as a whole facilitates the comprehension and, if necessary, the identification of individual words. **Mediated meaning identification** increases the probability of tunnel vision, memory overload, and ambiguity caused by over reliance on visual information.

Notes to Chapter 9 begin on page 273, covering

Effects of meaningful context
Context and prediction
"Dual process"
Physiological evidence
Eye movements
Subvocalization

10 Reading, Writing, and Thinking

So far this book has been primarily concerned with topics much broader than reading—like language, comprehension, or memory—or with small aspects of reading—like letter or word identification. In this chapter, the focus can finally be directed to reading itself, to the specific act, when something meaningful is in front of a reader's eyes, and the reader is looking at it for a purpose. What does it mean to read? What can be said to be happening? And what do readers need to know?

Reading is never an abstract, purposeless activity, although it is frequently studied in that way by researchers and theorists and regrettably still taught in that way to many learners. Readers always read *something*, they read for a *purpose*, and reading and its recollection always involve *feelings* as well as knowledge and experience.

In other words, reading can never be separated from the purposes of readers and from its consequences upon them. This chapter is mainly concerned with what reading means to readers. Reading also cannot be separated from writing or thinking, although this book is not specifically directed to either of these large topics. But their relevance cannot be ignored, so the chapter ends with brief comments on writing and thinking. The final chapter is concerned with learning to read (which also will be found inseparable from the act of reading itself).

On Definitions of Reading

Books on reading often attempt to define their terms with formal statements like "reading is extracting information from print." But such assertions do not provide any insight into reading or the way it is being discussed, and can lead

to contentious debates. A definition does not justify its author using a common word differently from anyone else. Formal definitions are useful only if there is a reason for using words in a specialized, narrow, or otherwise unpredictable way, and even then they can cause more trouble than they are worth because readers prefer to interpret familiar words in familiar ways. Philosopher Karl Popper (1976) pointed out that precision can only be increased at the cost of clarity. As I have already discussed, common, easily understood words tend to have a multiplicity of meanings, and what usually gives a word an unambiguous interpretation is neither prior agreement nor fiat but the particular context in which it happens to be used. As Popper also said, it is better to *describe* how a word is used than to define it.

Take the question of whether reading necessarily involves comprehension, an issue sometimes discussed at great length. Such a question asks nothing about the nature of reading, only about the way the word is used on particular occasions. And the only possible answer is that sometimes the word reading implies comprehension, and sometimes it does not. When we suggest that someone should read a particular book, we obviously include comprehension in our recommendation—it would be redundant if not rude to say "I think you ought to read and comprehend this book." But on the other hand, our friend might reply "I've already read it, but I didn't understand it" now obviously excluding comprehension from the meaning of the word reading. Everything depends on the general sense in which words are used, even in the same conversation, in two successive sentences. If there is doubt, it is better to provide a more complete description of how the word is being used than to attempt a general definition.

Consider, for example, the differences between reading a novel, a poem, a social studies text, a mathematical formula, a telephone directory, a recipe, the formalized description of some opening moves in chess, or an advertisement in a newspaper. Novels are usually read for the *experience*, for involvement in a situation, not unlike watching a play or movie or participating in actual events, where we are caught up with the characters and motivations of individual people and with how circumstances will deal with them. To read a novel is to participate in life. A poem may evoke a much more intense experience, especially emotionally, involving a particular mental attitude and a sensitivity to the sounds as well as to the meanings of words, akin in many ways to listening to music. The social studies text may lack the direct emotional and aesthetic connection of a novel or poem, but generate more detailed analytic thought—thinking that is more "off the page" and general than the details directly presented in the print. The mathematical formula is a tool, to be lifted (with understanding) from its position in the text and used elsewhere, and the telephone directory is like a collection of keys, each of which will open the lock on a particular connection. A recipe is a description of a set of actions for the reader to follow, chess notation involves participation in a game, and a newspaper advertisement is a device for persuading readers to act in particular ways.

