

## **Chapter 4: Writer-syntagm and reader-syntagm**

I concluded the last chapter by identifying a dichotomy between conventional linear text, in which the order of presentation is largely controlled by the writer, and typographically organized text in which the reader is afforded a greater measure of control. Texts clearly vary in the opportunities they offer for 'syntagm control'. Continuous prose, especially in the form of novels, offers few visible structural cues to readers wishing to control their own pace. We are normally expected to read a novel from beginning to end; to do otherwise we need specially annotated study editions, or our own marginal notes and underlinings. A table, on the other hand, cannot sensibly be read in a linear order from top left to bottom right. In between these extremes lie dictionaries, reference manuals, textbooks—and the various examples proposed by Bernhardt (1985) in his continuum of visual informativeness.

The distinction between writer-syntagm and reader-syntagm reflects a number of similar dichotomies emerging from other approaches to communication. By examining some of them, we may gain some insight into the nature of the dichotomy and how to resolve it.

Methods of configuration: linear vs non-linear

One of the main axes of Twyman's (1979) schema for the study of graphic language represents

'methods of configuration...by which is meant the graphic organization or structure of a message which influences and perhaps determines the "searching," "reading," and "looking" strategies adopted by the user.'  
(Twyman 1979: 119–121)

Twyman thus proposes a direct relationship between the configuration of a graphic display and the degree of control enjoyed by the reader. Figure 4.1 reproduces Twyman’s schema.

		Method of configuration						
		Pure linear	Linear interrupted	List	Linear branching	Matrix	Non-linear directed viewing	Non-linear most options open
Mode of symbolization	Verbal/numerical	1	2	3	4	5	6	7
	Pictorial & verbal/numerical	8	9	10	11	12	13	14
	Pictorial	15	16	17	18	19	20	21
	Schematic	22	23	24	25	26	27	28

Figure 4.1 Twyman’s schema for the study of graphic language (Twyman 1979). In its original context, the schema is used to organize a large number of examples of graphic displays, in order to present a broad perspective of the range of graphic options available.

Purely linear configurations are so rare that for practical purposes they can be ignored. The presence of the linear category is important, though, to emphasize the next category along: it is sometimes forgotten that texts we may think of as purely linear are actually linear interrupted. Although most interruptions are arbitrary (discounting, for the moment, the fact that we normally break lines only between words or syllables), there are exceptions to the rule, and I shall return to such arbitrary or artefactual effects later in the chapter, and in Chapter 8.

For now, though, we can see linear interrupted text as representing the writer’s exercise of strong control over the reader’s use of a document. The non-linear categories represent much weaker control, and in the case of non-linear most options open, virtually no control either in terms of the topic-related focusing that I take to be the basis of non-linear directed

viewing, or in terms of the reading-rules implicit in list, linear branching and matrix. With the possible exception of numbered lists, in all categories to the right of linear-interrupted, the reader exercises most of the control over the order of presentation. Matrices are a particularly clear demonstration of the reader-syntagm. As many ‘propositions’ can be generated from a matrix as there are cells, quite apart from general observations about patterns among the data.<sup>73</sup> Table 4.1 describes some reading strategies that might be implicit in these formats.

Configuration	Implied reading rules
Pure linear	Start at the beginning and carry on until the end.
Linear interrupted	Start at the beginning and carry on until the end disregarding interruptions, which are arbitrary; at each interruption, carry on reading on the next line, column or page.
List	If the list is numbered, start at the beginning, taking note of the interruptions, which are meaningful and separate the parts within a whole. If the list is unnumbered, the items can be read in any order.
Linear branching	Start at some other relevant point, and let your response to what you are reading determine which (connected) part you read next.
Matrix	Select one heading from each axis of the matrix and look at the cell formed by their intersection; or vice versa. Or compare all the cells for a particular row or column. Or compare the contents of whole rows or columns.
Non-linear directed viewing	Start at the focal point(s) in the display and carry on as instructed or as seems reasonable.
Non-linear most options open	Do what you like.

Table 4.1 Twyman’s methods of configuration (Twyman 1979), with my conjectured reading rules.

It is obviously not realistic to suggest that all actual documents will only employ a single configuration. Applied to the layout in Figure 4.2, for example, we might detect elements of linear interrupted, list, linear branching and non-linear directed viewing.

<sup>73</sup>Wright (1981) has described some of the sub-skills required by readers of tables.



Figure 4.2 In this page, the introductory paragraph is *linear interrupted*; the main structure is *linear branching* (centre mainsheet vs aft mainsheet), while the boxed item on knots has no particular place in any linear sequence. It is highlighted in blue, however, and we could regard its placement as an example of *non-linear directed viewing*. The schematic drawings at the top right certainly come under that category, since the relevant parts of the rigging are highlighted in blue.

## Reading strategy: receptive vs self-organized

The distinction between writer- and reader-syntagm can also be seen in texts that are a great deal less visually informative than matrices, and even in continuous prose. Thomas & Harri-Augstein (1980) and Pugh (1979), who observed the reading strategies of students (that is, the order and pace of their progress through a text), found that readers who skimmed ahead, re-read, and changed pace frequently were more effective in achieving their goals than those who simply read straight through at an even pace.<sup>74</sup> The effective readers, we might say, had taken control of the

<sup>74</sup> Thomas & Harri-Augstein's Brunel Reading Recorder requires subjects to wind a handle in order to move a roll of text past a window through which they can read. The handle also moves a pen across a sheet of graph paper which travels at a constant rate. Whalley & Fleming (1975) reported a less intrusive device based on a light-pen. A number of other techniques for observing reading behaviour are compared by Schumacher & Waller (1985).

situation. Figure 4.3 shows five reading types described by Thomas & Harri-Augstein from reading protocols obtained with a special apparatus; actual reading records consist of combinations of these five types. This uneven, purposeful style of reading is termed self-organized by Thomas & Harri-Augstein, and self-paced reading by Pugh. Its opposite—reading which follows the author’s sentences and paragraphs in a linear and even manner—is generally described as receptivereading.

