

# WORDS



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## The beginning

- Microsoft Word's indexing feature might not be widely used by professional indexers, but it can be used in ways quite unrelated to back-of-book indexes. In this issue, Neil Maloney shows how it can be used to generate a compliance reporting database (but the astute reader will see how the same process can be used to generate many types of lists).
- This issue continues our examination of Information Mapping, looking at some old, and providing some new, research that challenges the widespread view that paragraph length affects comprehension.
- *Even Homer nods*. Thus commented Horace on encountering flaws in the works of the Greek epic poet Homer (author of *Iliad* and *Odyssey*). Flaws there might be, but the greatness of Homer remains unchallenged. Likewise Professor Pam Peters. Her encyclopedic *Cambridge Guide to Australian English Usage* is undoubtedly the most detailed guide to Australian English ever written even if—as Howard Silcock points out in his review of her book—she occasionally nods off when discussing a topic.
- Unless an interested party comes forward, this will be the last issue of *Words*. The journal has failed to attract a rich enough pool of contributors, and finding enough new material of substance to warrant continued publication has proved a burden.

*Words* was established to provide an avenue for technical writers to write about their profession knowing that there would be editorial support from other technical writers. It was particularly aimed at those who, not being a member of a professional society, did not have a ready avenue to publish through a society's publications but were not keen to set up a personal blog.

*Words* has been deliberately combative at times. Much of what passes for knowledge in our profession has, it seems, never been subjected to scientific scrutiny. For example, many believe that technical writers should always prefer the active voice. A literature survey will fail to uncover any scientific investigation to back up this claim. In fact following such advice bloats the typical user manual, forcing the reader to read unnecessary material, material that is bleedingly obvious from the context. *Words* challenged the active-voice shibboleth, concluding that a preference for active voice has

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nothing to do with communicative efficiency or with plain English.

More recently, *Words* has queried the alleged scientific basis of Information Mapping. Companies charge technical writers and would-be technical writers thousands of dollars to learn a supposedly "research-based" writing methodology, and yet some of the core principles of Information Mapping are bereft of logic and skint on science. The so-called chunking limit is a case to point.

Does any of this matter? Let's leave aside the issue of whether knowledge has intrinsic value—and thus worth exploring for its own sake—and consider instead the value an image of professionalism gives to technical writing. As our profession lurches towards accreditation, it is vitally important that our good image is not tainted by an accreditation process that rewards the having of folk wisdom over the having of knowledge. Once a particular view is enshrined in accreditation testing, that view will become strengthened and quoted mantra-like: always prefer active; keep paragraphs short; never stack headings; and so on. Whether it improves the communication we seek with our readers becomes a secondary concern. How less likely will it be that anyone questions whether active voice really does improve communicative efficiency, cognitive lodgement or reader engagement when an accreditation test requires applicants to demonstrate a blind preference for it? It was a concern that mere folk wisdom might become enshrined as knowledge that drove much of the content of *Words*.

- Finally, many thanks to all our contributors, and to the team behind the scenes whose spit and polish improved every issue: Marcia Bascombe, Claire Mahoney, Ross Mortimer and Christine Weaver.

**Geoffrey Marnell**

Editor [geoffrey@abelard.com.au]

# Using Microsoft Word's indexing function to create a compliance reporting database

Neil Maloney

## Preface

The use of Microsoft Word's indexing function to create lists of regulatory and other compliance references within a document is well-known, and has been a well-established practice in government, industry and commerce for many years. Many of these organisations have gone a second step: use a print-out of the index created in a Microsoft Word document for separate data entry into a compliance reporting database. This article goes one step further than that: removing the need for any manual data entry (although some sorting and formatting of the data is required).

The Microsoft Word operations required in formatting and sorting index entries to create a compliance listing, without the need for manual data entry, are well known to many technical writers. The author does not, therefore, claim any copyright over the ideas or the process presented in this article.

The author has been advocating the approach described here for a number of years but without success in having any clients implement the full process. This lack of success has primarily been due to organisational factors, including resourcing requirements at a time when the client has been preparing for a major audit, with the available resources being occupied in identifying and writing required document amendments.

This article has been produced to assist a current client in implementing the full process. To ensure there are no copyright or confidentiality issues in the use by others of the ideas and process in this article, the author is not charging the client for the time and effort spent. This article is therefore available for wide distribution by its readers, and the author encourages readers to do this, in the hope that organisations will see the benefit to the approach outlined and implement it.

The ideas and process detailed here are, therefore, free of any copyright restrictions and can be implemented freely by any interested readers. If

anyone experiences technical difficulties, they can contact the author at:

maloneyn@ihug.com.au  
+612 9632 9258

## Introduction

Many organisations have a need to maintain a compliance reporting database. Such a database doubles as a reference that points to where those compliance requirements—regulatory and otherwise—that are subject to audit are located within the organisation's suite of operational manuals.

The traditional approach taken in establishing a centralised repository of documentation references is to create or purchase a database package, often one that uses Microsoft Access as its platform. However, Excel spreadsheets can also be used to list the documentation references for each operational manual, and these spreadsheets are then used as the compliance database.

This traditional approach can have a number of disadvantages, including:

- The cost of the database package.
- The effort and resources required in establishing and maintaining the database.
- The additional effort and resources required to independently verify that the details in the database are correct whenever the database is modified (either via error-checking programming or by manual verification).
- A lack of resources, including subject matter experts, to prepare a list of documentation references or of changes to references, for the person administering the database.

For organisations that use Microsoft Word as their authoring tool, there is a cheaper, simpler and more reliable way to create and maintain a compliance reporting database: through the use of Microsoft Word's indexing function.

## Microsoft Word's Indexing Function

A Microsoft Word index is created by inserting *index entries* in a document. While the index entries need to be created by a technical writer or professional indexer, the index itself can be updated at any time by anyone. It will automatically include the current page number for each index entry.

Index entries are created using the **Mark Index Entry** dialog (see Figures 1 and 2 below). The text that constitutes the index entry is at the discretion of the technical writer or indexer.

Index entries can be copied and edited instead of being entered each time via the **Mark Index Entry** dialog.

The index itself is created by inserting an *Index* field, similar to inserting a *Table of Contents* field. It will look something like the mock index shown in Figure 3 on page 4.