These descriptions are clearly inadequate for the richness that is reading. My aim in attempting a list was to illustrate the richness by demonstrating the inadequacy. And even then, I oversimplified. There is not one kind of novel or one kind of advertisement, and the same texts can be read in different ways. A novel can be read like a social studies text, and a social studies text like a novel. A newspaper advertisement may be read like a poem. Moreover, each of these different ways of reading texts is more like other forms of behavior or experience that do not involve reading than they are like other forms of reading. I equated reading a novel with watching a play, not with reading a play, and reading a recipe is obviously more like cooking a meal than like reading about any other kind of activity. There is no one activity that can be summed up as *reading*; no description that can be summarized as the "process" that is involved.

The meaning of the word reading in all these senses depends on everything that is going on—not just on what is being read, but on why a particular reader is reading. It might be said that in all of the examples I have given, answers are sought to questions that vary with the person asking them. And the only thing that makes all of these different activities reading is that the answers are being sought in print.

Because of the limitations on the amount of visual information from the text that the brain can deal with, the location and nature of the answers must to some extent be predictable. Thus the reader must have relevant expectations about the text. All questions must be couched within a prediction, a range of possible alternatives. This leads to a very broad description that I have already offered—that comprehension of text is a matter of having relevant questions to ask (that the text can answer) and of being able to find answers to at least some of those questions. To use a term I introduced earlier—reading depends on the relevance of the reader's specification of the text.

The particular questions can range from the implications of a single word to matters related to the style, symbolism, and world view of the author. I have avoided any attempt to list and characterize all these different questions because of their very specific—and sometimes specialized—nature. Instead, I have focused on three kinds of question that all fluent readers seem able to ask and answer in most reading situations, related to the identification of letters, words, and meanings. These three kinds of question are alternatives, all three cannot be asked simultaneously, and it is unnecessary for the reader to attempt to ask them in sequence. Reading is not a matter of identifying letters in order to recognize words in order to get the meaning of sentences. Meaning identification does not require the identification of individual words, just as word identification does not require the identification of letters.

Indeed, any effort on the part of a reader to identify words one at a time, without taking advantage of the sense of the whole, indicates a failure of comprehension and is unlikely to succeed. In the same way any endeavor to identify and perhaps sound out individual letters is unlikely to lead to efficient word identification.

From this perspective it does not make sense to ask whether print basically consists of letters, words, or meanings. Print is discriminable visual contrasts, inkmarks on paper, that have the potential of answering certain questions—usually implicit—that readers might ask. Print is visual information, in which readers can select distinctive features and make decisions among the alternatives in which they are interested. Readers find letters in print when they ask one kind of question and select relevant visual information; they find words in print when they ask another kind of question and use the same visual information in a different way; and they find meaning in print, in the same visual information, when they ask a different kind of question again. It should be rare for a reader to ask questions about specific letters (except when letters themselves have a particular relevance, for example, as a person's initials or as a compass direction *N, S, E,* or *W*). It should also be rare for a reader to attend specifically to words, unless again there is a particular reason to identify a word, for example, a name.

Comprehension, as I have said, is relative; it depends on getting answers to the questions being asked. A particular meaning is the answer a reader gets to a particular question. Meaning therefore also depends on the questions that are asked. A reader "gets the meaning" of a book or poem from the writer's (or a teacher's) point of view only when the reader asks questions that the writer (or teacher) implicitly expected to be asked. Disputes over the meaning of text, or the "correct" way to comprehend text, are usually disputes over the questions that should be asked. A particular skill of accomplished writers (and of accomplished teachers) is to lead readers to ask the questions that they consider appropriate. Thus, the basis of fluent reading is the ability to find answers in the visual information of written language to the particular questions that are being asked. Written language makes sense when readers can relate it to what they know already (including those occasions when learning takes place, when there is a comprehensible modification of what readers know already). And reading is interesting and relevant when it can be related to what the reader *wants* to know.

READERS AND WRITERS

Readers must bring meaning to texts; they must have a developing and constantly modifiable set of expectations about what they will find. This is their specification of the text. But obviously writers make a contribution too. They must have their own specifications. And there must be a point at which

readers and writers interact. That point is the text, and this section is about th interaction, about readers, writers, and the text.

Global and Focal Predictions

So far throughout this book I have talked as if predictions are made and dea with one at a time. But predictions are usually multiplex, varying widely i range and significance. Some predictions are overriding; they carry us acro large expanses of time and space. Other predictions occurring concurrentl are far more transient, arising and being disposed of relatively rapidly. Ou predictions are layered and interleaved.