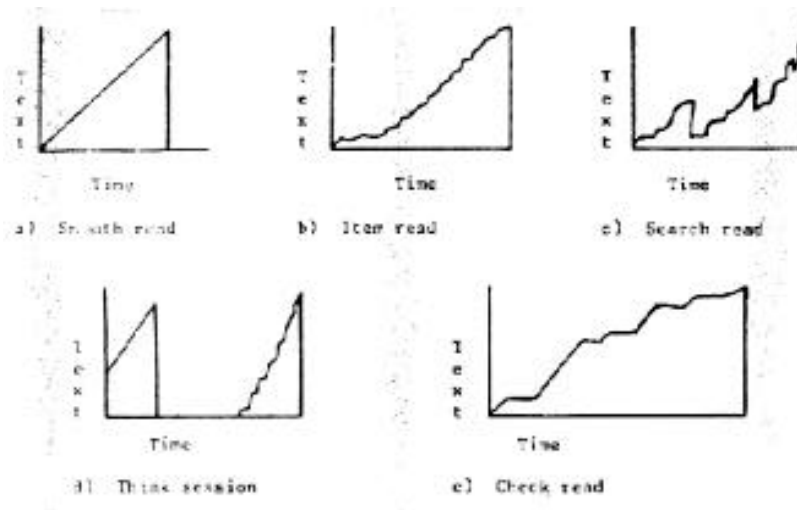


Figure 4.3 Five types of read, identified by Thomas & Harri-Augstein (1980).

Quite apart from such direct evidence, the importance of self-organized reading can be seen by most literate people from an introspection of their own reading habits, and from indirect evidence of other kinds. An unpublished study at the Open University in 1975<sup>75</sup> showed that no matter how much the reading load varied from week to week on the Arts foundation course, the study times reported by students did not vary by more than about 10–20%. Average study times were between 10 and 12 hours, although the workload varied between 12,000 and over 40,000 words. Although there are other relevant factors (such as the time taken for exercises and assignments), it was clear that students faced with impossibly long reading lists were adopting highly selective strategies—indeed this is a frequently-stated teaching goal of university teachers accused of overloading their students.

<sup>75</sup> The study was carried out by Michael Macdonald-Ross and Alice Crampin of the Open University Institute of Educational Technology.

Hatt (1976) reviewed research on the reading process from the viewpoint of a librarian, criticizing the usual transmitter-message-receiver model of communication (discussed in more detail in the next chapter). Librarians, of course, deal with precisely the opposite direction of flow—‘receivers’ in search of information, for many of whom, Hatt suggests, it may be irrelevant that messages have ‘transmitters’ or authors at all. As an alternative he suggests a model of the reading process that ‘makes the reader the subject’. Like the one it replaces, Hatt’s model boils down to a beginning, middle and end:

- ‘1 A reader finds a text
- 2 He reads the text
- 3 He uses the message (or not, as the case may be).’ (Hatt 1976: 20)

Hatt points out that virtually all studies of the reading process focus on stage 2 to the virtual exclusion of stages 1 and 3. His own review, which is well-written and perceptive but appears to be little noticed, therefore concentrates on identifying various routes by which readers reach texts and exit them. His taxonomy of exit patterns is reproduced, without most of his examples and comments, in Table 4.2.

**Pattern 1**

- 1 The reader perceives the text
- 2 The reader duplicates the text

**Pattern 2**

- 1 The reader perceives the text
- 2 The reader decodes the text
- 3 The reader accepts the message
- 4 The reader discards the message

**Pattern 3**

- 1 The reader perceives the text
- 2 The reader decodes the text
- 3 The reader accepts the message
- 4 The reader uses the message to confirm an attitude or opinion
- 5 The reader discards the message

**Pattern 4**

- 1 The reader perceives the text
- 2 The reader decodes the text
- 3 The reader accepts the message
- 4 The reader retains, in his store, knowledge taken from the message

*table continues...*

**Pattern 5**

- 1 The reader perceives the text
- 2 The reader decodes the text
- 3 The reader accepts the message
- 4 The reader modifies his cognitive structure to accommodate new knowledge in the message
- 5 The reader retains the new knowledge in his modified cognitive structure

**Pattern 6**

- 1 The reader perceives the text
- 2 The reader decodes the text
- 3 The reader accepts the message
- 4 The reader uses the message to change an attitude or opinion
- 5 The reader discards the message

*NB Hatt lists two variations of Pattern 6 in which he replaces step 5 with the outcomes of Patterns 4 & 5*

**Pattern 7**

- 1 The reader perceives the text
- 2 The reader decodes the text
- 3 The reader accepts the message
- 4 The reader makes a decision, on the basis of the message

**Pattern 8**

- 1 The reader perceives the text
- 2 The reader decodes the text
- 3 The reader accepts the message
- 4 The reader makes a decision, on the basis of the message
- 5 The reader performs an action

**Pattern 9**

- 1 The reader perceives the text
- 2 The reader decodes the text
- 3 The reader accepts the message
- 4 The reader originates a new message

*NB Hatt notes that Patterns 7, 8 and 9 will only occur in combination with one of the earlier patterns*

**Pattern 10**

- 1 The reader perceives the text
- 2 The reader decodes the text
- 3 The reader rejects the message

**Pattern 11**

- 1 The reader perceives the text
- 2 The reader decodes the text
- 3 The reader distorts the message
- 4 The reader accepts the distorted message

Table 4.2 Hatt's (1976) list of eleven patterns of exit from the reading act

It is possible that the ability to organize one's own reading effectively may be related to a further set of dichotomies identified by educational psychologists. Cognitive style describes personality differences between individuals that affect their approach to learning tasks (a recent review is by Shipman & Shipman 1985).

Educational technologists have traditionally seen curricula in terms of learning objectives: testable skills or knowledge that students are expected to attain. In a seminal book, *The conditions of learning*, Gagné (1965) proposed that objectives are best thought of in terms of hierarchies, in which each objective is broken down into sub-objectives that must necessarily or logically be attained before the higher-level objective can be reached. An important contemporary, Ausubel (1963), proposed a similarly hierarchical 'theory of meaningful verbal learning' in which he suggested the use of 'advance organizers' which outline the 'ideational scaffolding' of superordinate concepts on to which lower-level concepts can be fitted.<sup>76</sup> However, a widely-cited study by Mager (1961) reported that instructional sequences planned by instructors (of electrical engineering) were often different from those elicited from learners. While instructors built up an explanation of, say, radio engineering from a sequence of basic scientific facts and theories, students were actually motivated by their practical curiosity about familiar objects (radio valves, for example).