It is recommended that technical writers or indexers:

- Work with formatting marks displayed (“Show All” turned on). This enables them to see the inserted index entries and reduces the chance that the entries are unintentionally deleted.
- Do not insert index entries in section headings. If a *Cross-reference* field is inserted elsewhere in the document that refers to that section heading, the

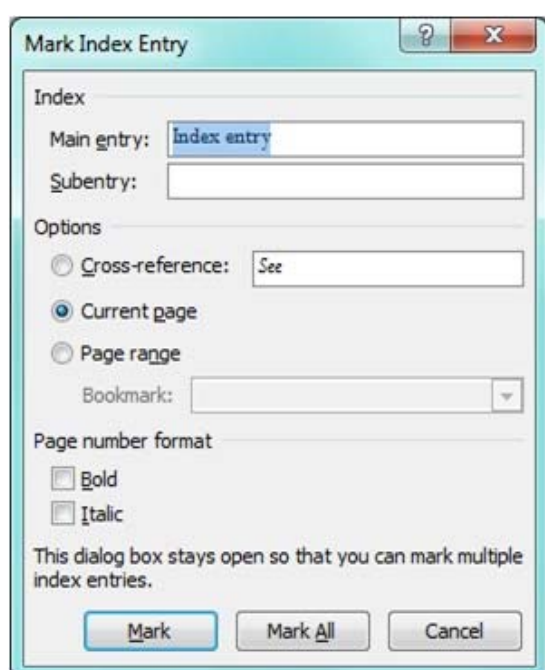


Figure 1: **Mark Index Entry** dialog in Word 2007 and 2010

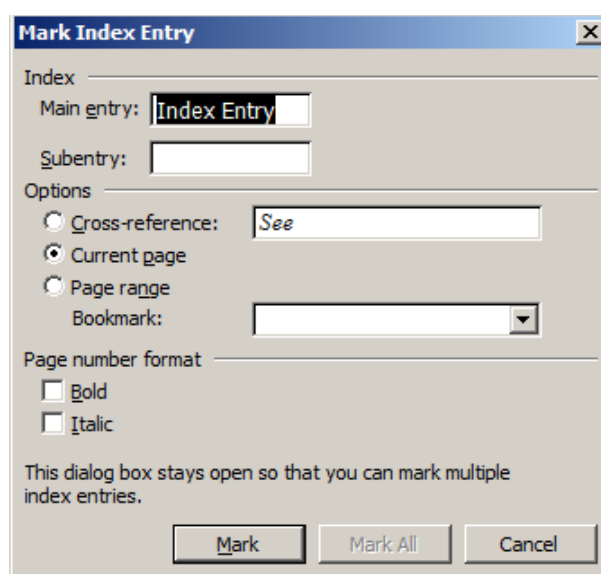


Figure 2: **Mark Index Entry** dialog in Word 2003

document index will include the page containing the cross-reference.

<b>Index</b>	
<b>A</b>	<b>Page No.</b>
AC10-1 .....	12-3
AC119-1 .....	12-1
<b>C</b>	<b>Page No.</b>
Civil Aviation Act 2000 .....	1-1, 5-26
Civil Aviation Rules .....	1-1
<b>P</b>	<b>Page No.</b>
Part 12 .....	1-1
Part 108 .....	1-1
Part 119 .....	1, 1-1, 12-1
Part 119.53 .....	1-1
Part 119.55 .....	4-4
Part 119.59 .....	1-1
Part 119.65 .....	1-1
Part 119.69 .....	4-4
Part 119.79 .....	1-1
Part 121 .....	1-1
<b>R</b>	<b>Page No.</b>
Rule 119	
Subpart A .....	1-3
Subpart B .....	1-3
Subpart C .....	1-3
Subpart D .....	1-3
Rule 121.77 .....	6-6
Rule 91.11 .....	6-6
Rule 91.203 .....	6-6
Rule 92 .....	5-27
Part 1 .....	5-29
Part 4 .....	5-29
Part 5 .....	5-29
Subpart E .....	5-27

Figure 3: Example of an index of regulatory requirements

## The process

The process to create a compliance database using Microsoft Word's indexing function is:

1. Create or amend the required index entries in each document.

For each location within a document where a regulatory or other requirement is satisfied, insert a suitably worded index entry referencing the applicable Act, Regulation, industry standard, etc.

Preface each reference with the type or category of requirement. This ensures that different types of

requirement are listed in a single group in the document index.

For example, the index entry:

- for an Act might be prefaced "Act".
- for a Regulation, might be prefaced "Regulation".
- Within an airline's operational manual (to give a more specific example):
  - a. For a Civil Aviation Regulation, the entry might be prefaced "CAR".

- b. For an IOSA ISARP (these are standards set by IATA, the International Air Transport Association), the entry might be prefaced "ISARP". (See Figure 4 on page 5.)

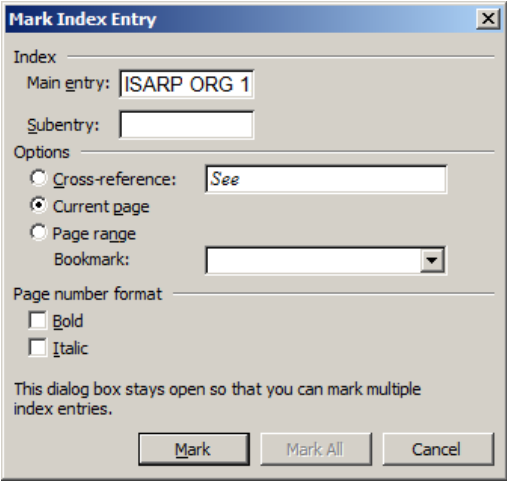


Figure 4: Example of an index entry being created for an IOSA ISARP

**XE "ISARP ORG 1.2.2"** Assurance cycle. In much the same way that quality, safety assurance ensures compliance, through constant verification objectives are achieved through the ap

Figure 5: The same index entry once inserted in the document

2. When all the required index entries have been created, insert an index field in the document, or if there is an existing index, update it. (See Figure 6 below.)
3. Copy the section of the index containing the references required (in some cases, this may be the entire index) into a blank working document. Continue to do this for each operational manual for which an up-to-date list of document references is needed.

The blank working document would normally contain an appropriate title, and headers and footers.

Copy each index section into the blank working document as plain text (that is, unformatted text).

To assist in the sorting and formatting involved, type the manual’s title in a text paragraph before each copied index section. This can often be copied from the Microsoft Word **File Properties** dialog.

4. Use Microsoft Word’s table conversion function to convert each index section (but not the manual’s title) into a table. (See Figure 7 on page 6.)