Consider the analogy of driving a car. We have a general expectation th we will reach a certain destination at a certain time, leading to a number relatively long-range predictions about landmarks that will be met along th route. Call these predictions *global* because they tend to influence large par of the journey. No matter how much our exact path might have to be varie because of exigencies that arise on the way, swerving to avoid a pedestrian diverting down a side street because of a traffic holdup, these overridir global predictions tend to bring us always toward our intended goal.

But while global predictions influence every decision until our intende goal is reached, we simultaneously make more detailed predictions related specific events during the course of the journey. Call predictions of this natu *focal,* because they concern us for short periods of time only and have r lasting consequence for the journey as a whole. Focal predictions must b made, usually quite suddenly, with respect to the oncoming truck or th pedestrian or as a consequence of a minor diversion. In contrast to glob predictions, we cannot usually be specific about focal predictions before th journey begins. It would be futile to try to predict before starting the speci location of incidents that are likely to occur on the way. Yet while the occasi for a focal prediction is likely to arise out of particular sets of local circur stances, the prediction itself will still be influenced by our global expectatio about the journey as a whole. For example, the modified focal predictions th will result if we have to make an unexpected detour will still be influenced our overriding expectation of eventually reaching a particular destinatio

We make similar global and focal predictions when we read. While readi a novel, for example, we may be concerned with a number of quite differe predictions simultaneously, some global that can persist through the enti length of the book, others more focal that can rise and be disposed of in single fixation.

We begin a book with extremely global predictions about its content fr its title and from what perhaps we have heard about it in advance. Sometim even global predictions may fail—we discover that a book is not on the to we anticipated. But usually global predictions about content, theme, a treatment can persist throughout the book. At a slightly more detailed le

there are likely to be still quite global expectations that arise and are elaborated within every chapter. At the beginning of the book we may have such predictions about the first chapter only, but in the course of reading the first chapter expectations about the second arise, the second leads to expectations about the third, and so on to the end. Within each chapter there will be rather more focal predictions about paragraphs, each paragraph being a major source of predictions about the next. Within each paragraph there will be predictions about sentences and within each sentence predictions about words.

Lower level predictions arise more suddenly; we will rarely make focal predictions about words more than a sentence ahead of where we are reading, nor predictions about sentences more than a paragraph ahead, nor predictions about paragraphs more than a chapter ahead. The more focal the prediction, the sooner it arises (because it is based on more immediate antecedents) and the sooner it is disposed of (because it has fewer long-range consequences). In general, the more focal a prediction, the less it can be specifically formulated in advance. You would be unlikely to predict the content of the present sentence before you had read the previous sentence, although the content of the paragraph as a whole was probably predictable from the previous paragraph. On the other hand, predictions at the various levels inform each other. While focal-level predictions are largely determined by the particular situation in which they arise, they are also influenced by our more global expectations. Your focal predictions about my next sentence will depend to some extent on your comprehension of the present sentence but also on your expectations about this paragraph, this chapter, and the book as a whole. Conversely, the global predictions that we make at the book and chapter level must be constantly tested and if necessary modified by the outcomes of our predictions at more focal levels. Your comprehension of one sentence could change your view of a whole book. The entire process is at once extremely complex and highly dynamic, but in Figure 10.1, I try to illustrate the framework of it with a considerably simplified and static diagram.

In general, the expectations of Figure 10.1 should be regarded as developing from left to right; the past influences our expectations for the future. But it can occasionally help at all levels of prediction in reading to glance ahead. The sequence of reading does not have to follow the page numbering of the book. Similarly, there should perhaps be diagonal lines all over the diagram as the outcomes of local predictions have their effect on global predictions and the global expectations exert their constant influence on specific focal predictions. At any moment, the character of our existing expectations about the book, chapter, paragraph, sentence, and word is our ever-changing specification of the text.