To some degree the provision of objectives or advance organizers is intended to impose uniform goals on students. But it is clear from Mager's study that, even if students are thus provided with the same starting point, given a choice they also differ in the order in which they study concepts within a hierarchy—thus no single order prescribed by the instructor, or writer, is likely to suit all students, no matter how homogeneous their prior knowledge. Like Pugh and Thomas & Harri-Augstein, Pask & Scott (1972) used study protocols to replicate Mager's findings. They relate their observations to one of a number of different dichotomies identified by researchers into cognitive style, that between holists and serialists. According to Pask & Scott, holists prefer to gain an overview of the total subject, and only to learn the details once their context is

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<sup>76</sup> Ausubel's theory has inspired a considerable number of experimental studies, but the results are inconclusive (Barnes & Clawson 1975). They are of some relevance to typographers, firstly, because they study the effects of a text component (the advance organizer) that is typographically distinguished from its accompanying text; and, secondly, because Ausubel's theory is based on an essentially diagrammatic metaphor—hierarchies of concepts. Literally diagrammatic versions have also been tried (Jonassen & Hawk 1984).



established; serialists prefer to build up their knowledge from the bottom of the hierarchy of objectives. Holists, we could say, prefer to take control over their study sequence, while serialists may be content to accept concepts in whatever order they are given, and if necessary delay their full comprehension and integration.

### Eye movements: foveal vs peripheral

Thomas & Harri-Augstein obtained reading records (or 'protocols' as they are sometimes known) at a very broad level of analysis, but reading protocols at a much more detailed level, obtained with eye-movement cameras (reviewed by Morrison & Inhoff 1981), also show uneven patterns of reading. Records of saccades<sup>77</sup> typically reveal an uneven pace with occasional regressions. In fact, Rayner (1978) reported that 10–20% of saccades are regressions.

It is notable that if one were to write out the linguistic inputs encountered by these readers' cognitive processes, they would look remarkably similar to transcripts of speech—just as broken and seemingly incoherent. The false starts, repetitions and incomplete sentences that represent the speaker's (and writer's) fumbling attempts to unravel complex ideas into linear form seem to have a counterpart in readers' attempts to reassemble the meaning. And if this is a valid comparison, it could indicate a functional basis for language behaviour that is sometimes considered inarticulate and confused: both speakers and readers are attempting to sort relevant from irrelevant information, to try different routes before choosing the right one, and to monitor their own or their hearer's comprehension.

Eye movement research also suggests a literal application of Polanyi's (1969) metaphorical distinction between focal and subsidiary awareness

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<sup>77</sup> Saccades are quick jumps by which the eye moves across a line of type between fixations; it is during the fixation that readers get information from the written characters.

in the context of scientific problem-solving (see Chapter 2). Although much of the earlier eye movement research concentrated on foveal vision (the fovea is the part of the retina which has highest acuity) or, in layperson's terms, focused vision, recent studies have emphasized the importance of peripheral and parafoveal vision (the intermediate zone between focused and peripheral vision). For example, McConkie & Rayner (1975) found that the length of saccades can be influenced by information about word length available through parafoveal vision, and Rayner (1975) showed that the presence of boundary letters (at the beginnings and ends of words) affects fixation duration. So, far from being passive recipients of visual information, it seems that we make some strategic choices even at the relatively automatic eye-movement level of the reading process.

The inter-connectedness of focal and subsidiary (peripheral) awareness is easier to see through introspection at higher levels of reading. When we read one item from a list, for example, our focusing on that item only makes sense within a subsidiary awareness of the whole. In the case of tables—intersecting lists—our subsidiary awareness is more complex still. Since language is a system of contrasts, there is, of course, an obvious relationship between any linguistic unit and its accompanying co-text—between figure and ground, we might say.

### Reading comprehension: bottom-up vs top-down

Models of reading comprehension suggest cognitive reasons for these observations of the reading process.<sup>78</sup> Some models of reading (and perception, and other cognitive activities) are known, usually by their detractors, as bottom-up models. They see comprehension as essentially data-driven and hierarchical. Gough (1972), for example, maintains that

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<sup>78</sup> It should be noted at the outset of the brief discussion that follows that research into reading comprehension has produced a vast and extremely complex literature. Gough (1984: 246), in a recent review of research on word recognition, notes the pessimistic view that 'we are learning more and more about less and less'. In addition to other sources cited here, a number of chapters in Barr, Kamil & Mosenthal (1984) provide accessible and thorough reviews of the field.

decisions about letters precede decisions about words, and that decisions about words precede decisions about sentences. Although out of context, the following short quotations give something of the flavour of an unabashed bottom-up model of reading (produced, it should be said, in the context of a debate):

- ‘Reading begins with an eye fixation’ (p. 331)
- ‘letters are recovered...as letters [and] the evident effects of higher levels of organization (like spelling patterns, pronouncability, and meaningfulness) on word recognition and speed of reading should be assigned to higher, and later, levels of processing.’ (p. 334, my emphasis)
- ‘I see no reason, then, to reject the assumption that we do read letter by letter.’ (p. 335)

Gough is able to cite empirical evidence in support of his model, although mostly obtained in rather artificial laboratory experiments—individual letters and words can, after all, be recognized (and thus studied and compared by psychologists) out of context. However, once reading is studied within an ecologically more valid methodology, using meaningful text, it becomes apparent that real reading probably does not progress in the orderly linear way assumed by the bottom-up models.

Gough’s model is contested by Brewer (1972) who cites alternative evidence, much of it from cognitive psychology’s first incarnation in the 1880s (Venezky, 1984, calls it the ‘golden age’ of reading research). Cattell (1885/1947), for example, demonstrated that words in prose can be read almost as fast as lists of letters; from this and other evidence he concluded that letters must be processed in parallel, not serially. Brewer also notes that Gough’s model, which has graphemes mapped directly onto phonemes before word recognition can take place, cannot account for evidence of the direct processing of words without a phonological stage. We have already considered some of the evidence for this in Chapter 3.

