

### 3

## Topic and the representation of discourse content

In the course of this chapter, we shall examine some of the uses of the term *topic* in the study of discourse. In the process, we shall explore some recent attempts to construct a theoretical notion of 'topic', a notion which seems to be essential to concepts such as 'relevance' and 'coherence', but which itself is very difficult to pin down. We shall suggest that formal attempts to identify topics are doomed to failure, but that the discourse analyst may usefully make appeal to notions like 'speaking topically' and 'the speaker's topic' within a 'topic framework'. We shall also consider briefly how markers of 'topic-shift' may be identified in written and spoken discourse. In particular, we shall insist on the principle that it is speakers and writers who have topics, not texts.

We shall then go on to consider how the notion of 'topic' relates to representations of discourse content. Since many of the representations proposed are based on a hierarchical organisation of discourse content, we shall consider critically the possibility of characterising 'topic' in terms of the top-most elements in the hierarchical representation.

### 3.1 Discourse fragments and the notion 'topic'

We have already argued that the data used in discourse analysis will inevitably reflect the analyst's particular interests. Moreover, the piece of data chosen for study can only be partially analysed. If the investigation is undertaken by someone primarily interested in intonation, for example, the data selected has to meet certain requirements. It must be spoken, audible, and, depending on the level of investigation involved, clear enough to allow instrumental analysis, and accompanied by additional information on the age, sex and linguistic background of the speaker. In

### 3.1 Discourse fragments and the notion 'topic'

practice, any single investigation will have much stricter data requirements than this rather general list. Having selected the data, the investigators will study features such as the pitch, rhythm and loudness of syllables in the data, and spend relatively little or no time studying the lexis or the morphology. In its most extreme form, this narrowing of the investigation in terms of the data selected and the analysis undertaken can lead to a constructed text being carefully read aloud in a phonetics laboratory by a speaker of standard Southern British English. The results of the investigation may then be used to make 'empirical' claims about the intonation of English. Although this is an extreme example, it serves to illustrate the selectiveness which characterises linguistic investigation generally, and which is also present to a certain degree in most analysis of discourse.

The data studied in discourse analysis is always a fragment of discourse and the discourse analyst always has to decide where the fragment begins and ends. How does the analyst decide what constitutes a satisfactory unit for analysis?

There do exist ways of identifying the boundaries of stretches of discourse which set one chunk of discourse off from the rest. Formulaic expressions such as 'Once upon a time . . . and they lived happily ever after' can be used explicitly to mark the boundaries of a fragment. Other familiar markers are 'Have you heard the one about . . .?', 'Did I tell you what happened to me last week . . .?' and various other forms which can be used to mark the beginning of a joke or anecdote. These markers can help the analyst decide where the beginning of a coherent fragment of discourse occurs. However, speakers often do not provide such explicit guidelines to help the analyst select chunks of discourse for study.

In order to divide up a lengthy recording of conversational data into chunks which can be investigated in detail, the analyst is often forced to depend on intuitive notions about where one part of a conversation ends and another begins. There are, of course, points where one speaker stops and another starts speaking, but every speaker-change does not necessarily terminate a particular coherent fragment of conversation. Which point of speaker-change, among the many, could be treated as the end of one chunk of the conversation? This type of decision is typically made by appealing to an intuitive notion of **topic**. The conversationalists stop talking

about 'money' and move on to 'sex'. A chunk of conversational discourse, then, can be treated as a unit of some kind because it is on a particular 'topic'. The notion of 'topic' is clearly an intuitively satisfactory way of describing the unifying principle which makes one stretch of discourse 'about' something and the next stretch 'about' something else, for it is appealed to very frequently in the discourse analysis literature.

Yet the basis for the identification of 'topic' is rarely made explicit. In fact, 'topic' could be described as the most frequently used, unexplained, term in the analysis of discourse.

### 3.2 Sentential topic

One use of the term 'topic' is associated with descriptions of sentence structure. According to Hockett, a distinction can be made between the **topic** and the **comment** in a sentence, in that 'the speaker announces a topic and then says something about it . . . In English and the familiar languages of Europe, topics are usually also subjects and comments are predicates' (1958: 201). It is clear from Hockett's examples, reproduced here as (1) and (2), that this 'sentential topic' may coincide with the grammatical subject, as in (1), but need not, as in (2).

- (1) John / ran away
- (2) That new book by Thomas Guernsey / I haven't read yet

The treatment of 'topic' as a grammatical term, identifying a constituent in the structure of a sentence (or the deep structure analysis, at least) is also noticeable in the work of grammarians such as Dahl (1969) and Sgall et al. (1973). Transformational generative grammars would also account for the structure of example (2) in terms of a movement transformation called 'topicalisation'. The term 'topic', then, as found in descriptions of sentence structure, is essentially a term which identifies a particular sentential constituent. As such, it has been used in the study of discourse, by Grimes (1975: 337) for example, to describe the different methods used in various languages to mark the 'topic constituent' of sentences. It has also been used by Givón (1979a) in his argument that, in the development of a language, sentential subjects are derived from 'grammaticalised topics'.

However, we are not, for the moment, concerned with the structure of linguistic units comparable to the simple sentence (see Chapter 5). Nor are we considering 'topic' as a grammatical constituent of any kind. We are primarily interested in the general pretheoretical notion of 'topic' as 'what is being talked about' in a conversation. This type of 'topic' is unlikely to be identifiable as one part of a sentence. Accordingly, we agree with Morgan that 'it is not sentences that have topics, but speakers' (Morgan, 1975: 434).

### 3.3 Discourse topic

In an attempt to distinguish their notion of topic from the grammarians' sentential topic, Keenan & Schieffelin (1976) used the term **discourse topic**. They were particularly anxious to avoid having 'topic', in discourse study, treated as if it were somehow expressible by a simple noun phrase, as often happens in the treatment of sentential topics. (Some ontological reasons for this type of treatment are suggested by Lyons, 1977: 502.) What Keenan & Schieffelin (1976: 380) emphasise is that 'discourse topic is not a simple NP, but a proposition (about which some claim is made or elicited)'. It may be because their investigation is primarily concerned with children's speech, but, in describing the discourse topic as the 'question of immediate concern', Keenan & Schieffelin appear to replace the idea of a single correct noun phrase as expressing the topic with the idea of a single correct phrase or sentence. The implication in their study is that there must be, for any fragment of conversational discourse, a single proposition (expressed as a phrase or sentence) which represents the discourse topic of the whole of the fragment. Such a view is certainly too simplistic, as we hope to show by considering some experimental work in which 'the topic' was treated as the equivalent of a title. (We shall consider the possibility of representing 'the discourse topic' as a proposition when we investigate the proposition-based analysis of discourse in section 3.7.)

In a series of experiments reported by Bransford & Johnson (1973) subjects were presented with constructed texts to read, comprehend, and, later, recall. The aim of the experiments was to demonstrate that the comprehension of English texts depends not only on knowledge of the language, but also on extra-linguistic knowledge, particularly related to the contexts in which the texts

occur. There are examples of texts which appear to depend on accompanying visual material for comprehension and others, such as example (3) reproduced below, for which 'the topic' must be provided.

- (3) The procedure is actually quite simple. First you arrange things into different groups. Of course, one pile may be sufficient depending on how much there is to do. If you have to go somewhere else due to lack of facilities that is the next step, otherwise you are pretty well set. It is important not to overdo things. That is, it is better to do too few things at once than too many. In the short run this may not seem important but complications can easily arise. A mistake can be expensive as well. At first the whole procedure will seem complicated. Soon, however, it will become just another facet of life. It is difficult to foresee any end to the necessity for this task in the immediate future, but then one never can tell. After the procedure is completed one arranges the materials into different groups again. Then they can be put into their appropriate places. Eventually they will be used once more and the whole cycle will then have to be repeated. However, that is part of life.

(from Bransford & Johnson, 1973: 400)

Because it was constructed for a specific purpose, this text is fairly unusual in that there are few lexical clues to what the text might be 'about'. Predictably, the experiments showed that comprehension and recall of this passage were significantly better when subjects were provided, before reading, with what Bransford & Johnson called 'the topic of the passage'. The topic of this passage was 'Washing clothes'. The reader can judge for himself whether his comprehension would have been fuller if he had known this topic.

The use of the word 'topic' in this type of experiment suggests that the topic of a text is equivalent to the title and that, for any text, there is a single correct expression which is 'the topic'. This would be the case if texts could only be understood completely as long as they were accompanied by the single, correct title. However, it should not be too difficult to imagine several different titles for passage (3), each of which could equally facilitate comprehension. One could indicate that the text contains a set of instructions by producing a title such as 'How to Do the Laundry' or 'A Guide

to Getting your Clothes Cleaner'. One could incorporate the text's philosophical final statement in a title such as 'Doing the Laundry as a Philosophy of Life' or 'An Orderly Life through Good Laundry Procedure'. These latter titles contain as much information for the reader as the title 'Washing Clothes', which Bransford & Johnson describe as 'the topic'. The implication, surely, is that, for any text, there are a number of possible titles. Correspondingly, we will suggest, there is, for any text, a number of different ways of expressing 'the topic'. Each different way of expressing 'the topic' will effectively represent a different judgement of what is being written (or talked) about in a text. As an illustration of this point, consider the text in (3) as a dusty fragment, recovered during an archaeological dig in the ruins of Minneapolis in the year 2500 A.D. When asked what the text is 'about', the discourse analyst in the expedition might report that it is about 'procedures used in mid-twentieth-century American middle-class culture for maintaining cleanliness in their garments'. (Note the temporal and locational elements included here – elements which we shall consider more fully later.) Another discourse analyst, providing a second opinion, might report that it is about something else entirely, and a debate would ensue in the discourse analysis literature. The same 'text' is considered by both analysts. Their disagreement would be over ways of expressing 'the topic'. (Literary critics are still exercised about the topic of *Hamlet*.)

The difficulty of determining a single phrase or sentence as 'the topic' of a piece of printed text is increased when fragments of conversational discourse are considered. In any conversation, 'what is being talked about' will be judged differently at different points and the participants themselves may not have identical views of what each is talking about. People do, however, regularly report on what a conversation was 'about'. There are informal ways of expressing the topic, even in conversational discourse.

### 3.3.1 Topic framework

The discourse analyst, then, is faced with several problems when he wishes to use the very attractive pretheoretical notion of 'topic' as 'what is being talked/written about'. The notion is attractive because it seems to be the central organising principle for a lot of discourse. It may enable the analyst to explain why several

sentences or utterances should be considered together as a set of some kind, separate from another set. It might also provide a means of distinguishing fragments of discourse which are felt to be good, coherent, examples of English from those that are, intuitively, incoherent concatenations of sentences.

Consider, for example, the following discourse fragment, taken from Rochester & Martin (1979: 95).

- (4) Interviewer: A stitch in time saves nine. What does that mean?
- Thought-disordered Speaker: Oh! that's because all women have a little bit of magic to them - I found that out - and it's called - it's sort of good magic - and nine is sort of a magic number + like I've got nine colors here you will notice - I've got yellow, green, blue, grey, orange, blue, and navy - and I've got black - and I've got a sort of clear white - the nine colors to me they are the whole universe - and they symbolize every man, woman and child in the world +

Rochester & Martin attempt to describe the connections existing between sentences in discourse of this type, produced by thought-disordered and schizophrenic speakers, in terms of conceptual associations and lexical ties. They point out, however, that such connections are 'unrelated to the conversational topic'. The notion of 'topic', though undefined, seems to provide Rochester & Martin with a natural criterion for distinguishing between the connected, yet incoherent, discourse of thought-disordered speakers and the coherent discourse of normal speakers.

If there are, as we have already argued, a potentially large number of different ways of expressing 'the topic' of even a short written text, how does the analyst determine which is the one correct expression of the topic for the text? One answer, of course, is to say that, for any practical purposes, there is no such thing as the one correct expression of the topic for any fragment of discourse. There will always be a set of possible expressions of the topic. In the terms used by Tyler (1978: 452), the 'topic' can only be 'one possible paraphrase' of a sequence of utterances. What is

required is a characterisation of 'topic' which would allow each of the possible expressions, including titles, to be considered (partially) correct, thus incorporating all reasonable judgements of 'what is being talked about'. We suggest that such a characterisation can be developed in terms of a **topic framework**.

In Chapter 2, we discussed the problem for the discourse analyst of deciding just what features of context were relevant in the interpretation of a particular fragment of discourse. We suggested there that the strategy available to him would be, on the one hand, to work predictively in terms of his previous experience (similar speakers, similar genres, etc.) and on the other hand to examine the content of the text. From the content of the text the analyst can, in principle, determine what aspects of the context are explicitly reflected in the text as the formal record of the utterance. Those aspects of the context which are directly reflected in the text, and which need to be called upon to interpret the text, we shall refer to as *activated features of context* and suggest that they constitute the contextual framework within which the topic is constituted, that is, *the topic framework*.