Do not take the diagram too literally. It is not necessary to predict at every

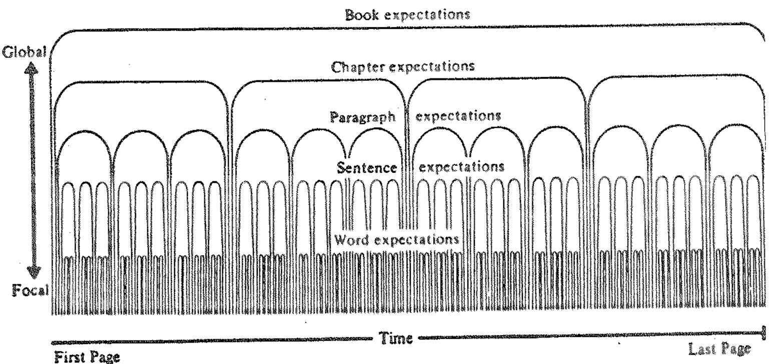

FIG. 10.1. Layers of prediction in reading a book.

level all of the time. We may become unsure of what a book as a whole is abou and, for a while, hold our most global predictions to the chapter or even to lower level while we try to grasp where the book might be going. Sometime we may have so much trouble with a paragraph that we find it impossible t maintain predictions at the chapter level. At the other extreme we may fin a chapter or paragraph so predictable, or so irrelevant, that we omit predi tions at lower levels altogether. In plain language, we skip. It is only when w can make no predictions at all that a book will be completely incomprehe sible. It should also not be thought that there are clearly defined boundari between the different levels of prediction; the global-focal distinction do not describe alternatives but rather the extreme ends of a continuous ran of possibilities.

The Writer's Point of View

I consider now the intentions of writers using the framework just employe to analyze the predictions of readers. To some extent, the patterns predictions and intentions can be seen as reflections of each other.

Writers of books often begin with only global intentions of what the boo as a whole will be about and of the way the subject will be treated. The global intentions, in due course, then determine lower level intentions f every chapter. Within each chapter will arise more focal intentions abo every paragraph, and within each paragraph quite detailed focal intentio regarding sentences and words. And just as the more focal predictions of t reader (or the writer) tend to arise at shorter notice and to be dispensed wi more quickly, so the more focal intentions of the writer extend over a short range in both directions. What I want to say in the present sentence is mo specifically determined by what I wrote in the previous one and will, in tu

place a considerable constraint upon how I compose the next sentence. But these focal constraints are at the detailed level. My intention in every sentence that I write is also influenced by the more global intentions for the paragraph as a whole, and of course my intention in every paragraph reflects the topic I have selected for the chapter and more generally for the book.

The intentions of writers can be represented by exactly the same framework that I have used to represent the predictions of readers in Figure 10.1. The only difference would be that now the diagram should be captioned "Layers of intention in writing a book," with the word *intentions* replacing *expectations* at every level from global to focal. The same qualification would also apply about not taking the diagram too literally. Authors may at times be fairly sure about their global intentions at book, chapter, and even paragraph levels but be lost for focal intentions concerning particular sentences and individual words. At other times the words may flow without any clear indication of where they are going, the paragraph and other more global intentions remaining obscure.

It is from the overlapping perspectives of predictions and intentions that one can perhaps best perceive the intimate relationship between readers and writers. From the writer's point of view it might be said that a book is comprehended when the reader's predictions mirror the writer's intentions at all levels. Certainly one important aspect of writing is the intentional manipulation of the reader's predictions. A textbook writer must try to lead readers in a Socratic manner so that the answers to one set of predictive questions set up the succeeding predictions that the readers should make. In a more dramatic context an author may strive for tension by maintaining a particular degree of uncertainty in the reader's predictions at all levels throughout a book. And in a mystery story an author might quite deliberately lead readers into inappropriate predictions so that the inevitable consequence of predictive failure—surprise—becomes a part of the reading experience.

But readers should also have intentions of their own. When we read a book purely for its literary or even entertainment merit, we may willingly submit our expectations to the control of the author or poet, the willing suspension of disbelief. But with textbooks—like the present one, for example—readers should not only be pursuing certain pathways of ideas for their own particular ends, quite independently of the author, they should constantly be on guard against having their expectations entirely controlled by the author's arguments. Critical thinkers always reserve some questions of their own.