The alternative top-down approach is explained quite well by the title of

Goodman's influential paper, 'Reading: a psycholinguistic guessing game' (1970). Goodman, who analyzed errors made by beginning readers, found that children faced with unfamiliar words would often guess their meaning from the context; this indicated to him that reading involves the constant generation and testing of hypotheses about forthcoming text. Top-level cognitive activity (the expectation or construction of meaning) therefore precedes the bottom-level activity of word recognition instead of the other way around. A similar view is represented in the same publication by Hochberg & Brooks (1970), who stress the purposeful, sampling nature of 'reading as an intentional behavior'.

Most reading theorists now regard these approaches as extreme positions, and admit elements of both into their models (Samuels & Kamil, 1984, review recent developments in modelling the reading process). Such models (an example is that of de Beaugrande, 1984, discussed in Chapter 3) are known as 'interactive'. The most influential of the interactive models was proposed by Rumelhart (1977) who posits a constantly shifting relationship between bottom-up, or data-driven, processes and top-down conceptually-driven processes. The domination of one over the other depends on readers' familiarity with the topic, their reading purpose and the extent to which the text matches their level of reading skill and lexical knowledge. Interactive models, then, suggest a purposeful, top-down process at the strategic level with bottom-up processes only emerging from the automatic or subconscious levels when unfamiliar or difficult text is encountered. An example of this is the 'articulatory loop' described in Chapter 3—an optional sub-system only used in cases of special difficulty (Baddeley 1984).

Interestingly, Rumelhart blames the unrealistically serial nature of bottom-up models on the inadequacy of flow-diagrams,<sup>79</sup> whose linear structure, he claims, is unsuited to the representation of parallel interactive processes. In common with others investigating the cognition of

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<sup>79</sup> Calfee (1981: 8) has also commented on the confused diagramming practices of cognitive theorists. Whalley (1984) discusses problems of knowledge representation in some detail.

natural language, Rumelhart's alternative is computer-modelling; research into reading comprehension may be passing into the domain of artificial intelligence.

### Oral vs silent reading

Rumelhart's approach seems intuitively rather more reasonable than the extreme positions, and so it is not surprising to find that it is, to a degree, a restoration of the model that was current before the behaviourist domination of Anglo-American psychology, to which the more extreme of the top-down theories were reacting. Huey's *Psychology and pedagogy of reading* (1908), which summarized the research of the previous thirty years, was republished in 1968 and still seems remarkably modern. Another early twentieth century psychologist who, like Huey, was reprinted in the early 1970s just as cognitive psychology was regaining the high ground, was Thorndike (1917/1971), the title of whose paper 'Reading as reasoning' could also sum up the modern view. Thorndike argues that 'we should not consider the reading of a text-book or reference as a mechanical, passive, indiscriminating text, on a totally different level from the task of evaluating or using what is read. While the work of judging and applying doubtless demands a more elaborate and inventive organization and control of mental connections, the demands of mere reading are also for the active selection which is typical of thought.' (1971: 433)

Interestingly, Huey's book and Thorndike's paper, among other publications, have been considered largely responsible for the move in the inter-war years away from a view of reading as the simple ability to translate written symbols into speech (the often mindless activity aptly known as 'barking at print') towards the encouragement of silent reading in which comprehension is the main criterion of success.<sup>80</sup> So at exactly

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<sup>80</sup> Pugh (1978) and Allington (1984) provide historical background to this debate.

the time that linguists were relegating written language to a secondary status, educational psychologists were promoting it as a source of direct access to meaning.<sup>81</sup>

It is sometimes assumed that silent reading is a comparatively recent development: Pugh (1978) even suggests that it is a nineteenth-century development although this seems an exaggeration.<sup>82</sup> The problem may be that it is assumed that the way people describe or teach the reading process corresponds to the way they actually read. An oral or subvocalized model might have been the best explanation around, rather than an accurate description.

Some have seen technological causes for the shift from oral to silent reading. The idea that the introduction of printing led to a radical change from an oral to a visual culture, from oral reading in groups to silent reading by individuals, has been suggested by Chaytor (1945), popularized by McLuhan (1962), and developed more recently by Ong (1967, 1982). However, recent reviews of medieval book design (Parkes 1976, Evans 1980, Saenger 1982, Camille 1985, Gullick 1986) indicate that the notion of a purely oral medieval society is an over-simplification, since complex non-linear page layouts were common.

In classical times, it is possible that the lack of punctuation and word division (Thompson 1892, 1912) did impose a largely oral process on both reading and writing (by dictation).<sup>83</sup> Although Chaytor is confident that

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<sup>81</sup> Sounding a cautionary note about the move away from oral reading, Dearborn, Johnston & Carmichael (1949) reported evidence that the presence of oral stress contributes to language comprehension. Readers who are unable to assign stress to the correct words in a sentence (that is, where the author would have stressed those words when reading aloud) comprehended less. They appeal for the use of typographic variation to indicate vocal stress in print—a combination of the 'typographic cuing' and the 'atmosphere value' suggestions reviewed in Chapter 1.

<sup>82</sup> Pugh does not cite any direct evidence for his assertion that 'silent reading was not a common activity in schools or elsewhere before the middle of the nineteenth century' (p. 12). However he does cite Chaytor (1945) as suggesting a possible reason for the development of silent reading—the fact that the British Museum reading room would be intolerably noisy if everyone read aloud. But this is to misunderstand the context of Chaytor's remark: Chaytor is simply contrasting the open layout of modern libraries with the design of a medieval library which had carrels to protect readers from the noise of other readers.

‘no one is likely to contest the statement that the invention of printing and the development of that art mark a turning point in the history of civilization’ (p. 1), Saenger (1982) regards the introduction of word separation as at least as significant. Word separation—described by Saenger as ‘the singular contribution of the early Middle Ages to the evolution of Western written communication’—allowed silent copying of manuscripts, which in turn led to the growth of silent reading. The real impetus for silent reading, according to Saenger, came not from printing but from the functional requirements of the growth of scholasticism in the twelfth and thirteenth centuries. The intellectual demands on readers of long books which were heavily glossed and sometimes diagrammed could only be handled by the relatively faster technique of silent reading. It seems reasonable to agree with Saenger’s view that

‘The complex structure of the written page of a fourteenth-century scholastic text presupposed a reader who read only with his eyes, going swiftly from objection to response, from table of contents to the text, from diagram to text, and from the text to the gloss and its corrections’ (Saenger 1982: 393).