As a way of characterising the type of feature which will be required in a topic framework, we shall examine a fragment of conversational discourse and try to determine what is 'being talked about'. The fragment, presented as (5), is not a constructed piece of text, it is taken from a recorded conversation. As an example of discourse analysis data, it has been selected for a particular purpose. It is not a difficult fragment to work with, it has a definable beginning and end, and, for most of the fragment, there is one participant talking, in response to another's request for information. This request for information provides a direction for the conversational fragment, so that we are considering speech with some purpose and not just social chat used to pass the time. One might also say that the content of the request for information could provide some basis for the content of the response, especially when the request is for the meaning of an expression to be given. That is, it would seem, at first glance, to be a simple matter to produce 'the topic' for this discourse fragment, for it is contained in the question asked. Immediately prior to the following extract, the speaker has been asked the meaning of the expression, 'smoke the houses'.

- (5) R: in those days + when we were young + there was no local fire engine here + it was just a two-wheeled trolley which was kept in the borough + in the borough eh store down on James Street + and whenever a fire broke out + it was just a question of whoever saw the fire first yelling 'Fire' + and the nearest people ran for the trolley and how they got on with it goodness knows + nobody was trained in its use + anyway everybody knew to go for the trolley + well + when we were children + we used to use this taw [tɔ:] + it smouldered furiously + black thick smoke came from it and we used to get it burning + and then go to a letter box and just keep blowing + open the letter box + and just keep blowing the smoke in + you see + till you'd fill up the lower part of the house with nothing but smoke + there was no fire + but just fill it up with smoke + just to put the breeze up + just as a joke + and then of course + when somebody would open a window or a door the smoke would come pouring out + and then + everybody was away then for the trolley + we just stood and watched all of them ++

S: so that's what 'smoke the houses' is?

R: probably + probably + we called it 'the taw' +

If we were to say that the topic of this discourse fragment is 'the meaning of the expression "smoke the houses"', we could not claim to have said very much of analytic interest. It may be that, for participant S, the above expression represents the best way of summarising what speaker R was talking about, as evidenced by her response. However, even if we take that summarising phrase as one possible expression of the topic of speaker R's lengthy contribution, we have surely not adequately characterised what this speaker was *talking about*. We might suggest that the speaker is talking about a *joke* or a *prank*. In doing so, he talks about an object called 'the taw' which produces a lot of *smoke*. He talks about the process of *putting the smoke into houses* through the letter box and how *smoke would come out* of the window or door. He also talks about an object known as *the trolley*, a type of fire engine, and *the events* associated with its use. He talks about *people going for the trolley* when the smoke comes out of a house. Thus one account of what this speaker is talking about would contain the following elements: a joke – the taw – smoke – into houses – out of houses – people get trolley – the use of the trolley.

This set of objects and events could be taken as a set of elements

which would have to be included in a representation of this speaker's topic, i.e. what he was talking about. It is not a complete set. In this fragment, the speaker is also talking 'about' a particular time and place, and 'about' a specific person. He is talking about his own childhood (*when we were children*) in Stornoway (*here*). This last element presents a problem, because there is nothing in the text of the conversational fragment to indicate this location. Yet it is a piece of knowledge relevant to what the speaker is talking about and, importantly, knowledge which the speaker assumes is available, to his hearer. Presumably, the speaker can also assume that, because his hearer knows, approximately, the speaker's age, the hearer can judge the time (i.e. forty years before and not ten years before) of the events described.

Aspects of the speaker's assumptions about his hearer's knowledge must also be considered in relation to the elements which the speaker does make explicit in his contribution. Do the first lines of this fragment contribute to answering the question asked? Strictly speaking they do not. Yet one would hesitate to describe these lines as irrelevant. They are relevant to what the speaker wishes to provide as an answer to the question, *given the particular hearer* he has. This young American hearer, visiting Stornoway, may have a quite inappropriate idea of the type of object, and the associated behaviour, involved in dealing with a fire in Stornoway forty years before. Without knowing about the trolley, the hearer may not (in the speaker's assessment perhaps) appreciate the full flavour of the joke or prank being described.

It may be argued that this last point has more to do with why the speaker talked about something than with what he talked about. Any consideration of topic involves asking why the speaker said what he said in a particular discourse situation. As Coulthard (1977: 76), following Sacks (1971), points out, there is a constant analysis in conversation of what is said in terms of 'why that now and to me'. In the present discussion we have already partially answered the reader's primary 'why' question about the discourse fragment being studied by providing the previous speaker's question. That is, attempting to provide an account of what a person is talking about is always built on an assumption that we know why that person says what he says. The point may be clearer if we consider a possible reaction to the expression, 'Roses are red, violets

are blue' being included in (5) after the speaker has said *nobody was trained in its use*. Would the expression simply be included in the list of what was talked about, or would it prompt the question 'Why does he say that here?' The acceptance of extract (5) as a reasonable piece of English conversational discourse involves implicitly assessing each expression in terms of the 'why?' question above and finding a suitable answer. Part of the process of analysing discourse in terms of 'topic' is an attempt to make explicit the basis for our intuitive ability to recognise why what is said is appropriate in a particular discourse fragment.

Certain elements which constrain the topic can be determined before this discourse begins. These elements are part of what, in the previous chapter, were described as the context of a speech event. In relating contextual features to a particular speech event, however, we are particularly interested in only those activated features of context pertaining to the fragment of discourse being studied. For example, aspects of the time and place of the discourse in (5) are important because they have a bearing on what the speaker says in the fragment (forty years after the described event took place, but still in Stornoway). Similarly, certain facts about the speaker and hearer, as we pointed out earlier, have to be included. As a first approximation, then, we could produce a partial representation of a 'framework' for extract (5) in terms of the following set of activated contextual features.

Conversation between Participant R (50+ years, Scottish, male, . . .) and Participant S (20+ years, American, female, . . .) in location p (Stornoway, . . .) at time t (late 1970s, . . .)

This simple set of features which we have claimed are necessary for a discussion of topic are required, quite independently of topic considerations, in any form of discourse analysis. For ethnographers and sociolinguists considering linguistic interaction, these elements and others have to be made explicit in the analysis of features such as code-switching and role-relationships. For the formal semanticist, these elements are required in the assignment of values to indexicals such as *I*, *you*, *here* and *now*. That is, in building a framework for the analysis of topic, we are not adding

any machinery to the apparatus of the discourse analyst which he does not have to employ already.

Those contextual features we have described above are, of course, derived from the physical context. They are external to the text. There is, for most conversational fragments, a set of discourse-internal elements which are derived from the conversation prior to the particular fragment being studied. These elements are introduced in the preceding co-text and form part of what has been described as 'the domain of discourse' (cf. Karttunen, 1974). Within the domain of a particular discourse fragment are the people, places, entities, events, facts, etc. already activated for both participants because they have been mentioned in the preceding conversation. If the fragment of discourse one wished to study was only the part of (5) beginning, *when we were children we used to use this taw*, then accounting for the speaker's mention of *the trolley* near the end of this fragment would have to be done in terms of the preceding discourse (i.e. all the first section before *the taw* is mentioned) in which *the trolley* is introduced and characterised.

We have introduced some basic components which would be required in a characterisation of the topic framework for any discourse fragment. The topic framework consists of elements derivable from the physical context and from the discourse domain of any discourse fragment. Notice that we have concentrated on only those elements which are *activated*, that is, relevant to the interpretation of what is said. If we say that characterising the topic framework is a means of making explicit some of the assumptions a speaker can make about his hearer's knowledge, we are not talking about the *total* knowledge which the speaker believes he shares with his hearer. We are describing only that activated part which is required in the analysis of the discourse fragment under consideration. This approach is crucially different from some other proposals we shall examine.

### 3.3.2 Presupposition pools

What we have described as a *topic framework* has much in common with Venneman's proposal that, for a discourse, there is a **presupposition pool** which contains information 'constituted from general knowledge, from the situative context of the discourse, and from the completed part of the discourse itself'

(Venneman, 1975: 314). In this approach, each participant in a discourse has a presupposition pool and his pool is added to as the discourse proceeds. Each participant also behaves as if there exists only one presupposition pool shared by all participants in the discourse. Venneman emphasises that this is true in 'a normal, honest discourse'.

Within the presupposition pool for any discourse, there is a set of *discourse subjects* and each discourse is, in a sense, about its discourse subjects. Because it is part of the shared assumptions of the discourse participants that these discourse subjects exist, they do not need to have their existence asserted in the discourse. Examples of expressions used for discourse subjects might be *the Queen*, *John*, *John's wife* (in the presupposition pool by virtue of general knowledge), *your hat*, *today* (from the situative context) and *a concert of the Berlin Philharmonic's last year*, *several essays* (from the preceding part of the text of the discourse).

The number of discourse subjects in a presupposition pool shared by participants in a discourse, particularly participants who know each other quite well, is potentially very large. How does the discourse analyst decide which discourse subjects to include in the presupposition pool for a particular piece of conversational discourse? Remembering that any discourse data to which the analyst has access will only be a fragment, it would be extremely difficult for the analyst to predetermine the complete set of discourse subjects which participants share prior to a particular discourse fragment. The most he could hope to provide would be a partial set. The problem to be faced is that of limiting the choice of the contents of even a partial set, in some non-arbitrary way.

The most important principle involved in this selection of Venneman's discourse subjects must have to do with their relevance to the particular discourse fragment under consideration. If, in a stretch of conversational discourse, the participants involved can be independently known to have potential discourse subjects such as 'the Queen', 'the Pope', or even 'the King of Siam', within their shared presupposition pool, but do not mention the individuals, so identified, in their conversation, it is surely unnecessary to refer to those individuals in the analysis of that particular discourse fragment. They are, in our terms, not 'activated'. This would lead to the conclusion that the relevant 'discourse subjects' for a particular

discourse fragment must be those to which reference is made in the text of the discourse. If 'mentioned-in-the-text' is taken as the basis for selection of discourse subjects, it should be noted that the analyst is, in fact, attempting to reconstitute the presupposition pool which the participants must have had prior to the discourse fragment being analysed. Such a process may be comparable to the experience one has when switching on the radio in the middle of a discussion programme and trying to understand the discussion through a partial reconstruction of what must have been said already, who the participants must be, and so on. It does suggest that the only information the discourse analyst has access to is that contained in the text of a discourse fragment.

### 3.3.3 Sentential topic and the presupposition pool

Of course, the data for discourse analysis is not limited to anonymous, decontextualised texts, as we have argued already in Chapter 2. Concentrating solely on the text, however, remains a common approach in many accounts of discourse. It is also characteristic of this approach that the text to be analysed is constructed by the analyst to illustrate the points he wishes to make. This, unfortunately, is the method used by Venneman who, despite the promising breadth of analysis suggested by the concept of a presupposition pool shared by participants, restricts his investigation to describing the relationship between pairs of sentences. The notion of 'topic' considered by Venneman reflects the limitations of his investigation. He considers

the expression 'topic' or 'topic of a discourse' as referring to a discourse subject on which the attention of the participants of the discourse is concentrated. Such concentration of attention is usually, though not always, brought about by an immediately preceding textual mentioning of the discourse subject.

(Venneman, 1975: 317)

This definition of topic has a certain intuitive appeal, in the sense that what two participants are concentrating on, in their conversational talk for example, is a reasonable candidate for 'the topic'. There are, however, two basic problems here. First, this definition of topic seems to be based on the same 'topic = single term title' notion which we challenged earlier. As we pointed out then, although a stretch of discourse can appear to be largely concerned

with a single individual, or one discourse subject, so that the discourse may be loosely reported as being 'about' that individual, this should not lead us to claim that all discourses are about single individuals or can be given convenient one-word titles.

A second objection is that it is far from clear how we would decide, in any principled way, what the participants in a discourse fragment are, in fact, 'concentrating' on. An attempt is made by Venneman to provide a formal means of identifying the topic in a discourse fragment. He suggests that like 'all phenomena whose unique existence is presupposed, topics can be referred to by means of individual names, deictic expressions, and definite descriptions' (Venneman, 1975: 317). Using this guide, the analyst must find that the following two discourse fragments, one each from stretches of spoken and written discourse, have several such 'topics'.

- (6) what was interesting was that little Richard came home from his Toronto school with his Newfie jokes the content of which the substantive content was identical to Irish jokes which my son comes home with from Edinburgh schools
- (7) so can he, but the main point about this system is the strain it puts on the other players

What is 'the topic' of (6) – *little Richard* or *his Toronto school* or *his Newfie jokes*, etc.; and is *he*, *this system* or *the other players* the topic of (7)? It is possible to make a guess at what the speaker of (6) and the writer of (7) were concentrating on, but the guess is probably based on an elaborate reconstruction of what the most probable context was, both verbal and non-verbal, for these two discourse fragments. That is, the reader will be forced to use these 'texts' to reconstruct, not just some relevant discourse subjects in the presupposition pool, following Venneman, but rather some of the elements of the topic framework existing when these discourse fragments were produced. It is also likely that the reader, if asked to give the topic for each fragment, would not simply produce a single-term 'title'.