Index	
ISARP ORG 1.1.1.....	3-1
ISARP ORG 1.1.10.....	2-3
ISARP ORG 1.1.11.....	2-2
ISARP ORG 1.1.12.....	2-3, 2-15
ISARP ORG 1.1.2.....	2-4
ISARP ORG 1.1.3.....	2-2
ISARP ORG 1.1.4.....	2-4
ISARP ORG 1.2.1.....	1-4, 1-5
ISARP ORG 1.2.2.....	1-5, 3-9
ISARP ORG 1.2.3.....	1-7
ISARP ORG 1.3.1.....	2-1, 2-2
ISARP ORG 1.3.2.....	2-5
ISARP ORG 1.3.3.....	2-13
ISARP ORG 1.3.5.....	1-5
ISARP ORG 1.4.1.....	3-4, 4-2
ISARP ORG 1.4.2.....	4-1, 6-6
ISARP ORG 1.5.1.....	3-11, 4-1
ISARP ORG 1.5.2.....	2-4, 3-10
ISARP ORG 1.6.1.....	4-4
ISARP ORG 1.6.2.....	2-1
ISARP ORG 1.6.3.....	2-1, 2-6
ISARP ORG 1.6.4.....	2-1
ISARP ORG 1.6.5.....	16-1
ISARP ORG 1.8.1.....	4-3
ISARP ORG 2.1.1.....	17-11
ISARP ORG 2.1.2.....	17-12
ISARP ORG 2.1.3.....	17-2
ISARP ORG 2.1.4.....	17-1

Figure 6: Example document index



Safety Management System Manual	
ISARP ORG 1.1.1	3-1
ISARP ORG 1.1.10	2-3
ISARP ORG 1.1.11	2-2
ISARP ORG 1.1.12	2-3, 2-15
ISARP ORG 1.1.2	2-4
ISARP ORG 1.1.3	2-2
ISARP ORG 1.1.4	2-4
ISARP ORG 1.2.1	1-4, 1-5
ISARP ORG 1.2.2	1-5, 3-9
ISARP ORG 1.2.3	1-7
ISARP ORG 1.3.1	2-1, 2-2
ISARP ORG 1.3.2	2-5
ISARP ORG 1.3.3	2-13
ISARP ORG 1.3.5	1-5
ISARP ORG 1.4.1	3-4, 4-2
ISARP ORG 1.4.2	4-1, 6-6
ISARP ORG 1.5.1	3-11, 4-1
ISARP ORG 1.5.2	2-4, 3-10
ISARP ORG 1.6.1	4-4
ISARP ORG 1.6.2	2-1
ISARP ORG 1.6.3	2-1, 2-6
ISARP ORG 1.6.4	2-1
ISARP ORG 1.6.5	16-1
ISARP ORG 1.8.1	4-3
ISARP ORG 2.1.1	17-11
ISARP ORG 2.1.2	17-12
ISARP ORG 2.1.3	17-2
ISARP ORG 2.1.4	17-1

Figure 7: Index converted to a table

- For each index section that has been copied into the working document, insert a new second column, then copy the title of the manual into each row.



When all tables have a second column containing the manual's title, delete the text paragraphs containing the titles of the manuals, ensuring that in doing so, all of the tables become joined together.

- Sort the combined table by column 1.

Complete any additional formatting required: column widths, font, paragraph spacing, table page breaks, etc. If required, copy the final table into an Excel spreadsheet.

If copying into an Excel spreadsheet, copy the table contents as text, otherwise some of the page numbers may get changed to dates.

The listing of all references copied from all relevant documents is now finalised, as illustrated in Figure 8 on page 7.

This listing now constitutes the organisation's compliance reporting database for the applicable operational manuals and the selected regulatory or other requirements.

740	ISARP ORG 1.1.1	Safety Management System Manual	3-1
741	ISARP ORG 1.1.10	Safety Management System Manual	2-3
742	ISARP ORG 1.1.11	Safety Management System Manual	2-2
743	ISARP ORG 1.1.12	Safety Management System Manual	2-3, 2-15
744	ISARP ORG 1.1.2	Safety Management System Manual	2-4
745	ISARP ORG 1.1.3	Safety Management System Manual	2-2
746	ISARP ORG 1.1.4	Safety Management System Manual	2-4
747	ISARP ORG 1.2.1	Safety Management System Manual	1-4, 1-5
748	ISARP ORG 1.2.2	Safety Management System Manual	1-5, 3-9
749	ISARP ORG 1.2.3	Safety Management System Manual	1-7
750	ISARP ORG 1.3.1	Safety Management System Manual	2-1, 2-2
751	ISARP ORG 1.3.2	Safety Management System Manual	2-5
752	ISARP ORG 1.3.3	Safety Management System Manual	2-13
753	ISARP ORG 1.3.5	Safety Management System Manual	1-5
754	ISARP ORG 1.4.1	Safety Management System Manual	3-4, 4-2
755	ISARP ORG 1.4.2	Safety Management System Manual	4-1, 6-6
756	ISARP ORG 1.5.1	Safety Management System Manual	3-11, 4-1
757	ISARP ORG 1.5.2	Safety Management System Manual	2-4, 3-10
758	ISARP ORG 1.6.1	Safety Management System Manual	4-4
759	ISARP ORG 1.6.2	Safety Management System Manual	2-1
760	ISARP ORG 1.6.3	Safety Management System Manual	2-1, 2-6
761	ISARP ORG 1.6.4	Safety Management System Manual	2-1
762	ISARP ORG 1.6.5	Safety Management System Manual	16-1
763	ISARP ORG 1.8.1	Safety Management System Manual	4-3
764	ISARP ORG 2.1.1	Safety Management System Manual	17-11
765	ISARP ORG 2.1.2	Safety Management System Manual	17-12
766	ISARP ORG 2.1.3	Safety Management System Manual	17-2
767	ISARP ORG 2.1.4	Safety Management System Manual	17-1

Figure 8: Example of a section of the final listing copied into Microsoft Excel

## Automating the data extraction

The process documented above involves a degree of manual manipulation, e.g. copying, converting to a table, and inserting the manual's title into a new column in the table.

This process can easily be automated using Visual Basic (VBA) programming. With VBA you could:

- Enable the user to select the type of requirement for compilation—"Act", "CAR", "ISARP", etc.—from a menu.
- Locate the relevant entries in the document index.
- Write each relevant entry in the index to an Excel-compatible text file (such as a .csv file), with entries from multiple documents being appended to the file.

The manual title would be extracted from the document's file properties and included in each record in the file.

The text file can then be opened in Excel, the references in column 1 sorted, and the spreadsheet then saved in Excel format.

This article does not, and is not intended to, go into the structure of the code. Those who are experienced in programming VBA should be able to produce successful code from the outline given above.