However, we cannot know just how swiftly readers went from objection to response—according to the much-quoted Rule of St Benedict (Chaytor 1945: 10), monks were allowed one book at a time and a year in which to read it. That may not have been representative of all situations, of course, but however fast medieval readers went, those living in the era of printed books certainly have more ground to cover. Eisenstein (1979: 72) remarks that with the availability of printed books

‘successive generations of sedentary scholars were less apt to be engrossed by a single text and expend their energies in elaborating on it. The era of the glossator and commentator came to an end and a new “era of intense cross referencing between one book and another” began.’<sup>84</sup>

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<sup>83</sup> Thompson makes it clear that word spacing was sometimes used ‘in the course of documents of ordinary life, written cursorily’ (1912: 56). From a modern perspective it is puzzling to find that the advantages were not immediately recognized and adopted universally. Presumably it was seen as a compensation for the relative illegibility of cursive script that would be redundant in professionally produced manuscripts.

## Punctuation theory: dramatic vs grammatical

The debate about oral and silent reading is a cousin of the debate surrounding the phonological equivalence of phoneme and grapheme. It recurs in relation to another aspect of the printed word—punctuation. The history of punctuation, it is often suggested (for example, Honan 1960, Partridge 1953), presents us with yet another dichotomy—between the dramatic and the grammatical.

Chauvier (1849) expresses it thus:

‘Those who wrote of old...doubtlessly marked the proper divisions of meaning, but they were essentially orators, and their punctuation would be chiefly oratical. Modern authors, on the contrary, write their works for the press, or to be considered in the retired and silent closet...their punctuation therefore is exclusively grammatical.’ (p. 4; the last two emphases are mine)

Dramatic punctuation scores the ‘performance’ of a text for reading aloud. Question and exclamation marks obviously indicate intonation, while commas, semi-colons, colons and full stops indicate different lengths of pause. Dramatic punctuation is therefore intended for language that is to be heard, whether aloud or by subvocalization. It reached its heights in Elizabethan and Jacobean drama (where, after all, dramatic punctuation is entirely appropriate). Simpson (1911) used the dramatic principle to defend Shakespeare’s printers against the charge that they could not punctuate—modern editors feel free to adjust the punctuation of the First Folio as much as they do its spelling.<sup>85</sup> Often, grammatically unnecessary—even disruptive—commas turn out, when interpreted by Simpson, to have an important rhythmic or semantic role. And, conversely, one of his most powerful examples is of apparent underpunctuation. In the edition of Shakespeare<sup>86</sup> on my bookshelf, Pistoll (who is being forced to

<sup>84</sup> Eisenstein attributes this quotation in a footnote to Denys Hay, ‘Literature, the printed book’, p. 366, in *The new Cambridge modern history*, edited by GR Elton (Cambridge, 1958).

<sup>85</sup> Further aspects of editorial intervention are considered in Chapter 7.



eat a leek by Fluellen) says:

‘By this leek, I will most horribly revenge: I eat and eat, I swear—’  
(Henry V, Act V, scene II, 49-50)

The First Folio, though, prints it thus:

‘By this Leeke, I will most horribly revenge I eate and eate I  
sweare.’<sup>87</sup>

Simpson’s comment includes a nicely literal interpretation of ‘pointing’:

‘It is a pity to clog this disordered utterance with the puny restraint of commas. The words come wildly from the victim while he writhes and eats and roars, and Fluellen’s cudgel supplies a very satisfactory punctuation for them.’ (p. 12)

In contrast to this performance-related punctuation, grammatical punctuation has the aim of clarifying the structure of the sentence. Here, the various stops indicate the status of text boundaries: the words ‘comma’ and ‘colon’ actually originated as units of sense.<sup>88</sup> Through this style of punctuation, then, the reader can see the hierarchical structure of sentences. It is not stretching the argument too far to suggest that the dramatic/grammatical distinction reflects the writer-control/reader-control dichotomy that forms the topic of this chapter. The visible structure of prose, even in the relatively discreet form of punctuation, can be used as a basis for free, reader-controlled movement around the text<sup>89</sup> in a way that was not possible before punctuation and word spaces were introduced. Interestingly, dramatic and grammatical styles of punctuation correspond directly with the two kinds of paralanguage defined by Lyons (1977)—modulation and punctuation. That both are functions of

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<sup>86</sup> WG Clark & W Aldis Wright (eds) *The complete works of William Shakespeare*, New York: Nelson Doubleday.

<sup>87</sup> I have changed the ‘u’ in ‘reuenge’ and the long ‘s’s’.

<sup>88</sup> According to Thompson (1912: 70) ‘Suidas explains a colon as a [stichos] forming a complete clause; Joannes Siculus lays it down that a clause of less than eight syllables is a comma, and that one of from eight to seventeen syllables is a colon.’

<sup>89</sup> Kieras (1985) has reported a number of studies in which the position of sentences within paragraphs and texts influences their perceived importance (earlier sentences are seen as more important).

punctuation (used in the sense of ‘pointing’) explains why I substituted the word segmentation.

Some manuals of punctuation, like Chauvier’s, suggest that punctuation developed from a mainly oral<sup>90</sup> to a highly rule-bound and systematic grammatical system, and thence to our modern-day practice which is a blend of the two. But this appears to be something of an oversimplification. For one thing, such commentators tend to refer mainly to the way in which just one punctuation mark, the comma, is described. Most of the other punctuation marks are interpreted in much the same way by all schools of thought. For example, even the most grammar-bound of theorists admits that exclamation marks connote tone of voice. Conversely, dramatic punctuators have always reserved the full stop to indicate the end of sentences, even though there may be a case for an equally long pause in mid-sentence.

