1 Narrative and the Rhetorical Processing Framework

The overall goal of this book is to specify the kinds of psychological mechanisms that support the comprehension of narrative. In this chapter, we lay the basis for examining these mechanisms in the rest of the book. An initial question for any approach has to be: what is narrative? As we shall see, there are many opinions about this, but it is possible to specify a relatively simple set of basic features which are generally characteristic of narratives. Following this, we provide an overview of our psychological model, the Rhetorical Processing Framework, indicating how it brings together various phenomena that constitute how we come to understand narrative. In particular, our interest is in the role of stylistic devices that writers use for rhetorical purposes and we investigate the range of mental processes that these devices bring about. This framework is fully explained and developed in subsequent chapters.

Conceptions of narratives

What is a minimal narrative?

Many narrative researchers attempt to specify minimum conditions for what would count as a narrative. Although the exact format of these conditions may differ, there is some consensus that the following factors should be present (e.g., Carroll, 2001; Herman, 2009; Toolan, 2001):

- Events are represented in the text, and/or can be inferred.
- Events or states of affairs are generally chronologically ordered.
- Earlier events or states of affairs contribute causally to later events.

Many narratologists argue that two or more events are necessary for a text to be a narrative, as above, but some regard a single event as sufficient (see Ryan, 2007, for a survey).

Given these three criteria, it is possible to make a basic distinction between some examples of narrative text and non-narrative text, as in (1) and (2):

(1) Snowball now gave the signal for the charge. He himself dashed straight for Jones. Jones saw him coming, raised his gun, and fired. The pellets scored bloody streaks along Snowball's back, and a sheep dropped dead.
(Orwell (1951). *Animal Farm*, p. 38)

(2) the neuron (also called a *nerve cell*) consists of several parts: the soma, the dendrites, and the axon. The inside of the neuron is separated from the outside by the limiting skin, the *neuronal membrane*, which lies like a circus tent on an intricate internal scaffolding, giving each part of the cell its special three-dimensional appearance.
(Bear, Connors, & Paradiso (2007). *Neuroscience: Exploring the Brain*, p. 28, Bear et al.'s italics)

In the narrative text in (1), there are events and one may assume some temporal sequence, even if the events overlap. Causal relations can also be inferred. Jones shoots *because* he sees Snowball charging, and *in consequence*, Snowball is injured. The sheep has died *as a result of* the shooting. In contrast, the expository text in (2) simply provides descriptions with no events being reported.

While both texts require links between the ideas being expressed to be inferred, it is particular links and particular kinds of ideas that supposedly typify narratives. This immediately raises processing questions. How are events recognized and understood? How are relations between events inferred? These issues will be discussed extensively in Chapter 2, which provides a description of psychological research on these topics.

Other typical features of narrative

The minimal specification of features is just that: an attempt at determining the absolute minimum requirements for sequences of clauses to be defined as a narrative. But when we consider a wide range of full narrative texts, other features are evident, and raise many issues regarding how the reader processes narrative. These typical features of narratives include the following:

- Events tend to be specific rather than generic, with references to specific entities and typically some specific spatio-temporal settings (e.g., Ryan, 2007; Fludernik, 2009; Herman, 2009). In a prototypical narrative we might read *Louise ate three eggs that morning*, where the eggs are specific ones, and it is specifically Louise who did the eating. By contrast, in the case of a recipe, for example, *Take three eggs* is a generic statement, in that any three eggs will do, and who is taking them is unspecified.
- Readers feel as if they have entered a different world, as if they are 'immersed experiencers' (Zwaan, 2004; see also Gerrig, 1993). For a fictional world, this will be quite distinct from the real world to different

degrees depending on the type of story, hence there is a varying degree of counterfactuality (Ryan, 1991). Even in an (auto)biographical narrative, there is usually a sense of stepping into a world removed from the reader's current everyday situation.