### Neil Maloney

Neil has worked for 25 years in the training design and development area of a major Australian bank, for 5 years as a technical writer in the software industry and during the last 10 years as a technical writer in aviation. Neil works from home with the occasional on-site visit to exotic locations such as Mascot NSW, Port Moresby PNG and Nadi Fiji. He remains passionate about his work but, after 40 years, is also zealously looking forward to beginning part-time retirement early next year.

# Does paragraph length affect comprehension?

Geoffrey Marnell

This is the last of three papers looking at claims made by the Information Mapping fraternity. In the first paper—in *Words*, vol. 3, iss. 2—I dissected the claim by Robert Horn, the originator of Information Mapping, that research by American psychologist George Miller on the limitations of short-term memory shows that we should present information to readers in chunks of no more than  $7 \pm 2$  sub-chunks. I showed that Miller’s research did not state or imply this, and quoted Miller himself saying that none of his research has any bearing on documentation and comprehension. Thus the appropriated intellectual foundation of Information Mapping’s  $7 \pm 2$  chunking limit does not stand up to scrutiny.

In the second paper—in *Words*, vol. 3, iss. 3—I looked at the way people read texts and concluded that the size of textual chunks—grandparent, parent and sibling chunks—does not affect our ability to understand any particular chunk of text. Chunks in the vicinity of our reading are simply unnoticed—or not analysed for size—by readers. This put paid to Information Mapping’s claim that we should apply the chunking limit—the limit erroneously based on George Miller’s research—to every part of a document (from chapter down to paragraph).

In this paper, I continue to investigate the claim that comprehension requires some chunking limit. Horn’s limit ( $7 \pm 2$ ) might be spurious, but some limit, surely, must apply if comprehension is not to be compromised. Or must it?

## Surely something is lost as size increases?

In the last issue of *Words*, I noted that comprehension is often measured by a reader’s ability to *recall* the salient facts in what they have read. Perhaps what Information Mapping has in mind in claiming that “in chunking information the writer improves the reader’s comprehension ...”<sup>1</sup> is that chunking improves a reader’s ability to correctly recall what they have read. The bigger the chunk they have to read, the more difficult it is for a reader to recall the salient facts in the chunk. This matches the folk wisdom that the longer the paragraph, the more difficult it is to understand:

“For general purposes, paragraphs from 3 to 8 sentences long are a suitable size for developing discussion, and some publishers recommend an upper limit of 5/6 sentences.”<sup>2</sup>

1. RE Horn, *Developing Procedures, Policies & Documentation*, Info-Map, Waltham, 1992, p. 3-A-2.

“Paragraphs should be kept short wherever possible.”<sup>3</sup>

Note, for a start, that if we were asked to read a paragraph *for recall*, we would read it differently than if asked just to read it. (By *recall* here I mean the ability to repeat the main points in what one has read, not the ability to accurately regurgitate what one has read in the order that it was read.) To read a text for recall is to study that text, and to study a text is not the same as reading a text. Our reading strategies are quite different. Studying involves mental rehearsal, repetition and summarisation, and possibly note-taking. Through such strategies we improve our chances of correct recall. But these strategies remain idle when we read a newspaper, novel, article or report. Here we are happy to absorb each sentence as it is presented to us free of the mental gymnastics required in, say, preparing for an examination. A student might take hours to study a section in a textbook that the casual reader might read in 30 minutes.

In other words, we must be careful not to confuse *understanding* with *knowing*. I can understand how to replace the drive belt on a robot by understanding the steps in the procedure and replacing the belt. But if I wasn’t expecting to be *tested* on my knowledge of the procedure, I might subsequently fail a closed-book exam that asked me to outline the steps required to replace the belt. To repeat: our reading styles when we are *studying* differ markedly from our reading styles when we are just reading for immediate throw-away facts. We might call the two styles of reading *studious reading* and *transient reading*. Students mostly engage in studious reading—at least when studying—while the rest of us engage in transient reading (at least when reading informational texts). We are reading simply to gain immediate information: for one-off understanding or one-off use. And a reader can understand a sentence without necessarily being able to recall it, or its informational content, hours, days or weeks later. (Did you understand the sentences in this paragraph? Make a note to yourself to try to recall its salient facts tomorrow.)

For the sake of argument, let’s suppose that Information Mapping’s chunking limit was found to be necessary to maximise *recall* (a point that has not been proved, incidentally). We have already established that the chunking limit is not necessary for *understanding*<sup>4</sup>, but let’s assume that it is necessary

2. P Peters, *The Cambridge guide to Australian English usage*, Cambridge University Press, Cambridge (UK), 2007, p. 595.

3. ISO/IEC 26514, Systems and software engineering—Requirements for designers and developers of user documentation, ISO, 2008, p. 94.

4. *Words*, vol. 3, iss. 3, August 2011.



for recall. If so, what reason might there be to apply the chunking limit to “any business writing task and any type of document”<sup>1</sup> and “at every level of a written document”<sup>2</sup>? Why force writers *at all times* to adopt a methodology supposedly best suited for study and recall when most readers don’t read documents for study and recall? Most of us don’t want to clutter our minds with one-off facts and throw-away information, especially information we know we can readily access again if we need to (by, for example, rereading a procedure or report). Does any one *study* a procedure? No. We read through it step by step (or perhaps just read those steps that we are unsure of). Likewise, we don’t *study* a policy document, annual report or business memorandum. We simply read in the hope of understanding what it is we are reading but without the burden of needing to recall what we read. In a word: if most readers engage in transient reading, why force authors to write in a way that will assist studious reading (assuming that that is the case)?

It could be retorted that even though most of us only engage in transient reading, we should always assume that there will be *some* readers who engage in studious reading and thus we should—if we are to write with respect for all our readers—write with them in mind. The transient reader would not be burdened by disciplined chunking, but the studious reader would be helped. Fine if it were true that some chunking limit favours the studious reader without disadvantaging the transient reader. But is there research to show that?

## Let’s start with logic

Information Mapping assumes that the sentence is the fundamental unit of information:

“The first and basic unit of information is the sentence.”<sup>3</sup>

Linguists would dispute this. Indeed, a moments reflection will reveal that a unit of information more fundamental than the sentence is the *clause*. A clause is a string of words with a *subject*—something that is singled out for discussion—and a *predicate*—something that is said about the subject. A sentence can be a single clause—such as *The experiment was a failure*—or an amalgamation of several clauses, as in *The cyclone has passed and not a single building is still standing*. In the first sentence, there is a single unit of information: the experiment failed; in the second there are two units of information: there was a cyclone and it destroyed all the buildings. Similarly, a three-clause sentence offers three units of information, as in *Since we missed the last bus and there were no taxis about, we walked home*.

