The series will be of particular interest to those who study English language, English literature, text linguistics, discourse analysis, and communication studies.

Texts are apparently mundane. They merely consist of sets of sentences linked together. Yet when we read those texts they come to life. We can see this most obviously with novels and stories. The sentences of fictional texts are gateways through which we can ‘see’ new worlds. We can see scenes, and know how people and objects in those scenes are positioned in relation to one another. For example, on Christmas morning in A Christmas Carol by Charles Dickens we can imagine the street where Scrooge lives and see him at the window instructing the boy he has stopped in the sunlit street below to go to theoulterer’s to buy the prize turkey. We can also ‘update’ those scenes, when they are affected by natural events and the actions of the characters. For example, we can imagine the changing scene as the boy hurries back to Scrooge overburdened with the enormous turkey he has bought for him.

In this challenging book Professor Paul Werth provides a theory of how we manage to see the worlds of texts through reading their sentences. He shows the complex ways in which readers interact with texts, bringing along shared knowledge of both language and the world to do so. He examines extracts from particular texts in considerable detail to explain how text worlds are built up as we read. In so doing, he sheds new light on a wide range of aspects of textual understanding, including text and discourse analysis, discourse presentation, textual deixis, textual reference and presupposition, theories of how shared knowledge operates and aspects of cognitive linguistics, including mental spaces and metaphor.

Text Worlds will be of interest and use to both undergraduate and postgraduate students of language, literary criticism and literary theory, as well as linguists studying literature and texts.

The Late Paul Werth was formerly Professor of English Linguistics at the University of Amsterdam.