These features raise the question of how readers set up counterfactual worlds. How do they relate them to reality, and what effects are created? A really substantial issue is what are the processes of narrative immersion? How do we go from words on a page to experiences in a specific context? Other typical features of narratives are:

- People or personified entities are involved in the events (e.g., Ryan, 2007; Herman, 2009).
- The people or personified entities experience the world around them, with their moment-by-moment thoughts, feelings and sensory perceptions being presented at some point in the story (e.g., Emmott, 1997; Fludernik, 1996).

These points raise many questions, but most notably, how do the experiences of others manifest in the mind of the reader?

The *Animal Farm* extract in (1) fulfils these additional criteria. A fictional world is set up with specific characters, settings and events. The characters, although mostly animals, are at least partially personified. They experience the world, reacting according to the situation (implying thoughts), and, in the novel as a whole, they clearly have feelings about things.

These additional features provide a means of distinguishing narratives from other texts by going beyond the criteria of sequentiality and causality. Hence, in an expository text or a recipe, there may be a sequence of processes, without the focus being on the experiences of people as we would expect in a narrative. However, these additional features serve to show the difficulty in defining narrative per se. Different narratologists hold different views on what might be classed as a narrative. Ryan (2007, p. 28) argues for viewing narratives as 'a fuzzy set allowing variable degrees of membership, but centred on prototypical cases that everybody recognizes as stories'.

Another feature that some but not all narratologists hold to be important is:

- A narrative has a narrator.

Sometimes a narrator may be part of the text itself, having a 'presence' in the narrative. This is clearest when the narrator has a distinct personality, perhaps having opinions about the events in the text, and about the characters. Nevertheless, some narratives have no obvious narrator, which makes it difficult to argue for this feature being essential (unless we say that the very existence of a narrative implies that it must have been narrated). A further key feature is:

- A narrative tells a story.

This of course begs the question of what is a story, which we shall discuss shortly. A narrative might, in general terms, be classed as telling a story when it is eventful in the sense that something unusual and interesting happens (Hühn, 2009, 2010).

Taking all these issues into account, the overall picture that emerges from narratologists is that there are a variety of typical features that correspond to everyday notions of narrative. They do not all have to be present, but typically at least some of them are.

A final definitional issue concerns two ways in which the term 'narrative' may be used. In the example from *Animal Farm*, we examined a sequence of clauses for their narrative properties: here, the label 'narrative' is being used for describing types of local connection in a short text extract. At another level, though, the whole novel can be classed as a narrative. The global label 'narrative' can apply even when a text contains other types of clause (e.g., descriptions), if the text is primarily structured around narrative events and/or tells a story.

One of the practical consequences of the diversity of text types within full narrative texts is that to understand how stretches of text cohere, and the effects they have on readers, we need to look at text processing over a wide range of text types. In this book, we shall present a broad-ranging discussion of narrative processing including examples with prototypical event sequences, and other forms, such as descriptions, and the speech of characters.

What is a story?

Linguists and anthropologists have noted that within a variety of cultures, there are conventions that are often upheld in what is in a story (e.g., Colby, 1973; Lakoff, 1972; Propp, 1968). Narratologists have also utilized these ideas, in so-called 'structuralist narratology' (e.g., Barthes, 1977; Greimas, 1983; both first published in 1966). In the 1970s, these observations generated some interest and excitement amongst cognitive psychologists and computer scientists (e.g., Rumelhart, 1975; Thorndyke, 1977). What properties and structures are stories viewed as having in these accounts? Essentially, the idea of these researchers is that a story consists of the following components (based on Thorndyke's (1977) formalism):

- *Setting* (establishing main character(s), location and time).
- *Theme* (consisting of a goal for the main character(s) to achieve, possibly preceded by some specified event(s) which may justify it).
- *Plot* (one or more episodes, in which actions are performed in an attempt to meet the goal or sub-goals; realizing these may be temporarily thwarted by events that block these realizations, possibly leading to further sub-goals and additional attempts).

- *Resolution* (the realization of some event that satisfies the main goal leading to a state – e.g., a satisfactory outcome).