Global and Focal Conventions

The cascading diagram of Figure 10.1 can be used for a third time, to tie together much of what I have said so far about readers needing to predict what writers intend and writers needing to anticipate what readers will predict.

First I used Figure 10.1 to represent the reader's point of view, the textur *predictions*. Then with a slight modification of labeling it was used from writer's point of view, as a network of *intentions*. Finally it can be emplo as a representation of the text itself, the meeting ground of writer intenti and reader expectations.

In what way do writers manifest their various intentions, and what is it t readers predict at the various global and focal levels? As outlined in Ch ter 2, the answer is *conventions*. Conventions exist in every aspect of l guage; they correspond to every kind and level of intention and expectati In considering the written language of books, Figure 10.1 needs simply tc relabeled "Layers of convention in a book," with the word *conven* replacing expectations (or intentions) at every level. There are global conv tions for books as a whole—these are *genre schemes, story grammars,* and conventions of *register*. There are conventions for the way paragraphs arranged into chapters and chapters into books—these are the *disco structures*. There are conventions for the way sentences are organized i paragraphs—these are the conventions of *cohesion*. There are the conv tions for the organization of words in sentences, the conventions of *gram* and of *idiom*. And there are conventions for the words themselves, conventions of *semantics*, and for the physical representation of those wo the conventions of *spelling*.

Intentions, predictions, and conventions—all have their relatively gl levels and all have their focal. The same diagram can represent all three just the slightest change in wording. There is just one critical difference. W labeled for conventions, Figure 10.1 is, I think, one reasonably appropr way to characterize an entire text. Texts are static, they do not change t structure from moment to moment (unless someone is working on them). the figure offers only a way of *thinking* about readers and writers; I do want to suggest that such a structure ever exists in its entirety or in a st form in anyone's head.[1] We can inquire into particular global and f intentions or predictions in writers' and readers' minds at particular tir but we should never expect to find a complete or unchanging set of them way the diagram might suggest, the way conventions exist in a text. Insteac would find that writers and readers, each in their own way, have in their m a *specification* of a text, a specification of global and focal elements far complete and detailed than Figure 10.1, but far more dynamic and chang

The Specification of a Text

Consider the matter first from the writer's point of view. What does a w have in mind (a) before a text is begun to direct the writing that will be d (b) while the text is being written to ensure that it follows the wri

developing intentions, and (c) when the text is done so that the writer can say "That is what I intended to write"? My answer each time is a specification.

The specification of a text is similar in many ways to the specification of a house. Such a specification is not the house itself, nor is it the plans for a house. It is a cluster of intentions and expectations, of constraints and guidelines, which determine what the plans and ultimately the house will be like. Specifications are never complete—we would not say to the architect "This is *exactly* how we want the house" because in that case we would not need the architect. Specifications will have gaps, they may even be internally inconsistent, and during the designing of the plans we or the architect may find a need for the specifications to be changed. Indeed, specifications should be expected to change as the execution of the plans develops, so that eventually there is a match between the plans (and house) and the specifications, between the aim and its fulfilment, partly because the house was designed around the constraints of the specifications but also because the specifications were changed and developed to meet the contingencies of actually designing and building the house. A different architect might have designed a different house, but we would still say "That is what we wanted" if the design is in accordance with our final specifications.

So with the writer. The book (or any other kind of text) that the author plans will initially develop in conformity with certain specifications which do not contain all the details of the text. And as the text develops the specifications will change, partly as the demands of the text change but also as a consequence of what has already been written. Details will be developed in the specifications as focal concerns arise and are then set aside and even forgotten because they are no longer relevant. Revisions will be made to the text with reference to the specifications and the specifications will be revised in the course of writing and revising the text. And at the end, if the final text is compatible with the final specification, the author will say "That is what I wanted to write," even though the constantly changing specification at no time spelled out exactly what the book would contain at all of its global and focal levels, even though a different book might have been written to the same initial specifications on a different occasion.

So too with readers. We begin with a sketchy specification of the text ("This is a book about reading") which develops in the course of our reading, consolidating in terms of what we have read so far and elaborating when necessary for the prediction of what is to come. Focal aspects of the specification are developed to make sense of detail as we come to it but then discarded as we move on to the next detail. Apart from the occasional quotation or specific idea that might lodge in our mind, we shall in general be far more concerned with the persisting global aspects of our specification than with the transient focal ones. And at the end we will have a specification that

is still not the book itself but that is our ultimate comprehension of the b (just as the specification we can put together a week or a month later is memory of the book at that time).