Further evidence that the evolution from dramatic to grammatical punctuation may be an oversimplification is suggested by Husband & Husband (1905), who analyse the punctuation of a ninth-century document, Alfred the Great’s preface to a translation commissioned by him of Pope Gregory’s *Cura Pastoralis*. The Husbands argue that Alfred’s punctuation was a systematic attempt to clarify the structure of his thoughts, and the dot, one of the marks used in the document,

‘is most simply explained with the help of grammatical terms: it indicates a pause...[they explain various categories of pause]...The

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<sup>90</sup> Dramatic punctuation theories may be linked to the commonsense model of reading as a subvocalized process, which predisposes some to a role for punctuation which parallels features of spoken language. Even today we can find those who come to the analysis of punctuation already strongly committed to the primacy of speech. Some remarks by Quirk et al (1985) are instructive:

‘Although in this book we repeatedly emphasize the primacy of speech over writing, and of prosody over punctuation, we have to recognize that many types of text take shape first on paper and have their normal realization in graphic form. Punctuation thus has a greater interest for the study of texts than for linguistics as a whole, where it can be looked upon as a surrogate and a rather inadequate substitute for the range of phonologically realized prosodic features at our disposal.’ (p. 1445)

In view of the fact that they devote a whole chapter of their authoritative grammar to text linguistics, it seems curious to single out ‘texts’ (which elsewhere they use to mean both written and spoken samples of language in use) as, by implication, unworthy of serious linguistic study.

pause lessens the risk that either confusion or incomplete comprehension will arise out of the complexity of terms.(p. 24, authors' emphasis)

Confidence in the Husbands' analysis is enhanced by a more recent study of another translation of Alfred's.<sup>91</sup> Cyrus (1971: 106) found that spacing was used not to separate words but syntactic units, remarking on 'the astonishing degree of correspondence between sequences identified by the spacings and principle constituent boundaries independently inferable from syntactic features.'

The Husbands attribute the relative lack of punctuation in classical manuscripts to the highly inflected nature of Latin and Greek, and suggest that it is when these languages are translated into the vernacular that some means has to be found to preserve the structural clarity of the original. They suggest this as an explanation not only for Alfred the Great's translation, but also for the detailed grammatical punctuation evident in some Elizabethan writings. Although scholars saw the merits of using the vernacular, they were more used to using Latin as the language of scholarly exposition. Consequently they tended to impose Latin syntax on the English language, and, the Husbands argue:

'this artificiality of construction necessitated the employment of means by which to make the constructions clear to a reader not exercised in the classics.' (p. 36)

In view of the Husbands' view that contemporary punctuation was grammatical to an extreme, Simpson's dramatic explanation for Shakespeare's punctuation begins to look like an exception to the general rule. His thesis was in fact vigorously disputed by Fries (1925) who regards it as over-simple and supported by inadequate evidence.<sup>92</sup> Fries produces

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<sup>91</sup> The Tollemache manuscript of Paulus Orosius's *History of the world* (British Museum Additional Manuscript 47967)

<sup>92</sup> Ong (1944) suggests that they are both wrong, arguing that the Elizabethans inherited from late classical and medieval rhetoricians a system of punctuation based on breathing places for

counter-examples and demonstrates that where Shakespeare himself alludes to punctuation, which occurs as a metaphor in a number of instances, it is to its syntactic role that he points. This, of course, is not proof in itself, since there could have been two systems—one for prose, to which Shakespeare alludes metaphorically, and one for drama, which he employed as an additional system of stage direction to his actors; or Shakespeare, being Shakespeare, might simply have treated punctuation as he treated other aspects of language—as something to explore and extend.

Although Fries claims to have found evidence of grammatical theories in all the manuals he examined (dating from between 1589 to 1900), Ong (1944) cites many examples of the breathing principle during the earlier half of the same period. It may be that you find what you are looking for; Honan (1960) shows that in many eighteenth-century manuals the two theories co-exist, sometimes in a manner that obviously confused contemporaries. Their reconciliation need not be confusing, of course, since it is an aim of good oratory to enunciate the structure of the message as clearly as possible. This is implied by Monteith (1704):

‘Pointing is the disposal of speech into certain members for more articulate and distinct reading and circumstantiating of writs and papers. It rests wholly and solely on concordance, or government of words, and necessitates a knowledge of grammar. The wrong placing of points perverts the sense from the true scope of all speech, which is sound reason.’ (quoted by Husband & Husband 1905: 40; my emphasis)

The opposite has also been argued: that to follow natural speech rhythms may be a good guide to sentence construction. Treip (1970), who gives a detailed account of late sixteenth and seventeenth century punctuation practice, describes the use of rhythmic constructions in prose. And Sopher (1977) has argued for a return to dramatic punctuation on exactly these grounds, even to the extent of challenging taboos such as comma splices and commas between subject and verb.<sup>93</sup> But although he accuses the

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oral reading. He implies that both the dramatic and the grammatical theories are based on a misunderstanding of this fact: the performative aspect of oral reading suggests a dramatic function, while the need for breathing not to disrupt the sense suggests a grammatical theory.

Fowlers and Partridge of being grammatical punctuators, a close reading of those authors suggest that they would probably agree with Sopher that ‘it is this need to satisfy both the eye and the ear of the reader that constitutes the problem of punctuation’. Whatever view they start out with, in the end it seems that most punctuation pundits arrive at a Goldilocks theory: not too much, not too little, but just right—the folklore prototype of thesis, antithesis and synthesis.

In practice, then, most punctuation manuals eventually enjoin writers to punctuate to clarify the sense of the sentence. Although it is not always entirely obvious what they mean by this, it implies that decisions should be taken not from global principles, but according to local needs to avoid ambiguities at particular points in the linear sentence.<sup>94</sup>

This conclusion finds agreement in de Beaugrande’s (1984) recent account of punctuation within a psycho-linguistic framework, one of only two psychological studies of punctuation in English, so far as I am aware.<sup>95</sup>

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<sup>93</sup> Support for this view can be found in Quirk et al (1985: 1606) who report a strong tendency among users of English to insert a comma between a long noun-phrase subject and the verb, reflecting a prosodic convention in speech.