In the past there has been considerable debate about whether a formal version of a story structure (a 'story grammar' or 'story schema') (e.g., Rumelhart, 1975) could be used to distinguish narratives from other types of text. This idea has met with much criticism in terms of the rigid application of a rule-based system to narratives, particularly to more complex narratives (e.g., Garnham, 1983; Toolan, 2001). There is, nevertheless, a key point behind this work which still has relevance to current research. This is that many stories incorporate problem-solving patterns (Hoey, 1983, 2001). Problem-solving arises as protagonists attempt to meet goals. The characters' goals drive the plot forward producing a 'dynamics of plot' (Ryan, 1991, p. 124). This dynamic opens up the possibilities of interest and suspense. An important processing question in relation to story structure, which we will consider in this book, is how precisely do interest and suspense come about?

The Rhetorical Processing Framework

The basic idea in this book is that narrative comprehension can be understood in terms of mental processing operations. This is a fundamental tenet of psychology. Processing operations are things that have to happen in order for something to come about. Our concern in this book is primarily with the *nature* of these processes, but we do not aim to describe in detail the *sequence* of operations that have to take place. The latter would be necessary for a full process model, but our emphasis here is on understanding the processes themselves rather than on exactly how they combine. While there has been a good deal written by psychologists about language understanding in general (see Chapter 2 of the present book), we shall use the typical features of narrative outlined above to explore how processing operations might be derived that could explain narrative comprehension more specifically. In addition, we shall seek to show, by reference to relevant empirical work, how various stylistic devices employed by writers for rhetorical purposes serve to influence processing in ways that correspond to certain of the intuitions of analysts in the humanities.

The framework we propose we term the *Rhetorical Processing Framework*. It encompasses three main strands:

- *Fundamental Scenario-Mapping Theory*: the basic processes by which interpretations can be made at all, including inferences about events and characters, the use of everyday 'scenario' (situational) knowledge to make these inferences, and the representation of counterfactual worlds.

- The *Rhetorical Focussing Principle*: how attention is rhetorically controlled by the writer's style, what it means psychologically to control attention in this way, and how the resulting selectivity determines the types of mental representations constructed, in a way that is central to understanding a text.
- *Experientiality*: the importance of embodiment and emotion as a basis for experiencing narrative, and how this is contained and manipulated by writers in accordance with the Rhetorical Focussing Principle.

Let us briefly outline the three strands further, and use this as a guide to what follows in the rest of the book.

Fundamental Scenario-Mapping Theory

In our first strand, in Chapters 2 and 3, we consider what it means to understand a piece of language at a fundamental level. In Chapter 2, this includes a discussion of inferences in general, and the notion that people set up a model of the underlying situation that is being presented in a text. Following Sanford and Garrod's (1981, 1998) Scenario-Mapping Theory, we discuss the idea that much understanding is accomplished by relating what is being said to background knowledge, and that such knowledge is stored as situation-specific information. It is the boundaries of a particular scenario that limit comprehension and explanation, since otherwise too many inferences would be generated. In Chapter 3, we extend the discussion to include multiple levels, looking at counterfactuals, so central to setting up narrative worlds in general, and, more specifically, to figurative language, a key aspect of all forms of communication including narrative.

The Rhetorical Focussing Principle

The second strand of our framework is to suggest a mechanism of rhetorical focussing to direct the reader's attention. This is a straightforward principle: typically, writers want readers to think about something (call it X), and not about something else instead (call it Y). This is fundamentally important because it is always possible to make a large number of inferences on the basis of a text, yet only a few of those might be relevant or important from the writer's perspective. Many different stylistic devices can be used to achieve such selectivity. We introduce the notion of selectivity in Chapter 4, specifying not only some of these devices, but showing how selectivity is realized. In particular, we introduce the idea of shallow and deep semantic processing in Chapter 5: changing the degree of rhetorical focussing results in changes in the extent to which a text is processed and how much detail of the semantics is used. The Rhetorical Focussing Principle is a psychological version of the

humanities ideas of foregrounding and defamiliarization, in which unusual stylistic items are forefronted in attention, and receive a different, more thorough than usual, analysis by readers. These ideas, which we will look at in more detail in the next few chapters, are cornerstones of many peoples' conception of literature, and we believe that the Rhetorical Focussing Principle gives a useful experimental base for these ideas.