Suppose that there is some sentence-based chunking limit to paragraph comprehension and suppose further that it is 9 (in line with Information Mapping’s  $7 \pm 2$ , although the actual limit is not pertinent to this discussion). Suppose further that you have two paragraphs: *A* and *B*. *A* is composed of 7 sentences each of 3 clauses (making 21 units of information in total), and *B* is composed of 10 sentences each of 1 clause (making 10 units of information in total). On the face of it, we seem to have a paradox: the paragraph that meets the chunking limit (*A*) has twice as many units of information in it—and thus you would expect it to be harder to comprehend—than the paragraph that exceeds the chunking limit (*B*). How can this be so?

Of course, it won’t be the case if you assume transient reading. But we are discussing *studious* reading here, where readers can adopt strategies of rehearsal, repetition and summarisation to remember the salient points, unencumbered by a time limit. Thus it is possible for someone to recall all 21 units of information in paragraph *A*.

But in accepting this we must also conclude that the chunking limit, whatever it might be, is irrelevant in studious treading. If I am motivated to learn, there is no time limit on my study and I adopt effective study practices, there seems no limit to the number of units of information I could recall. How else does one pass an exam given the convoluted, verbose, multi-clause stew commonly served up in academic textbooks? How else do people memorise  $\pi$  to a thousand and more decimal places?

So, either a chunking limit leads us to a paradox—more is easier than less to comprehend (transient reading)—or it is irrelevant (studious reading).

## What does the research show?

For the sake of argument, let’s persevere with the idea that there must be a sentence-based chunking limit for paragraph comprehension *understood as the recall of salient points*. For a chunking limit to be useful in ensuring maximum recall, there must be a sentence-count below which recall is near enough to perfect and beyond which recall begins to deteriorate despite how studious the reader has been. That is what is meant by a *limit*. As Miller reported in experiments on the span of immediate memory, the immediate recall of, say, a list of arbitrary digits is usually close to perfect up to about 7 digits and then starts to fall away.<sup>4</sup> Is there a similar limit (*n*) in relation to paragraphs such that information is correctly recalled in paragraphs of up to *n* sentences but not so in paragraphs of more than *n* sentences despite readers engaging in studious reading? Yes, there will always be memorisation freaks who pull off dazzling feats of recall. But is the common-or-

1. Horn, op cit., p. 2-1.

2. *ibid.*, p. 3-A-2

3. *ibid.*, p. 12-3.

4. *Words*, vol. 3, iss.2, May 2011.

garden reader swatting for an exam likely to find their study strategies thwarted by long paragraphs?

The American psychologist Walter Kintsch has conducted a number of experiments on paragraph recall. Unlike Horn, Kintsch well understood that sentence count alone is too blunt a measure when sentences can range widely in clausal complexity. Even clauses contain individual bits of information the complexity, or number, of which might affect recall. Rather than focus on sentence number or clause number, Kintsch decided to test whether conceptual density and conceptual uniqueness influences recall.<sup>1</sup> In one experiment, Kintsch gave subjects texts of varying conceptual densities and, after they had said they had had enough time to learn what was in the texts, they were asked to recall the propositions (or main points) made in each text. Subjects did not have to repeat verbatim what they had read; just recall, in their own words, what the salient points were in a text they had just read, and read without a time limit.

Kintsch found that subjects could recall less information from a paragraph that had more uniquely mentioned concepts than from a paragraph with fewer uniquely mentioned concepts *even if the paragraphs had the same number of sentences*. So *conceptual density*—the number of uniquely mentioned concepts—is more a determinant of successful recall than paragraph length. The greater the number of once-mentioned concepts, the more difficult it will be to accurately recall a text's main points, even when you have been given as much time as you like to study the text. Despite the repeated claim that Information Mapping is “research-based”, there is no mention of Kintsch's research in Horn's book.

But what is more pertinent to our discussion are the *absolute* recall rates Kintsch discovered. Even with short paragraphs—those with just two sentences, and 21–23 words in total—recall rates as low as 58% were observed.<sup>2</sup> The recall rates for longer paragraphs—those with three sentences and 67–75 words in total—were lower (down to 36%), but that is not relevant to this discussion (and hardly

surprising). What is relevant is that even with short paragraphs—those of just 2 sentences—recall rates were as low as 58%. So if there is a limit to paragraph length below which there is perfect recall—that is, a recall rate of 100%—that limit must be less than 2 sentences. Thus a close-to-perfect recall rate is only going to be possible with paragraphs of one sentence. In other words, if there is a chunking limit for perfect recall, it can only be one.

This would seem to contradict the claim we made at the end of the last section. When readers engage in studious reading they should be able to recall more than the contents of one sentence per paragraph.

How else do we succeed at school and university? The answer lies in motivation: the more motivated we are the more likely we will adopt special learning strategies, such as summarising, rehearsal and

mnemonic encoding. Kintsch's subjects were obviously not especially motivated to recall what they were asked to read.

It should be clear now that a chunking limit based solely on sentence-number is worthless as a guide to maximising recall. But might there not be an upper limit to sentence-number beyond which all recall drops to zero? If so, perhaps writers need to be take care not to breach this limit. But Kintsch's research suggests that it is not paragraph length that influences our ability to recall, but the number of uniquely mentioned concepts (or what we've called conceptual density). Thus a 15-sentence paragraph could, in principle, be easier to recall than a 7-sentence paragraph if it had fewer uniquely mentioned concepts. Perhaps there is an upper limit to the number of uniquely mentioned concepts in a paragraph beyond which recall fails entirely regardless of the motivation of the reader. Kintsch didn't explore this and the literature appears silent on the matter.

This is no great matter, since most of us do not read for recall. Instead, we engage in transient reading: reading without expectation of being asked to regurgitate the main points of what we have read.

## Later research

We have just seen that paragraph length—understood as the number of sentences in it—is a poor indicator of the likelihood of correct *recall*. But might it be a better indicator of our ability to comprehend a paragraph when we are engaging in *transient* reading? We challenged this idea in the previous paper<sup>3</sup>, but let's assume, for the sake of argument, that this is still an open question.

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A close-to-perfect recall rate is only going to be possible with paragraphs of one sentence. In other words, if there is a chunking limit for perfect recall, it can only be one.

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1. Kintsch W et al., “Comprehension and recall of text as a function of content variables”, *Journal of Verbal Behavior and Verbal Learning*, vol. 14, iss. 2, 1975, pp. 196–214.
2. *ibid.*, p. 202, table 7. The number of propositions—that is, amount of information—subjects were asked to recall, and the size of each paragraph, are given in table 1 on page 198. The size of the paragraphs is given in terms of the number of words. The sample texts Kintsch gives tells us the size of the paragraphs in terms of the number of sentences.