<sup>94</sup> To some degree we can see fashions in punctuation mirrored in typography; in particular the tendency toward minimalism. For example, Partridge (1953) claims that writers at the turn of the century would typically use ‘a less varied, less discriminatory, less subtle punctuation’ than modern writers. He attributes the change in practice since that time to the Fowler brothers (1906) who recommended authors to write clearly enough not to need much punctuation, although other contemporary writings, including Husband & Husband (1905) and De Vinne (1901), indicate that such a view was fairly commonplace at a time when over-formal grammar was falling into disrepute. Possibly through the enormous influence of *The King’s English* (Fowler & Fowler 1906) and *Modern English Usage* (Fowler 1926), a minimalist approach has grown up reminiscent of the typographic minimalism discussed in Chapter 1, as writers will testify who have had their commas and hyphens struck out by pedantic editors. Partridge’s comments could well apply to typographers:

‘The Fowlers have said that everyone should avoid depending on his stops. Well, of course! But it could with still greater validity be said that to eschew the astonishingly ample resources of punctuation, to fail to profit by this storehouse of instruments that clarify and simplify, that variegate and enliven, that refine and subtilize, closely resembles the action of a pig-headed fellow badly needing spectacles—and refusing to wear them.’ (p 183)

<sup>95</sup> Baldwin & Coady (1978) have studied the effect of punctuation on the comprehension of syntax, but their study, although resulting in some interesting findings that are described elsewhere in this thesis, does not place punctuation in an overall linguistic framework comparable to that of de Beaugrande (1984). A paper by Thorndike (1948) is entitled ‘The psychology of punctuation’ and appears in a psychology journal, but it is actually an attempt to associate the style of famous authors with a count of their different punctuation marks.

As we might expect, he suggests his seven linearity principles as motives for punctuation, thus bypassing the dramatic-grammatical debate (Table 4.3).

Principle	De Beaugrande's punctuation strategies
Core-and-adjunct	Cores are more likely to be separated from each other by commas; and less likely to have commas inside them. Adjuncts are likely to be set off from cores unless closely integrated with the latter.
Pause	Mark with punctuation the points where, reading aloud, you would pause. Use a dash to make a relevant insertion or addition without affecting the surrounding format.
Look-back	Use punctuation to terminate and characterize the preceding stretch. Use a comma to make a construction (typically an adjunct) look further back than if no commas were inserted.
Look-ahead	Use punctuation to mark and describe the transition to the next stretch of text. Use a comma to mark where the look-ahead of a construction (typically an adjunct) ends.
Heaviness	The heavier a segment, the more likely it is to be bounded by punctuation.
Disambiguation	Punctuate so as to reduce or preclude multiple readings
Listing	Use comparable punctuation to set off each element within a list of three or more

Table 4.3 De Beaugrande's application of his linearity principles to punctuation strategies (adapted to tabular form from de Beaugrande, 1984: 192–213). It should be noted that in their original context they are surrounded by numerous examples and comments

De Beaugrande approaches punctuation in a functional way, to avoid the apparently arbitrary rules that are typically taught:

‘the illusion of uniformity in punctuation arises mainly from coercion by publishers, not from agreement in manuscripts.’ (p. 192)

As an alternative:

‘English instructors [...] can uncover and present the punctuating motives observed by skilled writers, and leave the students to decide what options are best. An “error” is then a failure to respect motives, not a departure from unexplained personal biases.’ (p. 193)

For de Beaugrande, then, effective punctuation is deployed with regard to what the reader is likely to need at the particular point in the linear text.

Again, local needs take precedence over global principle.

Rhetorical structure: scoring vs programming

Nash's (1980) *Designs in prose* is a practical manual of composition, a detailed exposition of the craft of constructing prose. Along with words, phrases, rhetorical devices and argument structures, he deals with some aspects of typographic layout. Although he deals with this rather hastily, he does at least give it a prominent position at the beginning of the book, rather in the way that layout is the first thing encountered by readers when they inspect a document.

Nash uses 'layout' in a restricted sense to refer to graphological features within a column of type, rather than the design of whole pages. He first discusses two extreme forms, 'lines for copy' (that is, advertising copy), and 'sections for documents' en route to his treatment of paragraphing. Copywriting, with its short sentences, often one to a paragraph, its poem-like use of indention and its creative use of punctuation, has a strongly phonetic quality, which Nash describes as scoring a potential vocal performance.

Scoring stands in contrast to the programming of texts such as regulations, catalogues and others of a technical character. They typically consist of numbered sections or paragraphs, each self-contained with little need for discursive links with preceding or succeeding sections. Whereas scored texts are essentially linear, with any pre-planning heavily disguised under the surface expression, programmed texts bare their structure for readers to see and use. In Twyman's (1982) terms, they are also typified by the use of extrinsic (ie, spatial) typographic features in addition to the prosodically more equivalent intrinsic features (ie, variations of typestyle). Programmed texts offer writers the opportunity to treat their task as an elaborate listing operation, relieved of the burden of making the argument flow and cohere, and the fact that their structure is declared and labelled offers readers a measure of syntagm-control.

The burden of making an argument flow is a considerable one. Glynn et al (1982) attempted to measure the cognitive demands of conforming to stylistic and grammatical norms. Subjects who were permitted to submit a persuasive document in note form, or without regard to rules of spelling and punctuation, produced more points in support of their arguments than those who had to produce polished prose. The tasks set by Glynn et al can be seen as ranging from programming to scoring. Flower & Hayes (1980: 41) include 'throw a constraint away' among the strategies they find used by writers faced with an excessively difficult task. According to their observations, writers sometimes handle problems by 'simply choosing to ignore their audience or the convention that demands coherence between paragraphs'. Programming the text with numbered paragraphs enables them to maintain at least the impression of coherence.

Scoring and programming bear some resemblance to two alternative hypotheses which Wason (1986) detects in the way writers approach (or are advised to approach) their task. According to his prescriptive hypothesis, which I suggest corresponds to Nash's programming, writing is a 'process of transcribing previously formulated ideas' (p. 288). Prescriptive writing is audience-centred, and 'the hypothesis entails that writers adopt a particular register, such as jargon, simply because they believe it is the required mode of discourse. Hence it can be used, or omitted, at will.'