The experiential aspect of narrative comprehension

The ideas that narratives lead to 'immersion' in a story world and 'experience' are covered in our third strand, and at first sight these are difficult ideas for a processing framework to deal with. How could a 'mechanism' mediate feelings and images? We will see that it can. Recent work on embodiment in psychology has shown that descriptions of actions and perceptions can create motor and perceptual reactions in readers, while work in neuroscience is showing how this comes to be – effectively by using related parts of the brain. This work is interesting because it is quite closely related to the notion of (having) imagery, but is considerably broader in scope, since it is multi-sensory. We discuss these ideas thoroughly in Chapter 6, ending with the observation that embodiment effects are almost certainly modulated by rhetorical focussing, in the form of different styles of narrative presentation.

Building on the framework

The Rhetorical Processing Framework is applicable to a number of other important phenomena. One major area concerns perspectives in writing, which we examine in Chapter 7. We look particularly at how narratives written with first, second, and third person pronouns can have different effects on readers. For example, when a narrator makes use of the pronoun *you*, it may create a greater sense of involvement for readers. What does 'a greater sense of involvement' mean and can it be demonstrated empirically? Another perspective issue is that of direct and indirect speech. For centuries it has been thought that direct speech, like *Harry said 'I am going to play Quidditch'* is somehow more vivid than the indirect *Harry said that he was going to play Quidditch*. Again, ideas like 'vividness', which seem intuitively to have something to do with the attention-grabbing possibilities of direct speech and seem to provide readers with a more immediate experience, find a natural analysis in terms of the Rhetorical Processing Framework.

Another important experiential issue is the role of emotion when reading narrative, addressed in Chapter 8. This important topic ranges from understanding the emotions of *characters*, through to the role of suspense as a motivator of interest in *readers*. From a cognitive perspective, everyone

knows that if a character is goaded in an insulting way by another character, then he or she might become angry or upset. This sort of *knowledge* is purely cognitive – it has nothing to do with feelings directly. On the other hand, there is an oft-made assumption that for a well-written novel the reader may actually *feel* the characters' anger or upset. This is very different from purely cognitive 'knowledge' about emotions, and can be addressed within an experiential account. When issues such as moral values, judgements, moral indignation and ideas of justice are considered, questions arise as to how automatically readers bring such values and responses into play whilst reading, how such issues influence perspectives taken, and, indeed, how they might alter how we actually feel about a character's actions, and the character themselves. These issues raise interesting questions about how writers can depict social situations in such a way as to manipulate the reactions of readers in order to achieve their desired effects. This is a major topic in social neuroscience and we shall report on selected research relevant to narrative comprehension. Finally in Chapter 8, suspense, curiosity and surprise are crucial to creating interest in many types of narrative, and have received some empirical study but need further exploration using psychological techniques in the future.

In Chapter 9 we look at the broader role of narratives in society. To what extent can narratives provide a means of persuading people, a way of changing their attitudes and beliefs? We use the term 'rhetoric' in the book overall to describe the general effects of stylistic features, but the classical sense of the term relates directly to persuasion. It has been suggested that foregrounding devices and methods of creating a feeling of immersion in a story and emotional involvement might increase such persuasive effects. If this is the case, then such effects are controlled by rhetorical focussing. We survey some of the research on this topic, examining how far this idea is supported by empirical research. Another question is whether narratives, in particular literary narratives, have beneficial effects such as making readers more sympathetic to other human beings, creating better people. Again we present some of the relevant empirical research, but these issues are far from settled.