If the same reader were faced with the type of 'discourse' fragment created by Venneman, reproduced as (8) below, he might quite readily provide support for Venneman's analysis by saying that 'the topic' is *Mary*.

- (8) Mary is singing strangely.

The reader presumably can just as easily reconstruct an alternative context (e.g. a description of the effects of marijuana on a Nativity play performance) in which *Mary* would not be proposed as 'the topic of the discourse'. Thus, while there may be preferences discernible in the choice of elements most-likely-to-be-concentrated-on within a sentence if that sentence is presented in isolation, such preferences may reflect the rather trivial fact that names are more salient than anything else, in isolation. That these preferences do have significance for an analysis of the syntactic structure of sentences has been argued by Kuno & Kaburaki (1977). However, it is, in principle, impossible for a discourse to consist of a single decontextualised sentence and, in practice, rare for discourse participants to have to work out 'the topic of discourse' one sentence at a time. The most a discourse analyst could say about a discourse fragment such as the sentence in (8) above is that *Mary* is potentially part of the topic of the discourse in which (8) occurred, but more information is required, as indeed is also the case for both extracts (6) and (7). It should be apparent that the use of single constructed sentences as the basis for making claims about notions such as 'the topic of a discourse' is extremely misleading.

### 3.4 Relevance and speaking topically

The topic framework, as we have described it, represents the area of overlap in the knowledge which has been activated and is shared by the participants at a particular point in a discourse. Once the elements in the topic framework and the interrelationships between them have been identified, the analyst has some basis for making judgements of **relevance** with regard to conversational contributions.

The technical use of the term 'relevance' in the analysis of conversation is derived from the conversational maxims proposed by Grice (1975). If, as Grice suggests, there is a general agreement of co-operation between participants in conversation, then each participant can expect the other to conform to certain conventions in speaking. These conventions or maxims have to do with the *quantity* (or informativeness), the *quality* (truthfulness), the *manner* (clearness) and *relevance* of conversational contributions.



Although he discusses and exemplifies the other maxims, Grice does not elaborate on the simple instruction 'Be relevant.' The discourse analyst wishing to make use of this notion is immediately confronted with the problem of deciding 'relevant to what?' One way of solving this problem is to translate the maxim 'Be relevant' into a more practically useful form as 'Make your contribution relevant in terms of the existing topic framework.'

What we have characterised as a convention of conversational discourse – 'making your contribution relevant in terms of the existing topic framework' – could be captured more succinctly in the expression **speaking topically**. We could say that a discourse participant is 'speaking topically' when he makes his contribution fit closely to the most recent elements incorporated in the topic framework. This is most noticeable in conversations where each participant 'picks up' elements from the contribution of the preceding speaker and incorporates them in his contribution, as in the following fragment:

- (9) E: I went to Yosemite National Park  
 F: did you  
 E: yeah – it's beautiful there right throughout the year +  
 F: I have relations in California and that's their favourite Park because they + enjoy camping a lot  
 E: oh yeah  
 F: they go round camping +  
 E: I must admit I hate camping +

This type of 'speaking topically' is an obvious feature of casual conversation in which each participant contributes equally and there is no fixed direction for the conversation to go. In contrast, there is the type of conversational situation in which the participants are concentrating their talk on one particular entity, individual or issue. In such a situation, the participants may, in fact, 'speak topically', but they might also be said to be **speaking on a topic**. An extreme example of 'speaking on a topic' would be in a debate where one participant ignored the previous speaker's contribution on 'capital punishment', for example, and presented his talk quite independently of any connection with what went before. In practice, we should find that any conversational fragment will exhibit patterns of talk in which both 'speaking topically' and 'speaking on a topic' are present.

Both forms are based on the existing topic framework, but the distinction derives from what each individual speaker treats as the salient elements in the existing topic framework. It is quite often the case that a speaker will treat what he was talking about in his last contribution as the most salient elements and what the other speaker talked about, though more recent, as less salient. This facet of conversational discourse quite naturally leads to a consideration of the individual speaker's topics within what we have been discussing as the conversational topic. Before we explore the influence of 'speaker's topic', we shall try to illustrate in some detail the way in which conversational participants 'speak topically', by making their contributions relevant to the existing topic framework.

In the representation of the topic framework, we shall present the elements involved as a list. It is difficult to imagine an appropriate 'diagram' which could incorporate both the sequential pattern of elements introduced and the interrelatedness of those elements with each other and with the contextual features. For the moment, we shall identify some of the elements and links which are pertinent to an analysis of one fragment.

- (10) Partial topic framework existing in a conversation  
*between* K (20+, female, Edinburgh-resident, university student, . . .)  
*and* J (60+, male, Edinburgh-resident, retired, . . .)  
*in* P Working Men's Club, Edinburgh, . . .)  
*at* T (early evening, spring, 1976, . . .)  
*mentioning* (J's three children – J's brothers – the schools they attended – the schools J attended – that J did badly at school – J left school at fourteen)  
*when* K asks J what he did after he left school  
 J oh I done odd jobs like + paper boy + chemist's shop worked in a chemist shop + and done two or three others + and I finally started in the bricklaying + so I served my time as a bricklayer + that's good money  
 K: nowadays it is but in that + when my time was out it wasn't + it was only three pounds nine a week + so + +  
 J: my father was a stonemason and he started at home + and they were paid a halfpenny an hour extra for being left-handed + +

Given a fragment of conversation and a topic framework as in (10), it is possible for the analyst to point out some ways in which each participant 'speaks topically'. Such an undertaking can appear to be a matter of stating the obvious – that speaker J, in his first contribution, for example, is answering the 'what' question in terms of an understood-to-be-known location and a time which is known from an interaction between knowledge of J's age (context) and knowledge that J was at least fourteen (domain). We might highlight the 'topicality' or 'relevance' of J's first contribution by asking how K might have reacted if J had talked about one of his brothers, or about the type of work to be had in Australia, or training to be a brain surgeon. Given this topic framework, J is constrained from talking about these things *unless* he introduces into the topic framework some additional information which he could then treat as shared by his hearer – that one of his brothers had gone to Australia to train as a brain surgeon and he considered doing the same, but settled for bricklaying instead. Thus, J's first contribution here can be judged to be relevant in terms of the existing topic framework and also to add some information to the topic framework. In this first contribution, he doesn't talk about 'being fourteen or older' or 'Edinburgh', but he does talk about 'starting work as a bricklayer' (when I was fourteen or older, in Edinburgh) and, as a co-operative conversationalist, he would have to state *explicitly* if the information 'being fourteen or older, in Edinburgh' was not applicable.

More interesting is speaker K's first contribution in (10). First, its connection to the preceding discourse depends on a general inference that if one works (e.g. as a bricklayer) one receives money. (We shall discuss the role of inference in discourse in Chapter 7.) Second, this contribution has the potential to produce some conflict within the conversation, since 'what is being talked about' up to this point is not present time. The speaker appears to be generalising to a time which includes her own experience. Within the existing topic framework, speaker K's saying *that's good money* is an example of speaking topically, *for her*, but, for speaker J, the time co-ordinate within the topic framework has been narrowed down by his preceding remarks. There is, then, a discrepancy between what each participant is talking about, within

the topic framework. We shall examine this effect of individual speaker's topics in the next section.

Speaker J relates his subsequent remarks to the two salient time co-ordinates within the topic framework and adds some specific information on the 'money' element introduced by speaker K.

Speaker K's next contribution exhibits a series of complex ties with the existing topic framework. Speaker J, in his preceding contribution, has talked about the money received for his work at a particular point in the past. Speaker K's contribution 'picks up' the past time element, moving closer to speaker J's time while maintaining the personal reference in *my father*, who also did work (*stonemason*) comparable to J's (*bricklayer*) and received money for this work. Putting her contribution even closer to J's preceding remarks, K makes her comments about her father relate to his 'starting' work and so comparable to J's *started* and *when my time was out*. With these complex connections made, speaker K adds some new elements to the conversation (extra pay for being left-handed).

We have tried to list the connections existing across contributions in this discourse fragment to emphasise the ways speakers make what *they're* talking about fit into a framework which represents what *we* (as discourse participants) are talking about in conversational discourse. For the discourse analyst, as an overhearer, those connections can signal the coherence relations which make each contribution relevant to the discourse as a whole. Identifying the elements in the topic framework at any point in the discourse allows the analyst to make claims about what is involved in 'speaking topically'. It also enables him to produce a version of 'what is being talked about', i.e. the topic of conversation, which is much more comprehensive, and certainly of greater analytic interest, than the single word-or-phrase-type title which is often used in a fairly trivial way to characterise 'topic' in the study of conversation.

### 3.5 Speaker's topic

So far we have considered the notion of 'topic' in discourse in terms of what the participants share. The 'topic framework', as an analytic device, is essentially a means of characterising the area of overlap in contributions to a discourse. By

concentrating on the way conversational contributions overlap, however, we may neglect aspects of conversational discourse associated with different speakers having different personal 'topics'. So far, we have been concentrating on describing the 'conversational topic', but neglecting the notion of **speaker's topic**. As we have already pointed out, the analyst typically treats conversational data as something complete, as a static product of some recorded interaction. In doing so, he may lose sight of the fact that conversational discourse is dynamic, and that his data represents a process. If we can treat any piece of conversational data as a process in which two or more participants speak within the topic framework, we should also find in their contributions elements which characterise their own personal 'speaker's topics'. We shall look at a fragment of spoken discourse, not in terms of how we would characterise the participants' shared information, but in terms of a process in which each participant expresses a personal topic within the general topic framework of the conversation as a whole. Prior to extract (11), the participants, L (female, 20+, unmarried, Edinburgh-resident, and M (female, 30+, married with young children, Edinburgh-resident), have been talking about recent improvements to old buildings in different areas in Edinburgh.

- (11) L: I quite like the way they've done the Mile though + I think it's quite -  
 M: yes[<sup>^</sup>h<sup>^</sup>] yes  
 L: the bottom of it anyway  
 M: it is - it is quite good they've certainly kept within the + em + + preserved it reasonably well or conserved it but we were up in Aberdeen this year for a holiday and we were staying right within the University complex there in Old Aberdeen + and + oh some of the buildings there are beautiful really they really are nice + but er I was quite impressed with it - it's the first holiday we've had up there +  
 L: I was noticing - I was down by Queen Street or + the bottom of Hanover Street or somewhere + and they've just cleaned up some of the buildings down there + and what a difference it makes +  
 M: yes I know because there are some beautiful buildings  
 L: oh it was really nice

Extract (11) is representative of a common conversational situation in which each of the participants give examples from their personal experience to illustrate some general point. The general point in this case is something like 'the effect of restoring old buildings' which is already part of the topic framework established by the preceding discourse. Notice that speaker M's second contribution in this extract is not just 'about' that general point. She is also talking about her recent holiday in Aberdeen, for example. We could describe this 'holiday in Aberdeen' element as, at this point, a part of speaker M's personal topic which could become, in the developing conversation, a shared topic area for both speakers. Speaker L could have followed on, with a question, for example, about the holiday, Aberdeen, or even with some personal observations on the buildings in Old Aberdeen or the University. Speaker L, however, does not 'pick up' any elements from speaker M's personal topic, but continues on her own personal topic area (i.e. Edinburgh's old buildings after restoration). When participant M speaks again near the end, she does not return to her 'holiday' or 'Old Aberdeen', but makes her contribution relate closely to L's immediately preceding remarks.

There are two points worth noting about this fragment of conversational discourse. First, it is a feature of a lot of conversation that 'topics' are not fixed beforehand, but are negotiated in the process of conversing. Throughout a conversation, the next 'topic' of conversation is developing. Each speaker contributes to the conversation in terms of both the existing topic framework and his or her personal topic. It is clear from extract (11) that some elements in a speaker's personal topic do not become salient elements in the conversation if neither the other participant nor the speaker herself mention them again. To use the 'negotiation' metaphor, we can say that speaker M offers elements in her personal topic (in her second contribution) as possible elements to be included in the conversational business, but speaker L does not take up the offer.

A second point to be noted in this, and in a large number of other conversational fragments, is that personal topics are frequently introduced through first person reference in one form or another. Although the points made in extract (11) could have been expressed objectively as statements that certain buildings in certain locations

are more beautiful since restoration, both speakers relate such statements to personal experience. It is as if speakers feel obliged to offer some personal warrant for the statements they will make about the world. A statement that the buildings in Old Aberdeen are beautiful is embedded within an assertion that the speaker was recently in Old Aberdeen, and stayed there for a period, and so she has a warrant for making the statement.