- 
3. *Words*, vol. 3, iss. 3, August 2011.

How can we measure comprehension of material read transiently? Amount recalled would be a poor measure of transient understanding if those whose understanding is being measured are aware that it will be measured by the amount of material they can subsequently recall. It is only natural for subjects to want to get the best score possible on a comprehension test, and thus they will be disposed to adopt studious reading rather than transient reading as their approach. However, someone can understand what they are reading without necessarily being able to subsequently recall it. Thus transient understanding is best measured in some way other than by recall.

Perhaps aware of this Heisenberg-like uncertainty—that as soon as you try to measure *understanding* it becomes something else: *cognitive lodgement*, perhaps—many experimenters have opted instead for qualitative research (such as an analysis of readers' own assessments of ease of understanding).

In 1988, Cambridge University psychologist Heather Stark conducted an experiment in which subjects were asked to rate three texts on ease of reading, text coherence and text quality. Reading speed was also measured. The three texts were taken from Bertrand Russell (21 sentences over 4 paragraphs), George Orwell (54 sentences over 7 paragraphs) and Joan Didion (54 sentences over 6 paragraphs). The texts were presented to subjects in one of three formats: with the original paragraphs in place, with no paragraphs at all, and with the paragraph markers moved.

Stark's results will surprise many:

"... the use or misuse of paragraph boundaries had no measurable effect on subjects' reading rate or ratings of ease of reading, coherence, or goodness ... [It] doesn't seem to make a difference whether a text is explicitly divided into paragraphs or where the paragraph cues occur".<sup>1</sup>

In other words, the *unparagraphed* versions—even those that were 54 sentences long—were considered just as easy to read, of similar coherence and of similar quality to the paragraphed versions. Stark concludes her paper thus:

"Given the persistent intuition that paragraph markings make text easier to read, it is surprising that the current study provided no support for this idea. Reading speed and ratings of ease, coherence, and goodness were not affected by the presence of or position of paragraph cues."<sup>2</sup>

An experiment reported in 1992 found similar results.<sup>3</sup> Three consecutive paragraphs were taken

from a journal article on compact discs, likewise from a journal article on poverty, and likewise from a journal article on fluoridation (giving nine paragraphs in all). For each domain, the text in the three paragraphs was presented to subjects either as (a) the original three paragraphs (each containing about 80 words or 4 sentences), (b) merged into two paragraphs (each containing about 120 words or 6 sentences) or (c) merged into one paragraph (of about 240 words or 12 sentences). Subjects read the blocks of text and were asked to give a Likert response to a number of questions, one of which was "I found it easy to understand the writing". (A Likert response is one from a set ranging from *I strongly agree* to *I strongly disagree*.) The conclusion:

"... paragraph length did not affect the readers' attitudes towards the expertise of the writer, the ease of comprehension, or the quality of the passage ... [Paragraph] length is not such a dominant textual feature that it affects ... the ease of comprehension."<sup>4</sup>

These experiments did not test comprehension, but only readers' assessment of the ease of comprehension. In other words, they sought qualitative rather than quantitative results. Some subjectivity is perhaps unavoidable: some subjects could have been inclined to rate material as easy to understand even though they didn't understand it. Still, the two experiments gave remarkably similar results.

## Another approach

There is a way to measure comprehension of transient reading while minimising the risk that readers will switch to studious reading during testing, namely, by using a cloze test. In a cloze test, subjects are given texts to read in which every fifth or sixth word has been deleted. They are asked to fill in the missing words. The number of correct words entered is a good measure of subject's comprehension of the text.

A cloze test can be used to test whether paragraph length—as measured by the number of sentences—affects comprehension. If Information Mapping—and folk wisdom—is correct, subjects faced with a text composed of a number of small paragraphs should score higher in a cloze test than subjects who are faced with the same information but presented in a single chunk of concatenated text. That is the hypothesis the experiment described below set out to test.

1. Stark, HA, "What do paragraph markings do?", *Discourse Processes*, vol. 11, 1988, p. 294.

2. *ibid.*, p. 297.

3. Markel M, Vaccaro M & Hewett T, "Effects of paragraph length on attitudes toward technical writing", *Technical Communication*, Society for Technical Communication, vol. 39, iss. 3, 1992, pp. 454–6.

4. *ibid.*, p. 455f. Emphasis added.



## Materials

A snippet of text was selected that was neither too simple nor too technical. The snippet was taken from *What to do in an emergency*, published by Readers Digest in 1987. The snippet was prepared in two ways:

- A extracted as-is: five distinct and consecutive paragraphs, comprising 15 sentences in total
- B the same five paragraphs (and 15 sentences) but concatenated into a single block of text without standard paragraph indicators.

Snippet A was manipulated so as to make the start of each new paragraph obvious. Not only was the first line of each paragraph indented (as in traditional publishing), but additional space was added between paragraphs (in line with modern practice).

Every sixth word in both snippets was then removed (leaving 47 blanks in each snippet). Subjects would be asked to provide the missing words.

Both snippets were further prepared as a PDF form. This would enable subjects to respond online. Figure 1 shows snippet A as it was presented to subjects. Figure 2 shows snippet 2. Both snippets included a clickable button that enabled subjects to return the completed form via email.

### What you need in a first aid kit

A home first aid kit \_\_\_\_\_ mainly intended for minor injuries \_\_\_\_\_ you can treat yourself, but \_\_\_\_\_ should also be equipped to \_\_\_\_\_ with injuries that are more \_\_\_\_\_ until the victim gets professional \_\_\_\_\_ help. It should be kept \_\_\_\_\_ a well-sealed plastic box, \_\_\_\_\_ as an old ice-cream \_\_\_\_\_. Put the box on the \_\_\_\_\_ shelf of the hall cupboard \_\_\_\_\_ some other place out of \_\_\_\_\_ reach of children. Do not \_\_\_\_\_ first aid materials in unsealed \_\_\_\_\_ in the bathroom or kitchen \_\_\_\_\_ they may deteriorate in the \_\_\_\_\_ air. When you go on \_\_\_\_\_ holidays, take the kit with \_\_\_\_\_.

Write the address and telephone \_\_\_\_\_ of your doctor and the \_\_\_\_\_ of the Accident and Emergency \_\_\_\_\_ of your local hospital on \_\_\_\_\_ piece of paper and fix \_\_\_\_\_ to the inside of the \_\_\_\_\_ aid box. Tape it to \_\_\_\_\_ underside of the lid, for \_\_\_\_\_.