Overall, the Rhetorical Processing Framework provides a number of ways of looking at a broad range of processing issues, including the most fundamental aspects of text comprehension, the attention-controlling properties of foregrounding devices, the experiential aspects of narratives, and the communicative functions of stories in terms of their abilities to entertain and/or persuade. Our central aim is to highlight how stylistic devices are used rhetorically by writers, and the way in which these devices are processed by readers.

2 Fundamentals of text processing

A key question underlying how narrative is understood is, how can *any* text be understood at all? More specifically, we can ask: How does a reader take information from individual sentences and from this material construct a mental model of connected narrative events? How is the content of the text interpreted, how are inferences made, how is general knowledge of the world linked to the narrative as it unfolds, and how is a coherent representation formed in the memory of the reader? This chapter contains an overview of how cognitive psychologists have tackled these questions, and later in the chapter we relate this psychological account to the key humanities issue of narrative interest.

Representing text in the mind

Propositions, text and meaning

An early way of representing text in the mind was as propositions, exemplified by the work of Kintsch and his colleagues (e.g., Kintsch, 1974; Kintsch & van Dijk, 1978), although, as we shall see later in this chapter, the account is not really adequate.

The basic claim is that a proposition captures meaning because it is the minimum assertion that is in principle verifiable as true or false. Consider the sentence *The lion is roaring*. This is in principle verifiable, by listening to the lion. Now consider the sentence *The lion is roaring loudly*. It is easy to see that this example consists of two propositions: the lion is roaring, and the roaring is loud. A slight increase in complexity to three propositions is possible by a simple change: *The huge lion is roaring loudly*.

A proposition consists of a predicator and one or more arguments. The predicator is something that requires further information, provided by the argument(s). The convention, following Kintsch, is to write *The lion is roaring* as a string (ROAR, LION). In this case the predicator (ROAR) needs further information about the entity doing the roaring: it requires the argument (LION). If the lion is *roaring loudly*, then it is the manner LOUDLY that is

the predicator, since it prompts us to ask what action is being done in this way: hence in this case ROAR is the argument. So, the two propositions in Kintsch's formulation would be (ROAR, LION) & (LOUDLY, ROAR). Where there are two or more arguments, the predicator shows the relation between them, so for *The lion eats the mouse*, the string is (EAT, LION, MOUSE) with the predicator EAT linking the two arguments LION and MOUSE.

Propositions may be considered the smallest units in which ideas are represented. Even our very basic discussion up to now enables some psychological findings to be described and understood. First, the time taken to read sentences is correlated with the number of propositions that they contain, such that even sentences with similar numbers of words will be read more slowly if they contain more propositions (Kintsch & Keenan, 1973). This straightforward result suggests that readers set up each proposition as a separate piece of information in memory as they read. The second finding is that what is remembered of a text is a function of the structure of the propositions making it up. Consider the propositional pair (ROAR, LION) & (LOUDLY, ROAR). If this sentence was part of longer text, so that memory for it was not perfect, it is more likely that people would remember the simple idea that the lion is roaring than the extra idea that it is roaring loudly. This is because the manner of the lion roaring is dependent on the fact that the lion is roaring – it is a detail and less 'core' to the meaning of the sentence. In reality, experiments carried out to demonstrate this have typically used more complex texts (Kintsch, Kozminsky, Stretby, McKoon, & Keenan, 1975; Kintsch & van Dijk, 1978), but the findings are as we have portrayed them.

These findings offer some support for the idea that people break down text into propositions, that the complexity of a text depends upon the number of propositions contained as a function of the number of words used, and that dependent propositions are less central to understanding than less dependent ones.

Inferences and rhetorical relations

Propositions represent a superficially handy way of breaking down a text into meaningful units, but do not in themselves provide a theory of meaning and interpretation, something that is fundamental to our interest. We shall discuss other approaches that we suggest offer a more satisfactory psychological theory of interpretation shortly, when we introduce Scenario-Mapping Theory (e.g., Sanford & Garrod, 1981, 1998). For the moment, we shall continue looking at the general idea that connections between propositions can be used to capture the underlying structure of texts. The starting point for this is the requirement to *infer* relationships amongst propositions. Not everything that