If we reconsider the earlier extract (5) as one participant wanting to know the meaning of an expression and the other offering a possible explanation, we can see that the explanation is offered in personal terms (*when we were young and we called it 'the taw'*) based on the speaker's personal experience. It may be that this explanation is not an acceptable answer to the question, but it is presented by the speaker in a form which conveys 'what I think we're talking about' in this part of the conversation. Characterising the individual speaker's topic as 'what I think we're talking about' incorporates both that element which the conversational analyst tends to abstract as the 'topic of conversation' for the participants ('What we're talking about') and the individual speaker's version ('I think'), as he/she makes a conversational contribution. That speakers do introduce what they want to say via some form of personal reference has a noticeable effect on the structure of contributions in conversational discourse. We shall return to this point in the discussion of further details of discourse structure in Chapter 4.

From what we have proposed as speakers' topics in conversational discourse, it must occasionally happen that there are at least two versions of 'What I think we're talking about' which are potentially incompatible. It is a noticeable feature of co-operative conversational discourse, however, that this potential incompatibility rarely leads to conflict over the topic of conversation. What typically happens is that, in the negotiation process, one speaker realises that his version is incompatible with what the other appears to be talking about and makes his contributions compatible with 'what I think *you* (not *we*) are talking about'. We can illustrate this process in two conversational fragments and note two different strategies used to avoid conflict in the 'negotiations'.

In the first extract, (12), one piece of continuous conversational discourse has been divided up into chunks. Immediately before this extract, speaker B (female, 50+, aunt of speaker A) has been

describing to speaker A (female, 20+) the first type of radio she had, forty years before.

- (12) A: but you'd have telephones around +  
 B: mm oh yes oh aye oh aye I've had the telephone since nineteen thirty eight +  
 A: hmm  
 B: oh they were on a long while I think before that +

Speaker B had been talking about the radio she had in the 1930s and speaker A's first line here seems to continue within the temporal, locational and personal indices of the existing topic framework while introducing *telephones*. Speaker B treats this contribution as requiring an answer, following a pattern described by Labov in the rule: 'If (speaker) A makes a statement about a (speaker) B-event, it is heard as a request for confirmation' (1972b: 254). Speaker B expands on her answer, in personal terms, regarding *the telephone*. Speaker A offers no contribution and speaker B adds some additional information about *telephones*. We might characterise speaker B's view of 'what I think we're talking about now' as something involving herself, the 1930s, and the existence of telephones (as well as radios) at that time. The conversation continues:

- A: 'cause there was a man in - my father's in the Scouts +  
 B: oh yes he was - is he still  
 A: he's a county commissioner now  
 B: oh is he + ah ha +

Speaker A appears to be offering some new elements as part of the conversational topic, again deriving from some personal reference (as in *my father*) which speaker B appears to accept. That is, speaker B does not insist on mentioning *telephones*, but moves on to this new area. Speaker B's view of 'what I think we're talking about now' must now involve speaker A, A's father, the Scouts and *a man* (who may have something to do with telephones). We might expect speaker B to be a little confused about how these elements relate to the preceding conversation. Speaker A continues, as follows:

- A: and eh one of his oldest + scoutmasters wa- ha- was reaching his hundredth birthday +  
 B: is that so +

We suspect that, by this point, although speaker B can identify

'what's being talked about', she can play no part in negotiating the topic, because she may not be able to see *why* this individual entity is being talked about. The contributions of speaker B cease to be attempts to add anything to the conversational topic. Speaker B's view of the conversation has consequently become one in which she is no longer expressing a personal topic, but is waiting to discover 'what I think *you* (not we) are talking about'. Throughout the rest of this fragment, speaker B simply makes 'interested' noises as speaker A gradually gets to the point.

- A: so father was making up a big + sort of remembrance book -  
 B: aha  
 A: to give him and he was writing just at the beginning he was - writing the whole - for each year of his life he wrote something in that had - had been invented or +  
 B: oh yes  
 A: ah a book that had been written or a piece of music that had been written or a painting or a -  
 B: very interesting yes  
 A: or whatever you know and + within his lifetime the telephone had been invented +  
 B: had it + really + fancy +

In this extract as a whole, we can trace speaker B's attempt to contribute to what she thinks they're about, by first offering some remarks on *telephones* and then on the *father*, but gradually reducing her comments to the type of contentless noises described by Duncan (1973) as *back channels*. *Back channel behaviour*, which can also include nods and sentence completions is used when a participant wants to indicate to the person speaking that he should continue. Speaker B stops trying to take turns in the negotiation of topic and waits for speaker A to make it clear how what she is saying has some connection to the existing topic framework. Eventually, as we can see in A's final remarks, a connection is made. There is evidence in speaker A's contributions that what she is trying to say is not very well organised before she starts to speak. There are false starts, hesitations and repetitions. Everyday conversational discourse is, not infrequently, characterised by this lack of pre-planning. The resulting structure of speaker A's contributions is, in fact, quite common in discourse and will be discussed in some detail later in terms of 'staging' (see Chapter 4).

Speaker B's strategy, then, in a situation where she finds that she is unsure about what she thinks they're talking about, is to stop talking. In the following extract (13), there is another example of a mismatch between speakers' topics, brought about by a misunderstanding of the intended meaning of a particular word. In the immediately preceding conversation, speaker C (female, 20+, American, visiting Edinburgh) has been finding out from speaker D (male, 40+, Edinburgh-resident) where there are good places to go for bicycle rides in and around Edinburgh.

- (13) C: what about going down by the - the Firth of Forth  
 D: that should be fun shouldn't it yes you could -  
 C: is it  
 D: yes you can cycle all - you can ride right along the edge you know + without falling in you can ride right along the edge eh without em + going - keeping on the main road + that should be great actually + you could do that +  
 C: is it very rough down there though  
 D: well there are no cobbles as far as I remember - have you tried riding on the cobbles  
 C: yes yes  
 D: you must have done  
 C: I went down to Muirhouse  
 D: which is almost all cobbles isn't it  
 C: it was rather rough  
 D: hmm  
 C: no but I was - I was thinking rather more rough in terms of the em + people +  
 D: oh I see + you well I don't think so + I don't know + I - I - eh - parts of it are quite poor + particularly the Pilton area +

Looking back to speaker C's third question, we can propose two versions of 'what I think we're talking about'. For speaker C, it involves 'are the people rough?' and, for speaker D, 'are the roads rough?' Unlike the hearer (B) in extract (12), however, speaker C appears to be able to recognise speaker D's alternative topic and accepts what she thinks speaker D is talking about as 'what we're talking about', for a few turns. When speaker D stops talking about *cobbles* (i.e. rough for cycling on), speaker C can attempt to return to her topic (*rough in terms of the em + people*). Speaker D's response at the end of this fragment is, in effect, an answer to the question which speaker C originally intended him to answer.

We might think that by the end of this fragment there is once again a single version for both speakers of 'what I think we're talking about'. Indeed, most conversational analysis is undertaken with this single 'topic' concept as a working assumption. Yet, in extract (13) we can only reconstruct the intended meaning of C's third question because she actually explains her intended meaning later. If speaker D had gone on at some length about 'cobblestones' or rough roads in general, or if the analysis only had part of this fragment, up to C's *it was rather rough*, then we might have had no evidence of a divergence in speakers' topics within the conversation. Our argument for the importance of considering individual speaker's topics in conversational discourse would consequently be weaker. We do not suggest that discourse analysts should spend their time looking for potential alternative meanings in what speakers say in a conversation, but we do suggest that the analyst should not simply assume that there is a single, static 'topic of conversation' in any conversational fragment. If there is an entity identifiable as 'the topic of conversation', the analyst should consider what evidence from each individual speaker's contributions he is using to make that identification. He should also remain aware of the fact that conversation is a process and that each contribution should be treated as part of the negotiation of 'what is being talked about'. Above all, he should remember that it is speakers, and not conversations or discourses, that have 'topics'.

### 3.6 Topic boundary markers

In our discussion of 'topic', we have concentrated mainly on considerations of 'content' and neglected the influence of 'form'. Yet our interpretation of *what* a speaker is talking about is inevitably based on *how* he structures what he is saying. We shall now investigate some formal aspects of topic-structure in discourse. In this section we shall look at the formal devices used to mark the boundaries of chunks of both written and spoken discourse which form large units of some kind, such as paragraphs. Aspects of the internal structuring of these chunks will be discussed in Chapter 4.

It has been suggested (e.g. by Schank, 1977: 424; Maynard, 1980) that instead of undertaking the difficult task of attempting to define 'what a topic is', we should concentrate on describing what we recognise as **topic-shift**. That is, between two contiguous

pieces of discourse which are intuitively considered to have two different 'topics', there should be a point at which the shift from one topic to the next is marked. If we can characterise this marking of topic-shift, then we shall have found a structural basis for dividing up stretches of discourse into a series of smaller units, each on a separate topic. This type of approach to the analysis of discourse is based on the principle that, if we can identify the boundaries of units – where one unit ends and another begins – then we need not have a priori specifications for the content of such units. The burden of analysis is consequently transferred to identifying the formal markers of topic-shift in discourse.

#### 3.6.1 Paragraphs

It might seem that identifying the formal demarcation of chunks of written or printed discourse is a relatively simple task. After all, written discourse is divided into paragraphs whose boundaries are marked by indentations. Topic-shifts in written discourse then could be identified with the beginning of each new paragraph. Unfortunately, it doesn't seem to be as simple as that. Those who use the term 'paragraph' to describe a unit in the structural analysis of written discourse go to some trouble to point out that they are not describing the orthographic paragraph. According to Longacre (1979: 116), the orthographic paragraph can result from a writer's stylistic concerns, 'partially dictated by eye appeal', or from printing conventions such as an indentation for each change of speaker. Hinds (1977: 83) also notes that the journalistic paragraph is often determined on the basis of appearance. He has a worked example in which a single structural paragraph derives from a newspaper article containing five orthographic paragraphs. Thus, it may be that the beginning of an orthographic paragraph indicates a point of topic-shift, but it need not do so.

Both Longacre (1979) and Hinds (1977) appeal to languages other than English for evidence that there are formal linguistic markers of the beginning and end of paragraphs. What is immediately noticeable in the discussion of these markers is that they are genre-specific. There are ways of indicating the beginning of a new paragraph in a piece of narrative, for example, which are not used in explanatory discourse. This general point is also made by

Grimes (1975: 109), who describes the marking of paragraph boundaries as one form of 'partitioning' in discourse. The principles on which partitioning depends are related to change of 'setting' (time or place) and 'theme' (the person or thing talked about), in narrative discourse, at least. Interesting though it may be to learn that there is a narrative-discourse-paragraph-introductory-particle in Huichol or Shipibo, it becomes decidedly less interesting when one discovers that the identification of the significance of these particles depends on a prior identification of the paragraph as a unit in which 'the speaker continues talking about the same thing' (Grimes, 1975: 103). Hinds (1977) bases his paragraph divisions on a similar principle, quoting Grimes as support, and emphasising the significance of 'participant orientation' – that is, the unity of a paragraph derives from its being mainly about a single participant. Longacre (1979) claims that 'in narrative discourse, a narrative paragraph is built around a thematic participant, occasionally a small set of thematic participants' (Longacre, 1979: 118).

In other words, only the paragraph structure of stretches of discourse about individual, primarily human, characters is being discussed. In effect, this limits the discussion to narrative discourse, or, as in Hinds (1977), a description or an obituary of a particular individual. It should be obvious why a single structural or 'semantic' paragraph in Hinds' (1977) analysis can extend over five orthographic paragraphs in a newspaper. Each of these orthographic paragraphs is 'about' the same individual. Yet, some obituaries extend to twenty or more orthographic paragraphs 'about' the one person, and whole chapters of novels, containing over a hundred lengthy orthographic paragraphs, may be 'about' the same individual. Surely such extended stretches of written discourse are not single 'paragraphs'?

We shall consider a stretch of written discourse, not from a source such as a Paez (Colombia) folk tale or a specially constructed text, but from a recent English novel. In the extract reproduced below (14), the orthographic paragraph boundaries as they appeared on the printed page have been ignored. The whole extract has two principal participants, but is quite clearly 'about' only one of them. If there are points of 'topic-shift' in English written discourse which lead writers, or their editors, to begin new orthographic paragraphs, then we should be able to identify likely

points where the writer or the editor marked the division of this 'text' into separate chunks.

