Preface

We read to understand, or to begin to understand.
—MANGUEL (1997)

WHAT IS COMPREHENSION?

Comprehension is the ultimate aim of reading and listening: It enables us to acquire information, to experience and be aware of other (fictional) worlds, to communicate successfully, and to achieve academic success. Our goal when reading (or listening to) a text (or discourse) is usually to derive an overall interpretation of the state of affairs described, rather than simply to retrieve the meanings of individual words or sentences.[1] This goal is reflected in a factor common to all major theories of reading comprehension, which is that good comprehension involves the construction of a representation corresponding to the state of affairs described in that text, a mental model (Johnson-Laird, 1983) or a situation model (Kintsch, 1998). This representation

[1] Throughout this preface, we refer to text comprehension as understanding of written narratives and expository texts. Many of the same skills and processes are involved in the understanding of the same forms in spoken language, often referred to as "discourse comprehension" in the literature. We differentiate between pragmatic aspects of spoken language comprehension that are implicated in conversational interactions, where appropriate. For further discussion of pragmatics and spoken language comprehension, see the chapters by Botting (Chapter 3) and Leekam (Chapter 4) in this volume.

includes causal relations between events, the goals of protagonists, and spatial and temporal information that is relevant to the storyline (Zwaan & Radvansky, 1998). These representations are not unique to reading comprehension: They are the product of successful comprehension of spoken discourse as well.

Because literacy skills are vital to academic success, research into the language comprehension skills of children over 5 years of age has tended to focus on the skills required to become a good reading comprehender. Comprehension of written text involves processing language at many different levels. However, with the exception of translating the written symbols on the page into their spoken form, these processes are common to understanding spoken discourse as well. At the word level, the reader must decode the individual words on the page. Comprehenders of both written and spoken discourse must access the meanings of the words they read or hear. At the sentence level, the comprehender needs to work out the syntactic structure and sense of each sentence. Simply deriving the meanings of individual words and sentences is insufficient: In order to construct a mental model of the text, the comprehender needs to integrate information from different sentences to establish local coherence and to incorporate background knowledge and ideas (retrieved from long-term memory) to make sense of details that are only implicitly mentioned (Graesser, Singer, & Trabasso, 1994; Long & Chong, 2001). Consider the following (from Trabasso & Suh, 1993):

> Betty wanted to give her mother a present.
> She went to the department store.
> She found that everything was too expensive.
> Betty decided to knit a sweater.

To understand this extract in a meaningful way, the comprehender has to work out how the information expressed in the different sentences and phrases fits together, so he or she needs to establish links between the different sentences (i.e., through integration), and also to determine the meanings of pronouns such as *he* or *she* (i.e., anaphoric resolution). In the extract above, the comprehender can make links between successive sentences by establishing that *she* in sentences two and three refers to Betty, the protagonist introduced in the first sentence. Furthermore, a causal inference must be made to integrate the final sentence with the preceding text: The sweater is presumably a gift for her mother. The comprehender also needs to draw on general knowledge to supplement the information provided literally by the wording. The specific knowledge that we usually obtain presents in stores and our

general knowledge about buying and selling is needed to make sense of the third sentence. In addition to these processes, skilled comprehenders will check their understanding of the text as they read, which can help them to identify, for example, whether or not they have worked out the correct referent for a pronoun or whether they need to make an inference. This latter process is referred to as comprehension monitoring.

WHAT HAPPENS WHEN COMPREHENSION BREAKS DOWN?

When comprehension does not proceed smoothly, background knowledge may not be brought to bear on the interpretation of events, the inferences necessary to fully understand the text may not be made, pronouns may not be resolved, and causality may not be established. As a consequence, a complete and integrated representation of a text's meaning will not be constructed and the readers (or the listeners) may fail to get the point—for example, they may not appreciate the reason for Betty's trip to the department store or her decision to knit a sweater.

We all have had experiences of comprehension failure. For some of us that experience may have arisen at school—for example, failing to grasp the main point of a story in a foreign language because there were too many unknown key words or not understanding how an electrical circuit works because we lacked the fundamental knowledge about the electrochemistry of cells. Failures of comprehension do not always arise in educational settings. Have you ever wondered why a sentence in a book does not make sense and then realized that you have mistakenly turned over two pages, or have you found the plot of a thriller hard to follow because you missed the first 10 minutes of the movie?

For many individuals, language comprehension difficulties occur on a regular basis and may go unnoticed. Many children with reading comprehension difficulties develop accurate and fluent word-reading ability so that on a measure of word reading their ability appears good. For some readers and listeners, a failure to fully comprehend may not be apparent until they are required to recall or apply that information—for example, in a formal test. This is because some individuals with comprehension difficulties do not monitor their comprehension; that is, they do not check their understanding as they read or listen. Others may lack the skills and strategies needed to remedy any failures to understand.

For these individuals, comprehension failures may affect more significant aspects of their lives than reading novels in foreign languages or following the twists and turns in the plot of a thriller. Poor comprehension can limit the ability to communicate effectively and to acquire new information and advance knowledge. As a consequence, the poor comprehender may have reduced chances of academic success and have access to fewer employment opportunities. For these reasons, a better understanding of the causes of comprehension failure is needed.

OVERVIEW OF THIS VOLUME

In this volume, we have brought together a collection of research on a diverse range of populations who experience written and spoken language comprehension difficulties. There are four parts. Part I serves as an introduction in two ways. Chapter 1 details the development of written and spoken language comprehension in early childhood and identifies the skills and processes that must be acquired to be a successful comprehender. Chapter 2 examines the language profile of children with poor comprehension, details the strengths and weaknesses of the different methodologies that can be used to test theories of causality, and examines evidence that key skill impairments are causally implicated in comprehension failure.

Part II is devoted to children with developmental disorders: specific language impairment, autism spectrum disorder, attention-deficit/hyperactivity disorder, and learning disabilities. Part III contains three chapters. Chapters 7 and 8 explore the language comprehension impairments of children who have suffered neurological damage: children with spina bifida myelomeningocele and children who have suffered pediatric traumatic brain injury. Chapter 9 offers a contrast: The focal population is children with hearing impairment. We discuss the common themes and the educational and research implications of these findings in the single chapter that is Part IV. This chapter is authored by the editors, but incorporates feedback from all the contributors to this volume.

Our aim for this volume was to provide a detailed analysis of the comprehension difficulties experienced by different groups of children that was accessible to a broad readership, including academics, speech–language specialists and practitioners in related disciplines, and students interested in the cognitive bases of language comprehension difficulties. Each chapter begins with an overview of the written and spoken language comprehension difficulties experienced by each population, followed by a detailed examination of the research evidence

concerning different skills and processes that might explain the language comprehension problems experienced by these populations. In addition to the theoretical interpretation of the latest research findings, each chapter concludes with a discussion of the practical implications that arise.

A common picture emerges: These diverse populations experience many of the same language comprehension problems. Furthermore, the findings that come out of these three research areas are shown to be relevant not only to the assessment and treatment of comprehension difficulties in the specific population under consideration; each set of findings also informs models of typical function by identifying the cognitive functions that are crucial to success in language comprehension. We hope that the work presented in this volume will stimulate further research that will lead to a better understanding of the causes of comprehension failure and how best to remediate it.

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