Texts exist independently of writers and readers. At no time does the in its entirety exist in either the writer's or the reader's head (unless it has b deliberately memorized after having been written, like a poem or the sc of a play). But before the interaction with the text (the writing or the readi the specification determines what the writer or reader will do. And developing interaction with the text changes the specification and contrib to what writers and readers finish up believing they have done.

How we comprehend when we read is a matter of the richness congruence of the specification that we bring to the text and of the exten which we can modify the specification in the course of reading the text. W we comprehend and what we are left with in memory as a consequence of reading depend on how our experience with the text modifies our specif tion. Subsequent reflection may change the specification even more course, which is the reason that we often cannot distinguish in memory w we read *in* a text from what we read *into* it.

Investigations into story grammars, discourse structures, and event knc edge could lead toward an understanding of how readers and writers inte with texts, not from the static point of view of the texts themselves but fi the dynamic point of view of the constantly changing and developing sp fications in readers' and writers' minds.

FLUENT READING AND DIFFICULT READING

This section was originally headed "Fluent Reading and Beginning Readi to contrast the fluent manner in which experienced readers read with stumbling, less proficient behavior of learners. But the distinction is not va It is usually possible to find something any beginning reader can read ea even if it is only one word. And it is always possible to find something experienced reader cannot read without difficulty. The advantage c competent reader over a neophyte lies in *familiarity* with a range of diffe kinds of text, not in the possession of *skills* that facilitate every kinc reading.

For beginners and experienced readers alike, there is always the possib of fluent reading and the possibility of difficult reading. There is no sud transition from beginning reading, when nothing can be read without d culty, to fluent reading, when all reading is easy. The more we read, the m we are able to read. Learning to read begins one word and one kind of te a time, continues a word and a text at a time, and the learning never st

Every time a reader meets a new word, something new is likely to be learned about the identification and meaning of words. Every time a new text is read, something new is likely to be learned about reading different kinds of text. Learning to read is not a process of building up a repertoire of specific skills, which make all kinds of reading possible. Instead, experience increases the ability to read different kinds of text.

Even experienced readers have difficulty in reading some texts—because of the way the texts are written, or because of inadequate nonvisual information on the reader's part, and sometimes because of pressures or anxieties involved in the particular act of reading. And when otherwise "competent" readers experience difficulty in reading, they tend to read like beginners. By the same token, when beginners find easy material to read, they tend to read like experienced readers.

In other words, the critical difference is not between experienced and beginning reading, or even "good reading" and "poor reading," but between fluent reading, which even beginners can do in the right circumstances, and difficult reading, a situation in which even experienced readers can sometimes find themselves. The problem for children learning to read is that everything they might attempt to read is likely to be difficult.

Experienced readers (when they are reading fluently) can easily identify individual words if they have to. They use nonvisual information in order to comprehend and are less dependent on the identification of individual words in the text or on the surrounding words. They "take control" of the text through the four characteristics of meaningful reading—their reading is purposeful, selective, anticipatory, and based on comprehension. Inexperienced readers, on the other hand, have more trouble identifying individual words—and ironically, have more need to identify them. They depend more on the actual words in the text when they read because they can bring less prior knowledge to bear. They are less in control of their reading, more dominated by the text, lacking purpose, selectivity, appropriate anticipation, and comprehension. Experienced readers who are having difficulty reading have the characteristics of inexperienced readers.

Fluent reading involves pursuing a complex and ever changing set of objectives in order to make sense out of print in ways that are relevant to the purposes of the reader. Neither individual letter identification nor individual word identification are involved unless they are relevant to the particular requirements of the reader. Nor is every potential "meaning" on a page examined unless it has some bearing on the reader's purposes. Fluent reading is based upon a flexible specification of intentions and expectations, which change and develop as a consequence of the reader's progression through a text. Thus fluent reading demands knowledge of the conventions of the text, from vocabulary and grammar to the narrative devices employed. How much conventional knowledge is required depends on the purposes of the reader

and the demands of the situation. Knowledge need not be complete, in fact provided there is sufficient comprehension to maintain the reader's attention, learning is likely to take place where specific knowledge is lacking.