- (14) <sup>1</sup>After the first few days, when I come into the room, Birdie is down on the floor of the cage, running back and forth, looking out over the barrier that holds in the gravel. <sup>2</sup>I think she's glad to see me, not just because I give her treat food, but because she's lonely. <sup>3</sup>I'm her one friend now, the only living being she gets to see. <sup>4</sup>By the end of the week, I rubberband the treat food dish onto the end of an extra perch and put it into the cage through the door. <sup>5</sup>I lock the door open with a paper clip. <sup>6</sup>At first, Birdie's shy, but then she jumps onto the perch I'm holding and side-hops over to the treat dish. <sup>7</sup>It's terrific to see her without the bars between us. <sup>8</sup>She sits eating the treat food at the opening to the door and looking at me. <sup>9</sup>How does she know to look into my eyes and not at the huge finger next to her. <sup>10</sup>After she's finished eating, she retreats to the middle of the perch. <sup>11</sup>I lift it gently to give her a ride and a feeling the perch is part of me and not the cage. <sup>12</sup>She shifts her body and flips her wings to keep balance, then looks at me and makes a new sound, like peeEP; very sharp. <sup>13</sup>She jumps off the perch to the bottom of the cage. <sup>14</sup>I take out the perch and try to talk to her but she ignores me. <sup>15</sup>She drinks water. <sup>16</sup>She doesn't look at me again till she's wiped off her beak and stretched both wings, one at a time. <sup>17</sup>She uses her feet to help stretch the wings. <sup>18</sup>Then, she gives a small queeEEP?. <sup>19</sup>Generally, Birdie looks at me more with her right eye than her left. <sup>20</sup>It doesn't matter which side of the cage I stand. <sup>21</sup>She turns so she can see me with her right eye. <sup>22</sup>Also, when she reaches with her foot to hold the treat dish, or even her regular food dish, she does it with her right foot. <sup>23</sup>She'd be right-handed if she had hands; she's right-footed or right-sided. <sup>24</sup>She approaches and does most things from the right side.

(William Wharton, *Birdy*, Jonathan Cape, 1979, p. 47)

If there are orthographic paragraph divisions in the original version of this text which were made for the sake of appearance on the page, then we have little hope of identifying such divisions in any formal way. What kind of formal marks, if any, would we expect to find at the beginning of a new paragraph? The markers Longacre (1979) identifies in narrative discourse are inevitably adverbial expressions indicating temporal sequence. It may be that the general class of adverbials which can appear initially in a sentence could be taken as possible markers of 'topic-shift'. Quirk et

al. (1972: ch. 8) provide lists of such adverbials in terms of adjuncts, conjuncts and disjuncts. In fact, extract (14) begins with an adverbial clause in initial position. There are two other points in this extract, sentences 4 and 10, where adverbial clauses occur in sentence-initial position. There are four other points where adverbial expressions occur sentence-initially, sentences 6 (*At first*), 18 (*Then*), 19 (*Generally*), and 22 (*Also*). This would give us six possible breaks, formally marked, in the structure of the piece of text.

The next question is – do all these adverbial expressions function in the same way? After all, we would like to distinguish between adverbials which indicate a connection between one sentence and the next and those adverbials used to link a set of sentences to another set. The use of *then* in 18 seems to introduce a final action in a temporal sequence of actions. We can conceive of this one sentence being separated from the previous set as a form of distinct climax. We might expect, however, that it would more typically occur as the final sentence of a paragraph, not as a climax, but as describing an action which culminates a series of actions. It is followed by a sentence which does not continue the series of actions and which begins with what Quirk et al. (1972: 509) would characterise as a 'style disjunct'. This use of *generally*, in 19, effectively separates the previous set of sentences from the next set describing a particular habit of the individual involved. Within this latter set, one sentence begins with the additive adjunct, *also*, in 22, which could be indicating that there are two parts to this set. It is more likely that the sentence beginning with *also* is adding more detail to support the general conclusion that the individual concerned is *right-sided* and is part of the internal structure of a paragraph beginning with *Generally*.

The other adverbial, *at first*, in 6, seems to be part of a sentence-internal construction, especially when we see the *then* which follows. The events described in this sentence fall within the set of events described as happening *by the end of the week* (in 4).

Thus, we have reduced the number of possible breaks in this text to three, so that we can suggest that there are four paragraphs, beginning at sentences 1, 4, 10 and 19. The reader may suggest other possible breaks, as, for example, in 9, where there is a sentence structure (an interrogative) quite different from the

structure of the rest of the text sentences. An argument for a break here would seem quite reasonable since this sentence is structurally marked as separate. No doubt the reader could also think of an argument, mainly in stylistic terms, for treating this sentence as part of the preceding set. It may be the case that, taking stylistic considerations more generally, the reader would wish to divide this text into separate paragraphs at points where there are no formal markers at all. We would assume that the discussion, in such a case, would cease to be a discussion which appealed to primarily linguistic evidence in this piece of discourse.

On the basis of some formal linguistic markers, we have suggested that there are four paragraphs in extract (14). We may have been led to finding those four paragraphs because they are, in fact, the divisions which actually appear in the original and we merely sought additional evidence to support the way the author had divided up his discourse. Yet this point highlights the fact that the exercise we have performed on extract (14) was an extremely artificial treatment of written discourse. We began by removing one of the primary indicators of 'topic-shift' available to a writer, that of indenting a line in his text. Rather than treat the indenting of the first line of a paragraph as simply some cosmetic device, as Longacre (1979) does, we might look upon it as an indication by a writer of what he intends us to treat as the beginning of a new part of his text. If the writer also uses adverbial expressions initially in the first sentence of this new part of his text, then we might say we have overwhelming evidence that the writer is marking a 'topic-shift' in his discourse. We are, after all, performing a descriptive and not a prescriptive exercise when we undertake discourse analysis. We do not wish to say how a writer should organise his written discourse into paragraphs before we have managed to characterise, in any comprehensive way, how writers typically do so.

The investigation of what writers typically do when marking the structure of their texts would seem to be a more appropriate goal of discourse analysis. For example, rather than dismiss the orthographic paragraph format to be found in newspaper articles as, in some way, a deviation from the 'true' paragraph structure of what is being written, it would be more appropriate for discourse analysts to describe the journalistic format as one form of written discourse organisation. The paragraph structure of different genres, such as



scientific textbook writing, repair manuals, nineteenth-century novels, etc. could then be characterised, and statements could be made about, for example, the 'norms' or regular features of topic-shift in such genres.

On the basis of such genre-specific descriptions of 'topic-shift' markers, it should be possible to make linguistic, as opposed to literary, statements about the structure of English written discourse which reflect the writer's purpose. Thus, in producing a narrative, the writer must provide some indications of change of time and place, as Grimes (1975: 102) has pointed out. In presenting a philosophical argument, however, the writer can range over different times and places within a single paragraph, but must mark out changes in the direction of his argument. Taking a random page from the writings of Karl Popper, one can see the structure of the discourse in skeleton form by taking the first phrase or sentence of each paragraph.

- (15) para 1 : Other questions have sometimes been asked . . .  
 para 2 : Another question sometimes asked is this . . .  
 para 3 : The only correct answer is the straightforward one . . .  
 para 4 : It has also been said that the problem of induction is . . .

(Popper, 1963: 56)

Eventually, it should also be possible to specify those markers of 'topic-shift' which occur in all forms of written discourse. We might find that it is indeed the case that the use of 'But' at the beginning of a paragraph as described by van Dijk (1977: 139), is a very general marker of topic change. Other examples of what van Dijk (1977: 150) terms macro-structure connectives are 'furthermore', 'however', and 'so'. We shall discuss the concept of macro-structures in discourse in section 3.7 on the proposition-based analysis of discourse.

### 3.6.2 *Paratones*

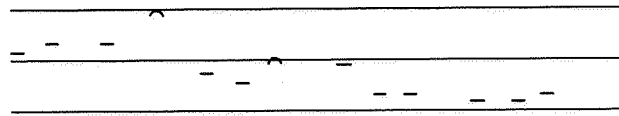
So far we have concentrated on structural markers in written discourse. In spoken discourse, there is not the visual prompt of paragraph-initial line indentation to indicate a division in the discourse structure. How do speakers mark 'topic-shifts'? One suggestion is that there are, in fact, structural units of spoken discourse which take the form of 'speech paragraphs' and have been

called **paratones** (see Brown, 1977: 86). Some support for the notion that there are ways of marking the boundaries of 'speech paragraphs' can be found in a common practice of people who are asked to read pieces of written text aloud. They use intonational cues to signal the start of a new paragraph. The 'speech paragraph', or paratone, like the orthographic paragraph, is identified by its boundary markers. The marking of the start of a paratone, then, is clearly one device which speakers can use to indicate a topic-shift. Since the paratone is a much less familiar concept than the orthographic paragraph, it may be useful to have its identifying features described.

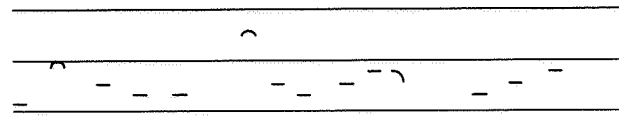
At the beginning of a paratone, the speaker typically uses an introductory expression to announce what he specifically intends to talk about. This introductory expression is made phonologically prominent and the whole of the first clause or sentence in a paratone may be uttered with raised pitch. The end of a paratone is marked in a way similar to the 'turn signal' discussed by those who investigate conversational discourse as a process of social interaction (cf. Duncan, 1974; Sacks et al., 1974). It can be marked by very low pitch, even on lexical items, loss of amplitude and a lengthy pause. Alternatively, the speaker can use a summarising phrase, often repeating the introductory expression, not necessarily low in pitch, but also followed by a lengthy pause. The most consistent paratone-final marker is the long pause, normally exceeding one second.

We shall examine an extract from conversational discourse containing a longish paratone which illustrates the features just described. It is relevant that the topic framework for this extract (16) should contain information about the speaker (female, 20+, Edinburgh-resident) and the preceding discourse (the types of drinks the participants had encountered in different types of bars during their respective recent holidays in the United States). It is also worth noting that in Edinburgh Scottish English, phonologically prominent syllables are typically uttered with raised or high pitch and need not have the type of pitch movement associated with phonological prominence in descriptions of standard southern English (cf. Brown et al., 1980). (For an explanation of the stave representation of intonation used, see the 'transcription conventions' on p. xii.)

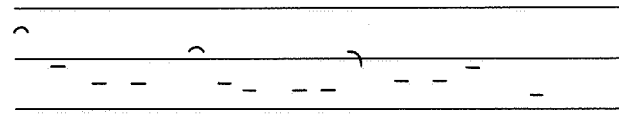
(16) I found my drink was a great problem with them because



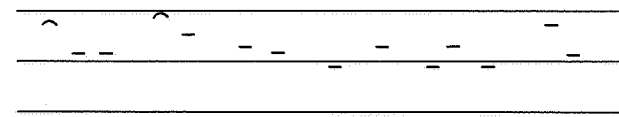
at that time I drank whisky and lemonade + and I would



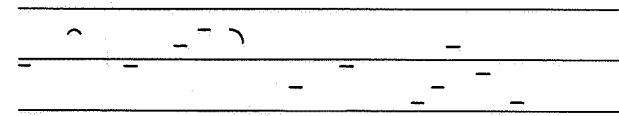
go and ask for whisky and lemonade and I would get



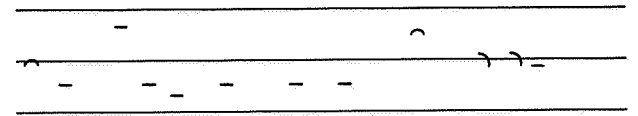
whisky and lemon + because you have to ask for whisky



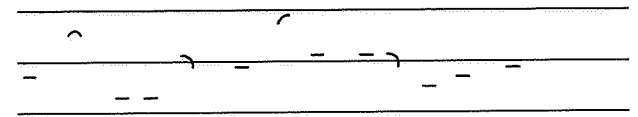
or scotch and seven up + you know + I eventually



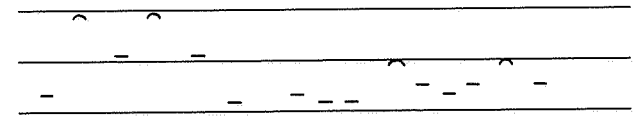
cottoned on to it + but + and they couldn't get over



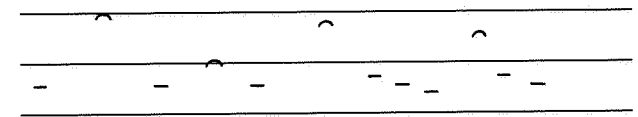
the fact that I didn't like ice in whisky and of course



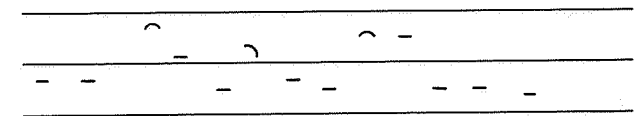
they either gave me ice whether I wanted it or not or



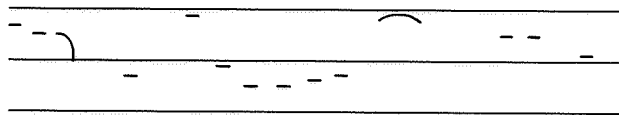
they stacked the glass up + right up to the level that



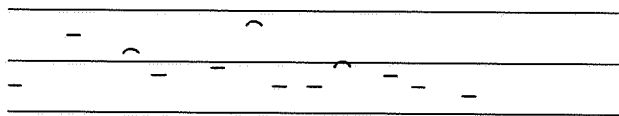
you would normally have if you had ice in your drink



anyway + and consequently I got ploughed + frequently +



and that's that I + I tended to stick to my drink + +



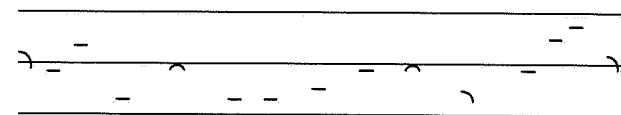
This paratone begins with an introductory expression *my drink*, uttered very high in the pitch range, and closes with the same expression, low in the pitch range, as part of the speaker's summing-up. The internal pauses are brief, none exceeding 0.5 seconds, but the final pause marking the end of the paratone is long (1.6 seconds). Those are the formal markers of the boundaries of this paratone. Of course, there are internal aspects, such as the semantic cohesion within the lexical field established by *my drink*, which could also be appealed to in claiming that this chunk of discourse is a unit of some kind. However, this type of internal cohesion is not a necessary feature of the structural unit we have described as the paratone.