Do not keep old medicines \_\_\_\_\_ over from a previous illness. \_\_\_\_\_ them down the toilet or \_\_\_\_\_ them to the chemist.

First \_\_\_\_\_ kits can be bought from \_\_\_\_\_, but you can make up \_\_\_\_\_ own from the items shown \_\_\_\_\_ and at the same time \_\_\_\_\_ familiar with what your kit \_\_\_\_\_ . When buying a first aid \_\_\_\_\_, check that it conforms to \_\_\_\_\_ Australian or New Zealand Standard.

\_\_\_\_\_ bush walks — particularly in remote \_\_\_\_\_ — take a small first aid \_\_\_\_\_, which includes a foil blanket (\_\_\_\_\_ called a space blanket). The \_\_\_\_\_ can be wrapped around a \_\_\_\_\_ to preserve warmth in freezing \_\_\_\_\_. In hot weather it can \_\_\_\_\_ used with the silver side \_\_\_\_\_ outwards as protection against the \_\_\_\_\_ rays.

Figure 1: Snippet A, showing paragraph indicators

### What you need in a first aid kit

A home first aid kit \_\_\_\_\_ mainly intended for minor injuries \_\_\_\_\_ you can treat yourself, but \_\_\_\_\_ should also be equipped to \_\_\_\_\_ with injuries that are more \_\_\_\_\_ until the victim gets professional \_\_\_\_\_ help. It should be kept \_\_\_\_\_ a well-sealed plastic box, \_\_\_\_\_ as an old ice-cream \_\_\_\_\_. Put the box on the \_\_\_\_\_ shelf of the hall cupboard \_\_\_\_\_ some other place out of \_\_\_\_\_ reach of children. Do not \_\_\_\_\_ first aid materials in unsealed \_\_\_\_\_ in the bathroom or kitchen \_\_\_\_\_ they may deteriorate in the \_\_\_\_\_ air. When you go on \_\_\_\_\_ holidays, take the kit with \_\_\_\_\_. Write the address and telephone \_\_\_\_\_ of your doctor and the \_\_\_\_\_ of the Accident and Emergency \_\_\_\_\_ of your local hospital on \_\_\_\_\_ piece of paper and fix \_\_\_\_\_ to the inside of the \_\_\_\_\_ aid box. Tape it to \_\_\_\_\_ underside of the lid, for \_\_\_\_\_. Do not keep old medicines \_\_\_\_\_ over from a previous illness. \_\_\_\_\_ them down the toilet or \_\_\_\_\_ them to the chemist. First \_\_\_\_\_ kits can be bought from \_\_\_\_\_, but you can make up \_\_\_\_\_ own from the items shown \_\_\_\_\_ and at the same time \_\_\_\_\_ familiar with what your kit \_\_\_\_\_. When buying a first aid \_\_\_\_\_, check that it conforms to \_\_\_\_\_ Australian or New Zealand Standard. \_\_\_\_\_ bush walks — particularly in remote \_\_\_\_\_ — take a small first aid \_\_\_\_\_, which includes a foil blanket (\_\_\_\_\_ called a space blanket). The \_\_\_\_\_ can be wrapped around a \_\_\_\_\_ to preserve warmth in freezing \_\_\_\_\_. In hot weather it can \_\_\_\_\_ used with the silver side \_\_\_\_\_ outwards as protection against the \_\_\_\_\_ rays.

Figure 2: Snippet B, showing no paragraph indicators

## Method

The following were invited to participate in this experiment:

- students enrolled in *Technical Writing and Editing* at Melbourne University in 2011
- subscribers to *austechwriter* (an internet discussion forum for technical writers)
- participants in technical writing and scientific writing courses held by Abelard Consulting during 2011.

Participants were asked to fill in the missing words (and to leave blank any that were not immediately obvious to them).

When sufficient responses had been received, the number of correct words in each response was calculated. Close synonyms were accepted where the original word was not provided.

The average number of correct answers was then computed for each group of subjects. These averages (or means) were then compared using a *t*-test (for independent samples) in Stata statistical software.<sup>1</sup> All statistical tests were two-sided and a *p*-value < 0.05 was considered statistically significant.

1. *Stata statistical software*, release 11.0, StataCorp, StataCorp, College Station, 2010.

## Results

	Responses	Mean	Standard Deviation
A: paragraphs	36	43.64	2.11
B: No paragraphs	58	44.67	1.79

There is no statistically significant difference between the two means (with  $t = 2.54$ , degrees of freedom = 92 and  $p = 0.01$ ).<sup>1</sup> In other words, the very small difference between the means is just as likely to have occurred by chance as to have been caused by some cognitive mechanism or other.

This analysis assumes that the samples exhibit normality (that is, they fall within the typical bell-shaped distribution). The data did show some skewing, making it possibly better suited to a non-parametric analysis, such as the Wilcoxon rank sum test. That test gives much the same result: there is no statistically significant difference between the two distributions (with  $z = 2.26$  and  $p = 0.02$ ).

## Conclusion

This experiment suggests that there is no loss of comprehension if as many as 15 sentences of material are presented to readers unchunked. This is nearly double the maximum paragraph length recommended by Information Mapping (and by Emeritus Professor Pam Peters, quoted on page 8). This is in line with our analysis of transient reading habits described in the previous issue of *Words*. Readers do not notice the size of the chunk they are reading or, if they do, it does not affect their understanding of it. Chunking, in other words, seems not to be necessary for comprehension.

## So why chunk?

Chunking of informational text into paragraphs is not unimportant. There are many reasons why we do it and should continue doing it. For instance, paragraphing:

- “relieves the forbidding gloom of a solid page of text”<sup>2</sup>)
- enables writers to present their ideas in logically related chunks
- meets readers’ expectations that ideas are being presented in discrete and cohesive chunks

1. My thanks to Dr Gillian Dite, Centre for MEGA Epidemiology, University of Melbourne, for help in analysing the data.  
2. Hudson, N, *Modern Australian Usage*, OUP, Melbourne, 1993., p. 294.

- satisfies the reading practice of the skimming reader (by enabling writers to present each of their main points at an easily identifiable place, namely, the first sentence of each paragraph)
- enables readers to quickly locate text (when paragraphing is combined with titling, or what Horn calls *labelling*)

The point of this paper has not been to discount the practice of paragraphing (or at least the practice of creating *well-formed* paragraphs). Rather, it has been to show that *comprehension* seems to be unrelated to paragraph length. We chunk to help readers engage with texts, to help them find the information they are after, to satisfy their expectations about the purpose of paragraphs, and to help them get the essence of what we are saying if they haven’t time to read every word. But such chunking doesn’t help readers *understand* what they are reading. That is what the research discussed above clearly suggests, namely, that unparagraphed text is considered by readers to be just as easy to read as paragraphed text.