Wason's voice hypothesis, which as the name implies can be likened to Nash's scoring, is in contrast writer-centred. It 'implies that many difficulties in writing are associated with the lack of an appropriate attitude (trust) in the writer'. Wason sees the development of trust in one's own writing, of faith in the power of writing to reveal and extend one's ideas, as the key to sincere and, therefore, clear writing. He suggests that jargon is not just a style that can be abandoned at will; rather it is a sign that writers 'are not writing authentically but are alienated from the topic'.<sup>96</sup>



Wason clearly values the voice hypothesis above the prescriptive one, and this presents something of a challenge to those who would see typography as a means of revealing the ‘programme’ of a text in an audience-related manner. He is, though, talking mostly of creative academic writing, and he does not directly address other kinds. Certainly his remarks on the contribution of sincerity, trust and authenticity echo and articulate my own experience, but it is not clear whether he would agree that it is essential to subject one’s writing to a process of review—perhaps of transformation—before anyone else can be expected to read it.

Nash is something of a virtuoso of rhetorical style, writing all his own examples with an impressive mastery of technique, and pastiche. So it is not surprising to find that he has introduced the scoring-programming dichotomy only in order to resolve it when he reaches his real topic: paragraphs for discourse. He suggests a third term, expounding, to introduce the complex set of rhetorical techniques described in detail in the rest of the book. But by starting with the two extremes, he compels us to recognize that writers have recourse both to occasional ‘vocal echoes’ and the open declaration of their intentions or programme. I shall return to consider some of the patterns identified by Nash, and ways in which they might be realized in graphic form, in Chapter 6.

### **Resolving the dichotomy**

The various dichotomies reviewed in this chapter (and some others discussed elsewhere in this study) can be summarized in a table:

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<sup>96</sup> The literary critic Northrop Frye (1957: 331) arrives at a similar diagnosis of jargon in a brief discussion of officialese:

‘a naive intensification of Mill’s desire to speak with the voice, not of personality, but of Reason itself ... what it actually utters, of course, is the voice of the lonely crowd, the anxiety of the outward-directed conformist. Such jargon may be called, borrowing a term from medicine, benign jargon: it is unmistakably a disease of language, but not—yet—a cancerous disease like a demagogue’s oratory.’

<b>Context</b>	<b>Writer-control</b>	<b>Reader-control</b>
Graphic cohesion (Bernhardt 1985)	non-visually-informative	visually informative
Markedness (Vachek 1973)	unmarked (eg, roman)	marked (eg italic type)
Perceptual awareness (Polanyi, 1969)	focal	subsidiary, aesthetic,
Paralanguage (Lyons 1977)	modulation	punctuation (segmentation)
Presentational form (Langer 1942)	discursive	logical
Notationality (Goodman 1969)	digital	analog
Layout (Goodman 1969)	contingent, accidental,	constitutive, essential
Configuration (Twyman 1979)	linear/linear-interrupted	matrix/branching/non-linear
Reading strategy (Thomas & Harri-Augstein 1980)	responsive	self-organized
Cognitive style (Pask & Scott 1972)	serialist	holist
Eye movements	foveal	parafoveal/peripheral
Reading comprehension	bottom-up	top-down
Reading teaching	oral	silent
Punctuation	dramatic	grammatical
Rhetorical design (Nash 1980)	scored	programmed

Table 4.4 Writer-control and reader-control of the syntagm, reflected in related areas of study. I have only cited sources where ideas are closely associated with particular scholars.

A consistent thread running through many of these dichotomies is that they embody theoretical constructs, which, sometimes overstated by their initial proponents, have provoked equally overstated reactions. They are practical instances of thesis and antithesis: the tendency to pursue theoretical explanations to pure or extreme forms, the inevitable exceptions to which provoke equally extreme reactions. They also reflect more general philosophies of their time: we can associate bottom-up models of reading with behaviourism, and grammatical punctuation theory with the age of reason. But the exigencies of everyday communication and the good sense of ordinary language users resist the idealist inclinations of scholars, and, in almost every case we looked at, there was evidence of

synthesis: the third element of the dialectic triad of thesis-antithesis-synthesis. We might apply these words of Eric Partridge (1953: 7):

‘In punctuation, grammar represents parliament, or whatever the elected body happens to be called: logic represents King or president: but the greatest power of all is vested in the people...’<sup>97</sup>

The synthesis arrived at in most of these areas is of the order of: most adults read silently and do not need to move their lips or listen to an inner voice. They are therefore not bound to follow the order of the text in the way it is presented to them. Moreover, they have their own ideas, purposes and questions to which they would like answers and their awareness of context plays an important part in comprehension. They therefore wish to see an overview of the structure of the text, in order better to both comprehend it and search within it. However, verbal language is the medium through which we conduct argument, debate and discourse, and in which many of us imagine we do our thinking. So a large degree of compliance with the author’s linearized structure is necessary if we are to make progress. Moreover, even though our expectations may strongly drive our interpretation, all interesting writing combines familiarity with informativity: if our reading consists only of a search for known (or even hypothesized) information, we may miss the new information which may confound our expectations, but, without which, reading would be pointless.

Although in many respects distinct from one another, the items in the middle column of Table 4.4 share some assumptions about text in common. They assume a model of text as a linear stream of words and sentences whose syntagmatic order of presentation is controlled by its writer, and which is apprehended through its phonological equivalence to speech. ‘Content’ or concept relations are thus linearized for later reconstruction by the reader’s cognitive processes. Here typography does little more than ‘score’ the reader’s performance.

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<sup>97</sup> As if to demonstrate that he is no linguistic leveller, Partridge goes on to say ‘...or, rather, in the more intelligent people—in good sense rather than mere commonsense’.

The right-hand column represents a greater measure of control by the reader over the order in which components of the text are inspected. In this model, concept relations can be to some degree mapped or diagrammed directly on the page by typographic and spatial features. The debate is thus about the location of control—whether in all circumstances the writer delineates the syntagm by providing a linear path (or a defined choice of paths), or whether the reader is free to choose from a relatively open display of text components.

In the next chapter I shall explore the relationship of writer, text and reader in terms of a communication model.