It might be argued that there are two paratones, and not one, in this extract. There appears to be a break where *but* is used. Indeed, just prior to *but*, there is what has been described as a 'possible completion point'. The speaker has come to the end of a sentence and pauses. It is a point at which those who analyse conversation in terms of 'turn-taking' (Sacks et al., 1974) would suggest that another speaker could take over the turn. However, the speaker in this extract immediately produces an 'utterance incompleter' – in this case *but*, though any clause connector would do – making, as Coulthard (1977: 56) points out, a potentially complete utterance into an incomplete one. After another brief pause, the speaker continues, using *and* to indicate that what she is going to

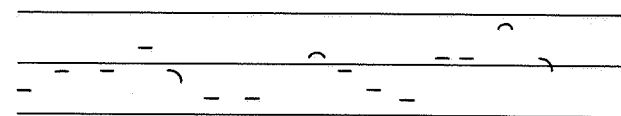
say is connected to what she has just said. We would not want to describe this possible completion point (or any other which occurs in this extract) as a paratone-boundary. The formal markers, low pitch close plus lengthy pause plus raised pitch introductory expression, are not present. In intuitive terms, we might also say that what follows *but* + is not on a separate speaker's topic, but continues the talk 'about' 'my drink'.

At the end of this extract, there is an obvious 'completion point'. In 'turn-taking' terms, it is a point at which another speaker is free to take over. However, in this part of the conversation, one speaker clearly 'has the floor' and she is allowed to continue, as shown in extract (17).

(17) oh apart from once when we went we found em + an Irish bar



in San Francisco that was famous for its Irish coffees +



In beginning a new paratone, the speaker marks as intonationally prominent two expressions – *an Irish bar* and *Irish coffees*. In the course of the paratone, she talks about both the bar and the Irish coffee made there. It seems quite reasonable to assume that, when a speaker is organising a 'speech paragraph' which has two connected elements as its foci, both elements can be made phonologically prominent in the introduction. When the speaker closes this paratone, she repeats one of her introductory expressions – *it was very good Irish coffee too* – not particularly low in the pitch range, but followed by a lengthy pause.

Some of the features we have described as marking paratone boundaries in spoken discourse can, of course, have other functions. Although the lengthy pause is also identified by Chafe (1979: 176) as an indication of segmentation in his spoken discourse data comparable to paragraphing in written discourse, the intonational features we appealed to can have other, quite different, functions. Some of these we will discuss in detail in Chapter 5. What we have described is the use of the *combination* of these formal markers by speakers to indicate a shift in what they're talking about. There may be other, more subtle, indicators of topic-shift used by conversationalists which we have ignored. The significance of 'speaker gaze', as described by Kendon (1967) and specific 'body movements' (de Long, 1974) in signalling speaker change in conversation may also be relevant in topic change. The occurrence of different types of 'fillers' such as 'well', 'mmm', 'you know', 'er', and others may also regularly coincide with topic-shifts. We have concentrated, however, on some of the primary, easily identifiable formal markers used by writers and speakers to indicate structural divisions in the discourse they produce. We emphasise once again that, although we can regularly identify such structural markers, their appearance in discourse should not be treated in any way as 'rule-governed'. They represent optional cues which writers and speakers may use in organising what they want to communicate. Failure to mark out explicitly the structural organisation of what a speaker wishes to communicate may make the addressee's task of interpretation more difficult, perhaps, but, by itself, would not necessarily constitute a failure to communicate.

### 3.7 Discourse topic and the representation of discourse content

Although we have tried to illustrate some types of boundary markers which can be identified in both spoken and written text, it is a noticeable feature of reported studies in this area that they concentrate almost exclusively on the analysis of written text. This strong bias in favour of written data is also present in studies of discourse content. In fact, the written data, for which analysis of content is offered, typically consists of sets of sentences which the analyst has constructed. We will point out some of the disadvantages of this approach as we investigate the various metho-

dologies which have been proposed for the representation of discourse content.

A hypothesis underlying much of the work we shall report is that there is a specific connection between 'discourse topic' and 'discourse content'. The former can be viewed as, in some sense, consisting of the 'important' elements of the latter. If the representation of discourse content can be presented as a hierarchy of elements in the discourse, then the top-most elements are natural candidates for treatment as the 'most important' components of the discourse topic. If it can also be shown that people remember these top-most elements better than others, then this might be evidence that what we have 'in our heads' after reading a text are those elements which constitute the discourse topic. In order to evaluate such an approach, we have to consider critically how such representations of discourse content are arrived at.

In recent years many scholars, psycholinguists in particular, have been concerned to produce representations of the semantic content, or information content, of texts. Common to many of these attempts to represent semantic content is a notion of **proposition**, a notion which derives from formal logic but which is used in a very free way in the text-analysis literature, often to include notions which might be better regarded as 'statements' or 'simple sentences'. Whereas in logic the proposition is often held to represent the context-independent, invariant meaning expressed in a sentence (statement), in the text-analysis literature a 'proposition' is often taken to represent a 'once-off' interpretation of a text-sentence as it is used in a context. Lyons (1977: 141) comments on the controversy surrounding the notion: 'Some authors think of propositions as purely abstract, but in some sense objective, entities; others regard them as subjective or psychological . . . Further difficulties are caused by the use of 'proposition' in relation to 'sentence' and 'statement': some writers identify propositions with (declarative) sentences, others identify them with statements, and others with the meanings of (declarative) sentences; and there is little consistency in the way in which 'statement' is defined.'

It is often the case that 'propositions' are represented in the text-analysis literature simply as relationships between a predicate and its arguments, and they are expressed as in (18a):

(18) John hit Mary

(18a) Hit (John, Mary)

Here the representation in (18a) is usually taken to be the single proposition which (18) as a text-sentence can be used to express. The analyst decides on the single appropriate interpretation for the sentence by his choice of semantic representation in (18a). We shall point out some of the problems raised by this approach. Another general feature of the text-analysis approach to the notion of 'proposition' concerns the psychological status of the semantic representation involved. For many cognitive psychologists who produce text-content analyses, the propositions contained in their representations are to be treated as what speakers have in their minds after they have read a piece of text. These propositions are treated as conceptual structures. We shall discuss some of the problems involved with this approach. In general, the term 'proposition' as used in the following discussion, is best treated as meaning 'semantic representation'.

One very influential approach to the analysis of the semantic representation of text can be found in the work of van Dijk (1977). Van Dijk's analytic approach has its origins in attempts to produce a 'text-grammar' (cf. van Dijk et al., 1972; van Dijk, 1973), but it has developed to include the representation of discourse content and to relate this 'content' to a notion of 'discourse topic'. Since we have discussed the representation of 'topic' at some length already, we shall approach van Dijk's representation of discourse content via his analysis of how 'topic' is to be characterised.

Van Dijk (1977) sets out to present an explicit formal account of the concept 'topic of discourse'. In his analysis of a piece of written text, van Dijk proposes that the topic can be expressed as a complex proposition which is entailed by the joint set of propositions expressed by the sequence of sentences in the text. It should be emphasised that van Dijk's analysis is based on an underlying semantic representation of the text rather than the sequence of sentences which constitute the text. The semantic representation of a text is its *macro-structure* which defines 'the meaning of parts of a discourse and of the whole discourse on the basis of the meanings of the individual sentences' (van Dijk, 1977: 6). For example, the

macro-structure of a discourse fragment consisting of a single, non-complex sentence is the underlying proposition. Van Dijk's illustration of this relationship is reproduced here as examples (19) and (19a), in which (19a) is the semantic representation (i.e. the macro-structure) of the sentence (19).

(19) Peter is going to Paris next week.

(19a) [go to (Peter, Paris)] e & next week (e)  
(van Dijk, 1977: 137)

Assuming it is possible to produce underlying propositions of this sort for each sentence of a longer piece of text, it should be apparent that the resulting semantic representation will be at least as large as, and even possibly larger than, the piece of text itself. The semantic representation appears to be only a translation (which is incidentally, also an interpretation) of the piece of text into an alternative format. This procedure does not seem to provide a means of identifying 'the topic' of a piece of discourse. The semantic representation cannot be 'the topic'. We certainly do not expect the expression of the topic of a discourse to be longer than the discourse itself. As van Dijk himself points out, 'discourse topics seem to reduce, organize and categorize semantic information of sequences as wholes' (1977: 132). No means of systematically 'reducing' the semantic representation to produce the discourse topic representation is provided. Instead, one is required to return to the piece of text, make up a sentence which appears to summarise the main points in the piece of text, and then translate this sentence into a semantic representation. For an extended piece of text containing five paragraphs, van Dijk produces the sentence (20) and translates it into the semantic representation (20a) which is thereafter treated as the discourse topic.

(20) A (little) town (called Fairview) is declining because it cannot compete with another town (called Bentonville).

(20a) town (a) & town (b) [~CANa (compete with (a, b))] (e) & cause (e, f) & [decline (a)] (f).  
(van Dijk, 1977: 134)

It ought then to be possible to produce a proof that the complex proposition in (20a) is entailed by the joint set of propositions in the semantic representation of the whole text. The proof would be carried out in terms of formal relationships between propositions. Whether such a proof can in fact be carried out (van Dijk does not provide one) is a matter of concern for logicians rather than linguists.

What must be of concern to linguists interested in notions such as 'discourse topic' is the fact that the formal means of identifying the topic for a piece of discourse claimed by van Dijk is, in fact, an illusion. Neither the topic representation nor the semantic representation of the whole text derive from anything more formal than the analyst's interpretation of what the text means. To produce the discourse topic, van Dijk does nothing more than what schoolchildren are frequently asked to do by their English teacher – produce a single sentence summary for the text under consideration. As any English teacher knows, this exercise is considerably easier with some passages (simple descriptive or narrative) than with others (discursive or explanatory prose) and it inevitably produces a variety of different, though certainly related, interpretations of what must be included in the single 'topic' sentence. (A similar point was made earlier with regard to possible titles for discourse fragments.) At the discourse level, van Dijk provides a means of formalising interpretations of both the joint set of meanings of the sentences in a text and the summarising sentence for the same text, and suggests that a formal relationship of entailment can be shown to exist between those interpretations. At best, this is a formula for determining, not the *topic* of a discourse, but the *possible topics* of a discourse. If we can already determine the possible topics of a discourse without recourse to logic, then the elaborate translation into logico-semantic representations is redundant.

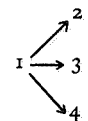
So far we have treated propositions as some type of easily derivable translations for natural language sentences which represent the 'meaning' of those sentences. For many writers, however, including van Dijk (1977), a proposition represents a concept or a conceptual structure, and, in the strong view, the propositional form is the representation in which all knowledge is used and stored. If the representation of a piece of text can be made in terms of propositions which are to be treated as concepts in the reader's

mind, then it follows that the discourse analyst must be capable of providing, not just an analysis of a piece of text, but an analysis of the mental representation of that text. That is, the discourse analyst may claim that the product of his analysis is not simply a good account of the facts ('good' in analytic terms such as economy and exhaustiveness), but can go on to claim that the product of his analysis is psychologically 'real'. It is what people have in their heads after they have read a text. Such a claim quite naturally leads to proposals regarding the nature of memory for texts, as in Kintsch's hypothesis that 'the amount of time required to read and remember a paragraph should be proportional to the number of propositions in its base' (Kintsch, 1974: 135).

In support of this type of hypothesis, there is experimental evidence indicating that texts, or even single sentences, are not stored verbatim in memory (see Bransford & Franks, 1971). Indeed, it is a fairly common experience that the content or *gist*, but not the actual words, of a text can be recalled. If the content of a text can be expressed as a base structure consisting of a set of identifiable propositions, then this set can be proposed as the memory representation for the particular text and the basis for what is recalled rather than the actual words. Since language-users do not express themselves in propositional format, it is difficult to test this view of text-recall directly. As an indirect test, Kintsch & Keenan (1973) proposed that two texts which are roughly the same length (in words), but which differ in the number of underlying propositions will require different reading/understanding times. Examples of the material used in this experiment, together with their propositional analyses, are presented as (21) and (22). In each proposition, there is first a relational term, followed by one or more arguments. Propositions can be arguments of other propositions.