The Consequences of Reading

Reading is more than just a pleasant, interesting, and informative experience. It has consequences, some of which are the typical consequences of any kind of experience we might have. Other consequences are uniquely particular to reading.

General consequences of experience are an increase in specific memories and knowledge. I have not found any studies of how much individuals normally remember from what they read (outside of artificial experimental situations looking at how much can be recalled of items determined by the researcher). But common observation would suggest that individuals remember as much about books that they find interesting and readable as they do about "real life" experiences in which they are involved. Many anecdotal reports indicate remarkable memories on the part of readers for the appearance, titles, authors, characters, settings, plots, and illustrations of books that were important to them, often extending back to childhood. With books, as with every other kind of experience, we remember what we understand and what is significant to us.

There are also specific consequences. Experience always results in learning. Experience in reading leads to more knowledge about reading itself. Not surprisingly, students who read a lot tend to read better (Anderson, Hiebert, Scott, & Wilkinson, 1985). They do not need to read better in order to read a lot, but the more they read, the more they learn about reading. The same researchers reported that students who read more also tended to have larger vocabularies, better comprehension skills, and generally did better on a range of academic subjects. In other words, reading makes people smarter.

Other things are learned through reading. I have argued at length (Smith, 1983b, 1994) that it is only through reading that anyone can learn to write. The only way to learn all the conventions of spelling, punctuation, capitalization, paragraphing, even grammar, and style, is through reading. Authors teach readers about writing.

In the next two chapters, I describe learning in metaphorical terms as the *membership of clubs*. By joining the club of readers, individuals can learn to become readers and writers. But reading also opens the doors to any club that can be the topic of a book, which probably means most of the clubs in the world and certainly many clubs that could not exist in the world as we know it. Reading is the club of clubs, the only possibility of many experiences of learning.

And finally, there are emotional concomitants and consequences of

reading. Reading, like everything else, inevitably involves feelings. On the positive side, reading can provide interest and excitement, it can stimulate and alleviate curiosity, console, encourage, arouse passions, relieve loneliness, assuage tedium or anxiety, palliate sadness, and on occasion anaesthetize. On the negative side, reading can bore, confuse, and generate resentment. The emotional response to reading is treated insufficiently in most books about literacy (not excluding the present volume), although it is the primary reason most readers read, and probably the primary reason most nonreaders do not read.

Because of the range and depth of feelings involved, attitudes toward reading become habitual. Reading can become a desired activity or an undesirable one. People can become inveterate readers. They can also become inveterate nonreaders, even when they are capable of reading. One of the great tragedies of contemporary education is not so much that many students leave school unable to read and to write, but that many graduate with an antipathy to reading and writing, despite the abilities they might have. Nothing about reading or its instruction is inconsequential.

READING AND THINKING

The heading may be a trifle misleading. Reading *is* thinking, as I hope I have demonstrated throughout this chapter. And the thinking we do when we read, in order to read, is no different from the thinking we do on other occasions. Just as we cannot talk without thinking, or understand what someone is saying without thinking, or make any sense of the world without thinking, so it is impossible to read and not think. (If we sometimes say that we have spoken without thinking, we mean that we did not consider all the implications of what we said.) Reading is thinking that is partly focused on the visual information of print; it is thinking that is stimulated and directed by written language. The only time we might attempt to read without thinking is when the text we are trying to read is meaningless to us, a situation unlikely to persist in normal circumstances.

It is true that we may read a story or magazine to relax, in order not to think about particular things—but we obviously have to think enough about whatever we are reading in order to be distracted from other thoughts. If we fail to read every story with the intensity and acumen of a literary critic, it is probably not because we cannot think, but because we are not interested in reading like a literary critic.

The thought in which we engage while we are reading is like the thought we engage in while involved in any kind of experience. Fulfilling intentions, making choices, anticipating outcomes, and making sense of situations are not aspects of thinking exclusive to fluent reading. We must draw inferences, make decisions, and solve problems in order to understand what is going on

in situations that involve reading and situations that do not. Reading demands no unique forms or "skills" of thought.