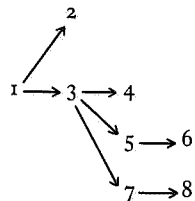
(21) Romulus, the legendary founder of Rome, took the women of the Sabine by force.

- 1 (TOOK, ROMULUS, WOMEN, BY FORCE)
- 2 (FOUND, ROMULUS, ROME)
- 3 (LEGENDARY, ROMULUS)
- 4 (SABINE, WOMEN)



(22) Cleopatra's downfall lay in her foolish trust in the fickle political figures of the Roman world.

- 1 (BECAUSE,  $\alpha$ ,  $\beta$ )
- 2 (FELL DOWN, CLEOPATRA) =  $\alpha$
- 3 (TRUST, CLEOPATRA, FIGURES) =  $\beta$
- 4 (FOOLISH, TRUST)
- 5 (FICKLE, FIGURES)
- 6 (POLITICAL, FIGURES)
- 7 (PART OF, FIGURES, WORLD)
- 8 (ROMAN, WORLD)



Subjects, asked to indicate when they had read and understood the pieces of text, did indeed take significantly longer with (22) than with (21). A result, one might say, which confirms the hypothesis.

To the right of the proposition set in both (21) and (22), there is a representation of the hierarchical relationships claimed to exist among the propositions. That is, the representation of a text cannot be treated as only a list of propositions, but must show that some propositions are subordinate to others. In another experiment in which subjects were asked to recall what they had read, they recalled propositions higher up the hierarchy more easily than those in subordinate positions. This suggests not only that the mental representation of a text is in the form of a proposition set, but that there is hierarchical organisation of the set. It may also suggest, though Kintsch & Keenan (1973) do not make this point, that the highest proposition in the hierarchy is an obvious candidate for being considered the 'topic-proposition' of the text. It would then be possible to describe the topic-structure of a text in terms of the hierarchy of propositions, thereby accounting for the relationship van Dijk (1977) wished to express between the proposition representing the 'topic of the discourse' and the proposition set of the discourse. Each proposition in the proposition set would be defined as hierarchically subordinate to the topic-proposition.

We have presented the proposition-based analysis of text in some detail because it has had a considerable influence on the way many investigators have undertaken text-analysis. In the next section, we will describe some of the developments of the proposition-structure approach by other writers, but, first, it is necessary to point out some basic problems with the approach.

Fundamental to the proposition-based approach to the analysis of discourse is a concentration on the 'content' of a piece of discourse to the exclusion of all else. Kintsch states that, in his analysis, textual and communicative aspects will be ignored. His reasons for this decision may be discerned in the following quotation:

the memory representation of a text is a function of the content of the text, but not of the way in which it is expressed. That is, identical memory representations may be formed for paragraphs that are all members of the same paraphrase set.

(Kintsch, 1974: 107)

An approach which is based on such a view is clearly not a linguistic approach, for it holds that viewing a text as an example of language in use is of no interest. Those aspects of text-structure discussed in Chapter 4, such as 'staging' and 'thematisation', which are crucially to do with how the content is expressed, would consequently have no effect on the memory representation. It is difficult to reconcile this rather strong view with more recent experimental work which has demonstrated that processes such as 'staging' and 'thematisation' have a marked effect on text-recall (cf. Clements, 1979).

Moreover, if a piece of text is used simply as a means of arriving at a discussion of memory representations, would not some non-linguistic object, such as a photograph, be an equally suitable input? The problem with non-linguistic material is that it seems not to lend itself quite so readily to analysis in propositional terms. Is there any non-arbitrary way of expressing the 'content' of a photograph as, for instance, a set of statements? There is a school of thought in cognitive psychology which argues that memory is modality-specific (cf. Paivio, 1971). That is, our memory of what we experience has a different representation according to how we experience it, either visually or auditorily, for example. This would lead to different memory representations for the same 'text' depending on whether it was encountered in the spoken or the written mode. In this view, in direct contrast to that proposed by Kintsch, the way in which a text is expressed does have an effect on the memory representation.

It could be argued, of course, that a proposition-based analysis provides insight into one aspect of the memory representation of a piece of text and that this weaker view should be held with respect

to the propositional content of written texts only. Given a basic analysis of the content of a text in propositional terms, the influence of 'staging', for example, might then be incorporated within the analysis of the hierarchical organisation of the propositions involved.

### 3.8 Problems with the proposition-based representation of discourse content

There exists a fundamental methodological problem with the proposition-based analysis of texts which makes it difficult to apply, in any practical way, in discourse analysis. The discourse analyst has to be able to set about the analysis of pieces of text he encounters in newspapers, journals, novels, textbooks and so on. He cannot restrict his investigation to pieces of text which he constructs for a particular purpose.

In the following quotation, Kintsch first states the outstanding methodological problem which persists for the proposition-based analysis of text and then describes the solution he chooses.

one of the major problems in work of this type is that no algorithmic procedure exists to analyse a given sentence (or paragraph) into its propositional base structure. However, one can start with the propositional expressions themselves and translate these into English text.

(Kintsch, 1974: 124)

Kintsch is saying that, despite the appearance of a highly formal and therefore objective type of approach, the proposition-based analysis of natural language texts is inevitably subjective. If the analyst claims to be able to produce the proposition-set for a piece of text, as we noted van Dijk (1977) was claiming, that proposition-set necessarily represents only a single interpretation. It cannot really be tested. It can only be challenged by another analyst saying, 'My semantic representation is different from yours', and no principled means is available for deciding which of the two is correct, or even which is better. There may, in fact, be no such thing as a single correct semantic representation (i.e. proposition-set) for a text (or even, as Chafe (1977a) argues, for a sentence), if that semantic representation is treated as something which people have in their heads.

Moreover, the solution proposed by Kintsch may be an acceptable heuristic in experimental psychology, but it can have only an extremely limited application in discourse analysis. A set of sen-

tences constructed from a set of propositions may indeed demonstrate that the resulting natural language texts have propositional structure, but the argument has a distressing circularity.

An attempt to find an appropriate relationship between propositions and natural language texts which avoids the claim that the content of texts is stored in propositional form can be found in Clark & Clark (1977). They suggest that 'even if information is represented in forms other than propositions, one might argue that it must be transformed into propositions before it can take part in the utilization process or in memory retrieval for the construction of sentences' (Clark & Clark, 1977: 164). A similar view has been expressed by Chafe (1977b) in that 'knowledge is not stored propositionally at all . . . the basic form of store may consist of individuated events and objects, each with an associated analogic content . . . until a need to verbalize them makes propositional decisions necessary' (Chafe, 1977b: 54).

In both these quotations, it is clear that proposition-forming is taken as part of the process involved in producing sentences. A proposition then is a partial structuring of what one wishes to communicate and is part of the verbalisation process. In this sense, a particular sentence cannot be treated as having a single propositional source. It may have resulted from several quite different propositions. A simple illustration of this is provided by Allwood, Anderson & Dahl (1977: 20), reproduced here as (23).

(23) He is hungry now.

The sentence in (23), said by Josephine about Napoleon sometime in 1806 expresses a different proposition from the same sentence used by Krupskaya about Lenin sometime in 1920. It should be clear that any analysis of the sentences in a text which appeals to the propositions involved in the production of those sentences will necessarily have to appeal also to aspects of the context in which those sentences were produced. The problem of reconstructing the underlying proposition(s) for a sentence should be quite apparent. It involves reconstructing the proposition the producer of the sentence intended the sentence to convey. The discourse analyst who wishes to present his analysis in propositional terms should realise, therefore, that his analysis represents not a straight translation from sentence meaning into an alternative format, but an



interpretation of the speaker's / writer's intended meaning in producing the discourse.

Computing the intended meaning of a speaker / writer depends, as we have already argued, on knowledge of many details over and above those to be found in the textual record of the speaker's / writer's linguistic production. If we use this knowledge in the process of 'understanding' pieces of language, then any analysis which makes claims about 'understanding' must include that knowledge in its representation. The analyst who produces only a set of propositions as a representation of what he understands when he reads the sentences of a text, is failing to make explicit some aspects of how he reached that 'understanding'. This failure becomes most apparent if the analyst attempts to use his proposition-based representation in the computer modelling of language understanding. All the knowledge which the analyst has assumed is not available to the computer. As Steedman & Johnson-Laird (1980: 111) explain: 'A well-known foible of computers is their literal-mindedness and intolerance of imprecision.' In order for the computer to behave as if it 'understands' a piece of text, it must be provided with a means of analysing the sentences of the text *plus* some background knowledge which represents the context in which the text is to be 'understood'. As a result, those working in that branch of Artificial Intelligence which attempts to model text-understanding have found themselves undertaking a great deal of practical discourse analysis. They have not generally considered the proposition-based analysis of text-content, as proposed by van Dijk and Kintsch, to be a useful methodology. We shall consider alternative methodologies used in the computer-modelling of text understanding in Chapter 7.

### 3.9 Memory for text-content: story-grammars

Despite the possible objections which can be raised against the representation of the content of texts as a hierarchy of propositions, the basic methodology has, with varying degrees of formality, been used in many discussions of discourse organisation.

The majority of these discussions have been concerned with how the content of text is processed in comprehension, stored in memory, and subsequently recalled. Note that such a concern is quite different from that which commonly underlies most other

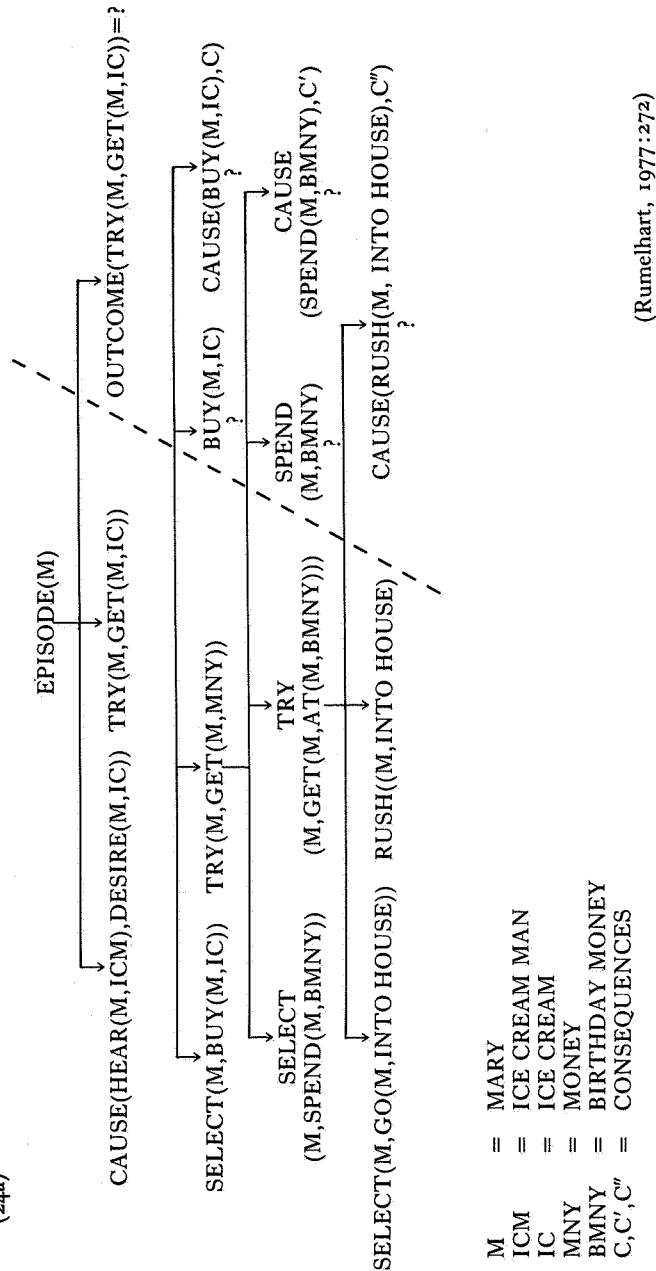
investigations in linguistics. The theoretical linguist typically operates with criteria such as economy, consistency and comprehensiveness when considering the competing claims of alternative descriptions of linguistic phenomena. In the promotion of a particular representation-format for the content of text, however, the criteria are typically to do with the amount and accuracy of recall protocols (what readers produce as their remembered versions of what they have read), and reading or 'comprehension' speed.

Thus, although the representations of text-content to be found in Rumelhart (1975, 1977) and Thorndyke (1977), for example, are often referred to as 'story-grammars', they are not to be approached as one would a linguist's proposed 'grammar'. At a basic level, the notion of a counterexample, for instance, is very difficult to conceive when dealing with 'story-grammars', since the components are defined so loosely. In a phrase structure grammar which contains a component labelled 'Noun Phrase', we have a fairly clear notion of which elements in a sentence are, and which are not, part of the noun phrase component. We can, in fact, list the set fairly exhaustively. What would we put on the right of a rewrite arrow from a component called 'Event'? An exhaustive list of the acceptable forms by which an Event could be realised is difficult to conceive.

Given this caveat on the status of content representations found in a story-grammar, let us look at some examples. (For a survey of different types, see Yekovich & Thorndyke, 1981.) Rumelhart (1977) presents the tree-structure diagram shown in (24a) as a representation of how we comprehend the content of the story fragment (24).

- (24) Mary heard the ice cream man coming down the street. She remembered her birthday money and rushed into the house.

Several aspects of this representation should be noted. A pseudo-propositional format is used to characterise nodes in the diagram. The nodes are hierarchically organised so that some parts of the tree are derived from parts higher up. Not all nodes are rewritten and some nodes may yet be rewritten, presumably depending on what comes next in the text. A large number of these nodes contain elements which are not in the text, such as CAUSE and DESIRE. That is, the diagram in (24a) is not a representation of what is



strictly in the text of (24), but is a representation of Rumelhart's interpretation of what steps are involved in our comprehension of the piece of text.

Although there are superficial similarities between Rumelhart's representation and that proposed by Kintsch, described earlier, in that both have proposition-like versions of text-content and a hierarchical relationship between those propositions, the basis of the representations is clearly different. Most noticeably, Rumelhart has incorporated what must be inferences *on the reader's part* with respect to what is in the text. These inferred elements, such as hearing the ice cream van initiating the desire for ice cream, are necessary factors which Rumelhart set out to incorporate in his representation. However, Rumelhart's main aim was not to investigate the nature of such inferences, but to characterise the primary components in the content of simple stories. Accordingly, he compares his hierarchically represented analysis of several very simple stories with his analysis of subjects' summaries of those stories and finds that the summaries typically include components at the top of his hierarchy and leave out components from lower levels.

Developing Rumelhart's analysis of simple stories, Thorndyke (1977) produced a set of hierarchically organised components for narrative discourse. An extract from these 'rules' is shown in (25).

- (25)
- |      |            |     |                                     |
|------|------------|-----|-------------------------------------|
| (1)  | STORY      | →   | SETTING + THEME + PLOT + RESOLUTION |
| (2)  | SETTING    | →   | CHARACTERS + LOCATION + TIME        |
| (3)  | THEME      | →   | (EVENT)* + GOAL                     |
| (4)  | PLOT       | →   | EPISODE*                            |
| (5)  | EPISODE    | →   | SUBGOAL + ATTEMPT* + OUTCOME        |
| (6)  | ATTEMPT    | →   | {EVENT*<br>EPISODE                  |
| (7)  | OUTCOME    | →   | {EVENT*<br>STATE                    |
| (8)  | RESOLUTION | →   | {EVENT<br>STATE                     |
| (9)  | SUBGOAL    | } → | DESIRED STATE                       |
|      | GOAL       |     |                                     |
| (10) | CHARACTERS | } → | STATE                               |
|      | LOCATION   |     |                                     |
|      | TIME       |     |                                     |

(Thorndyke, 1977:79)

Once again, by comparing both recall protocols and summaries with the original simple story (as analysed by Thorndyke), it was generally found that components at the top of the hierarchy were most readily recalled or incorporated in the summaries. It should be noted that in the summary and recall data presented by both Rumelhart and Thorndyke, there are, in fact, quite a few hierarchically low components also included by different subjects.

The conclusions of Rumelhart and Thorndyke are not particularly related to the content of the texts they use, but, rather, emphasise the existence of a story *schema* which readers employ in the comprehension and resulting memory-representation of narrative texts. From the discourse analyst's point of view, there must remain some reservations about the applicability of story-grammars. The notion of a 'schema' is, in fact, an extremely attractive one and we will reconsider it in more detail later (see Chapter 7). However, the type of story-schema proposed by Rumelhart and Thorndyke may be appropriate only for the short, simple, specially constructed stories they use. (There does seem to be a very small set of such stories, since the same stories are used over and over again in many discussions by those claiming to investigate narrative discourse.) If the discourse analyst wishes to investigate naturally occurring stories, particularly those stories which turn up in the course of conversations, he might find the general categories (such as 'setting' or 'episode') useful, but he has been provided with no principled basis for deciding what *linguistic* material comes under one category and not another. The discourse analyst may actually find that an investigation which tells him that a 'story' consists of a setting plus a theme plus a plot plus a resolution has not told him a lot. The analyst may also be a little worried that the 'story-grammar', as formulated, could generate a 'story' which is composed of the beginning of Cinderella, the middle of Little Red Riding Hood and the end of Snow White (see Garnham et al., 1982).

A more important objection from the discourse analyst's point of view to the type of analysis undertaken by Rumelhart and Thorndyke (and this also applies to others such as Mandler & Johnson (1977) and Stein & Glenn (1979) who have investigated narrative texts) is that their decisions regarding the content of the texts they analyse are arbitrary and subjective. The illusion that the decisions

are non-subjective is mainly fostered by the extreme simplicity of the texts investigated. The texts are so constructed as to be context-neutral, free of potential ambiguity, and composed of mainly non-complex sentences. The arbitrariness of what is included in the content-structure can be illustrated by the inclusion of one inference, CAUSE (HEAR (Mary, Ice Cream Man), DESIRE (Mary, Ice Cream)), in (24a), when the proposed analysis of the content-structure of a text (24) requires it. However, when the proposed analysis of a story fragment does not have a 'slot' for the instrument involved in an event, for example, the inferred instrument is ignored. Thus, although we can readily infer the use of some instrument (a rope?) in 'the farmer pulled the donkey', we do not find that inference in the representation – PULL (Farmer, Donkey) (see Rumelhart, 1977: 274). We do not suggest that such an inference must be in the analysis. Anyone wishing to apply the analysis, however, must want to know which inferences he may represent and which he may not. Story-grammars, just like Kintsch's proposition-based analysis discussed earlier, do not provide any algorithm for deciding which propositions (or pseudo-propositions) may, and which may not, be taken from a piece of discourse.

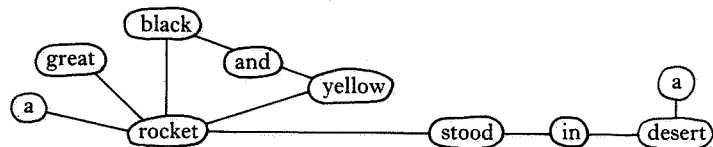
### 3.10 Representing text-content as a network

In our consideration of how text-content has been represented, we have restricted our discussion to those representations which employ the tree-structure metaphor to express the hierarchical relationships existing among components in the text. An alternative representation format, essentially heterarchical, has been proposed by de Beaugrande (1980). The relevant metaphor is computational and has its origins in the sentence-parsing models of Thorne, Bratley & Dewar (1968), developed as Augmented Transition Networks by Bobrow & Fraser (1969), Woods (1970), and many others since (cf. Winston, 1977).

The processing operation which de Beaugrande puts forward is not a translation of encountered text into a hierarchically organised propositional format, but rather a procedural model which establishes a network of relations between elements in the 'text-world'. On one level there is a syntactic procedure which yields a grammatical network, as illustrated in (26a) for the sentence (26).

(26) A great black and yellow rocket stood in a desert.

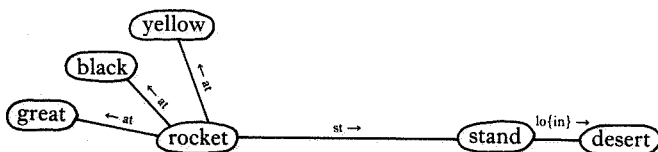
(26a)



(de Beaugrande, 1980:43)

The relationships between elements, represented by the connecting links in (26a), are grammatical relations such as 'head-modifier' and are reminiscent of the non-deep structure relations found in systemic grammar (cf. Berry, 1975). In parallel with this type of grammatical network, de Beaugrande (1980: 77) proposes that there is also a conceptual network. There is a fairly long list of the 'conceptual relations' (e.g. state-of; substance-of; reason-of) which are required, but the brief illustration in (26b) of the relations existing in (26) may serve as an indication of how grammatical links in the network may also be considered conceptual links.

(26b)



Key at: attribute of; lo: location of; st: state of

(Adapted from de Beaugrande, 1980:43)

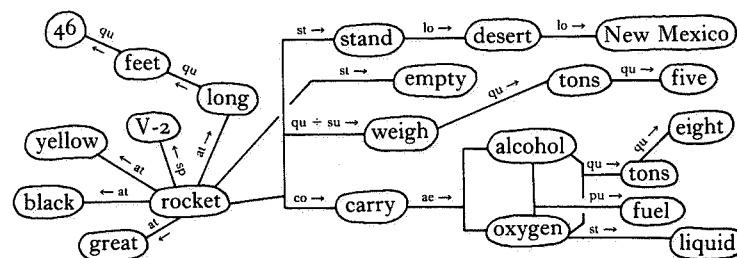
It should be apparent that with longer and more detailed texts the conceptual network will become increasingly more complex. Although this makes the representation of the text-world model extremely unwieldy, it may, in fact, be a reasonably accurate

account of a large number of the potential conceptual relations existing within a text. The problem is, as de Beaugrande (1980: 77) points out, that the text-world models he represents are 'idealizations of the actual cognitive entities involved'. It may be that any individual reader may have fewer of the formal conceptual relations in the proposed networks and more of the idiosyncratic, non-formal associative conceptual relations which defy analysis. For example, the description of the rocket in (26) may involve black and yellow stripes for one reader, yet for another be chequered. All de Beaugrande has set out to do is represent the basis (i.e. attribute of) which forms the common factor in those two readers' 'cognitive entities', as derived from the text.

Returning to the notion of 'topic' with which we began this chapter, we can briefly consider de Beaugrande's use of one aspect of his network representation through which he claims to represent 'topic'. The network (27a) of the text fragment (27) shows that one node in the network ('rocket') is shared by all the individual sentences.

(27) A great black and yellow V-2 rocket 46 feet long stood in a New Mexico desert. Empty, it weighed five tons. For fuel it carried eight tons of alcohol and liquid oxygen.

(27a)



Key ae: affected entity; at: attribute of; co: containment of; lo: location of; pu: purpose of; qu: quantity of; su: substance of; sp: specification of

(de Beaugrande, 1980:93)

According to de Beaugrande, 'this node-sharing is a graphic correlate of Topic' (1980: 94). Clearly, what de Beaugrande understands as 'topic' is what may be described as a 'topic entity' (see section 4.3). We have already argued that a 'discourse topic' is a much more complex concept. However, de Beaugrande's claim, based on his analysis of simple text, is indicative of how far it is possible to take an extremely limited view of 'topic' when the data studied is so limited.

In fact, we might go further and state that much of the research reported in the literature on issues like 'topic', 'text-structure' and 'text-content' has been restricted to such unrepresentative discourse data that the findings are unlikely to have much wider application in the analysis of discourse. The discourse analyst may glean useful insights into some aspects of simple text from this research, but he cannot forever restrict himself to investigating versions of material like 'The farmer and the donkey' or 'The rocket in the desert'.

One of the issues de Beaugrande (1980: 92) shows an awareness of, but does not investigate, is the fact that 'the heavy use of sentences in comprehension models keeps us from addressing the question of how long a stretch of text people actually process at one time'. It seems unreasonable to suggest that whole narrative texts, for example, are processed in one single sweep. If there are smaller units of discourse, what are their boundaries like, what components do they contain, and how are they internally organised? These are questions we shall attempt to answer in the course of Chapter 5.

## 4

### 'Staging' and the representation of discourse structure

#### 4.1 The linearisation problem

One of the constraints on the speaker / writer is that he can produce only one word at a time. When he orders these single words into sentences, and those sentences into texts, he confronts what has come to be called the 'linearisation problem'. He has to choose a beginning point. This point will influence the hearer / reader's interpretation of everything that follows in the discourse since it will constitute the initial textual context for everything that follows. Consider just two types of invented examples. First of all, consider the effect of an identical attributive description being preceded by different evaluative comments:

- (1) a. I can't stand Sally Binns.  
She's tall and thin and walks like a crane.
- b. I do admire Sally Binns.  
She's tall and thin and walks like a crane.

In *a* the attributes *tall and thin and walks like a crane* must be assumed to be unattractive, awkward, ungraceful. In *b* those same properties are now endowed with elegance and grace.

Consider next the effect of linear sequencing on the interpretation of events in time where 'the listener can be expected to derive different implicatures from different orderings' (Levelt, 1981: 91):

- (2) a. She married and became pregnant.
- b. She became pregnant and married.

There is, as Levelt reminds us, an *ordo naturalis*, whereby it is assumed that, if there is no cue to the contrary, the first-mentioned event happened first and the second-mentioned event followed it. It is, then, open to the hearer / reader to draw implicatures from that