Thought that transpires as a consequence of reading is similarly no different from the reflection that can occur after any experience. We reconstruct an experience we have had, sometimes just for the pleasure of having it again; we wonder why events transpired the way they did, and whether they could have transpired differently. Reading can facilitate further thinking. We can join the clubs of authors, or of characters in books, who think in different ways about matters we might never otherwise contemplate and as a consequence we become more versatile and efficient thinkers ourselves. On the other hand, if we are generally not disposed to think critically in particular circumstances, or if we do not feel we have the authority to think critically about what certain "experts" are asserting, then we are unlikely to think critically when we read. The failure of children—or adults—to think in certain ways when they read may be less a matter of inadequate skill than of expectations about the manner in which they should think on any occasion (Smith, 1990).

An enormous advantage of reading over thinking in other circumstances is the *control* that it offers over events. Readers can pause in the middle of an experience for reflection. Readers can relive reading experiences, as often as they wish, and examine them from many points of view. Readers can even skip over experiences they are not interested in having or that would disrupt their flow of thought. Readers have *power.*

Reading is no different in essence from any other manifestation of thoughtful activity—but it may be the most natural and satisfying form of thinking available to us. The human brain runs on stories. Our theory of the world is largely in the form of stories. Stories are far more easily remembered and recalled than sequences of unrelated facts. The most trivial small episodes and vignettes are intrinsically more interesting than data. We cannot see random patterns or dots (or clouds or stars) without putting faces or figures to them. We cannot even observe small points of light moving randomly against a dark background without seeing them "interact" with each other in a narrative fashion (Michotte, 1946).

Thinking thrives on stories, on the construction and exploration of patterns of events and ideas, and reading often offers greater scope for engaging in stories than any other kind of activity.

ISSUES

The rift between experience and information approaches to teaching reading is less an unresolved problem than a gulf between totally antagonistic points of view, making a tremendous difference to how research is interpreted, theories developed, and teaching and learning perceived. The nature of

reading itself is at issue; whether it is a process of acquiring information from print which may be turned on in any circumstances or a creative experiential interaction in an environment of print. When teachers and learners are evaluated on "performance indicators" or on the "product" or "output" of reading instruction, it is almost invariably acquisition of information rather than quality of experience that is assessed.

SUMMARY

Reading—like writing and all other forms of thinking—can never be separated from the purposes, prior knowledge, and feelings of the person engaged in the activity nor from the nature of the text being read. The **conventions** of texts permit the **expectations** of readers and the **intentions** of writers to meet. **Global** and **focal** expectations and intentions form a personal **specification** that readers and writers develop and modify as they proceed through a text. The fluency of reading depends as much on characteristics of the text and reader as on reading ability. Experienced readers who find a text difficult may read like beginners (who are likely to find most reading difficult).

Notes to Chapter 10 begin on page 279, covering

Comprehension and thinking
Reading speed
Comprehension and context
Other aspects of reading
Reading and writing

11 Learning About the World and About Language

This chapter, which introduces the topic of learning, is not specifically concerned with learning to read, a matter postponed to the next and final chapter. But this chapter is concerned with the *manner* in which children learn to read, because this is the same as the manner in which children achieve mastery of spoken language and, even earlier, begin learning about the world in general through their first elaborations of a theory of the world.

The present chapter provides an appropriate link with many of the preceding chapters, with their emphasis on comprehension in reading, because it shows that the basis of all learning, including learning how to read, is comprehension. Children learn by relating their understanding of the new to what they know already, while modifying or elaborating their prior knowledge. Learning is continuous and completely natural, and it is not necessary to propose separate "processes" of motivation and reinforcement to sustain and consolidate learning (nor should it be necessary for teachers to regard motivation and reinforcement as separate concerns that can be grafted onto reading instruction). Children may not always find it easy or even necessary to learn what we try to teach them, but they find the state of not learning anything at all intolerable.

CONSTRUCTING A THEORY OF THE WORLD

Chapter 1 discussed the complex yet precise and accurate theory of the world that we all possess. Obviously, we were not born with such a theory. The ability to construct a theory of the world and to predict from it may be innate,