To argue that comprehension is unrelated to paragraph length is not to imply that paragraphs can be of any length. Although the experiment conducted by Markel, Vacarro and Hewett (discussed on page 11) showed that subjects considered unparagraphed chunks of text as easy to comprehend as paragraphed chunks, it also showed that subjects *preferred* that the unparagraphed chunks—those composed of concatenated paragraphs—to have been paragraphed:

“... regardless of which of the three passages they were reading, [subjects] felt that the 1-paragraph and 2-paragraph versions would benefit from shorter paragraphs, but that the 3-paragraph versions would not.”<sup>3</sup>

This is hardly surprising given readers’ expectations about the purpose of paragraphs. A reader who reads a chunk of text formed by the concatenation of three well-formed paragraphs is likely to sense the discontinuity between the merged topics. They will detect that the chunk is about three distinct topics and wonder why it has not been written according to the well-entrenched convention of one-topic-per-paragraph. So a preference for chunking-by-topic is to be expected. We are habituated to read material chunked in that way.

If writers heed readers’ expectation that a paragraph is the container for one topic and that all the sentences in it are related to that topic, then long paragraphs should be rare. Most writers simply don’t have more than perhaps 10 things to say about any single indivisible topic. (And if the topic is logically divisible, then it should—if it is to meet readers’

3. op. cit., p. 455



expectations—be split into its indivisible parts.) But the important point to note here is that paragraph chunking is better determined by *logic* than *length*. Readers expect *discreteness* and *cohesion* in a paragraph: *one* idea supported by a number of *related* sentences. If a writer happens to have, say, 10 things to say about one discrete idea, the paragraph will need to be ten sentences (or at least 10 clauses) long. To break that one paragraph into two solely on the grounds of the number of sentences in it rather than their logical connectedness is almost certain to distract the reader. The expectation that the second paragraph is presenting a new topic will not be met and the reader will likely be distracted.

To sum up: a chunking limit based on sentence number overlooks the fact that a paragraph is considered by readers to be a *logical* unit. To split a logical unit into two is just as distracting to readers as concatenating different logical units into the one

paragraph. Readers' prime expectations about a paragraph—*discreteness* and *cohesion*—are not met. Whatever chunking limit we might apply to a paragraph should not be a fixed number or range (such as Horn's  $7 \pm 2$ ). It should be a combination of two numbers: one fixed, one moveable. The fixed limit is the number of discrete topics presented in the paragraph. It should be fixed at 1. The moveable number is entirely dependent on what the author is attempting to convey. It is a number that defines the paragraph's degree of cohesion (or how well the sentences are related to a single topic). A sentence count in excess of this limit is what writers should be wary of, not a sentence count in excess of some fixed and seemingly artificial value, such as  $7 \pm 2$ . If a paragraph has eight sentences and only six are about the same topic, then the cohesion limit is six and the author has exceeded it by two. That is reason to take a scalpel to the paragraph. If a paragraph has 12 sentences and all 12 are related to the one topic, then the cohesion limit is 12 and the author has not exceeded it. It is fine as it is, and the author should have no fears that it has exceeded some comprehension limit.

In a word: a paragraph should be as short as possible but as long as necessary. It is as short as possible when it is about a single, indivisible topic; it is as long as necessary when everything that the writer wanted to say about that topic is contained within it. To insist on a sentence-number limit fails both logic and science.

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## To conclude

Over the course of three papers presently consecutively in this journal, we have presented proof that:

- Information Mapping—or at least its claim that cognition is limited to  $7 \pm 2$  chunks—is not based on George Miller's research nor on any research that Miller quoted. To claim that it ignores, or misunderstands, what Miller actually wrote and said.
- Even so, Miller's research has been superseded by more recent studies.

- The way Information Mapping applies the chunking principle is at odds with the way people read texts. The parent or sibling structure of a text is rarely if ever noticed by readers (whether seeking spur-of-the-

moment information or in the exceptionally rare case where a reader reads the text all the way through).

- Even if readers did notice the parent or sibling structure of a text, no plausible evidence has been adduced to support the claim that the limited capacity of our *short-term* memory helps us comprehend anything other than atomic information (such as a clause or sentence). At the level of chapters, sections, maps and blocks, the capacity of our short-term memory appears entirely irrelevant.
- To understand a chunk is to understand the sentences in it and such understanding is unaffected by the number of sibling sentences that have to be read.
- Research in cognitive psychology—by Kintsch, Stark and others—shows that the number of sentences in a paragraph does not affect a reader's comprehension of that paragraph, contrary to the claims of Information Mapping and the recommendations found in many language handbooks.
- Chunking is valuable but is better based on chunk discreteness and cohesion than on chunk size. Logic, not length, is a better guide to quality paragraphing.

**Geoffrey Marnell**

# Journal of Technical Writing and Communication


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*Australia's national dictionary*

## Book review

*The Cambridge Guide to Australian English Usage*, Pam Peters, Cambridge University Press, 2007, 908 pages, \$39.95 (paperback)

Reviewed by Howard L. Silcock

In my work as a technical writer, it's rare for many days to pass without consulting a usage guide. A colleague asks, for instance, whether to write *inquiry* or *enquiry* (or maybe 'should I write *dispatch* or *despatch*?', or maybe 'is it *the Internet* or *the internet*?'); and I reach for the usage guide for our answer. Or a software engineer asks why I changed his words; and I refer him to a passage in the usage guide, hoping to convince him I'm not exercising a personal vendetta but saving him from a usage that might confuse his readers or make him look illiterate.

Examples like those—I'm sure most writers could give their own—are evidence of a demand for answers to questions about what's right and wrong in written language. This implies that we believe the questions *can* be answered authoritatively and that it matters that we find those answers. We know it's not enough simply to write to be understood; we have to write *correctly*—whatever that means—and *clearly*. After all, technical writers are expected to write good English, use words correctly and provide clear instructions. It's part of our job.

Yet in the present day a search for answers to such questions soon uncovers public unease about the idea of 'correct usage'. Many of the prescriptive rules

we used to be taught—don't split your infinitives, don't start a sentence with 'and' or 'but'—have been called into question. And phrases like 'between you and I', which used to attract severe censure, are starting to get some recognition now, simply because they're widely used and understood—and who has the right to hold back linguistic evolution?

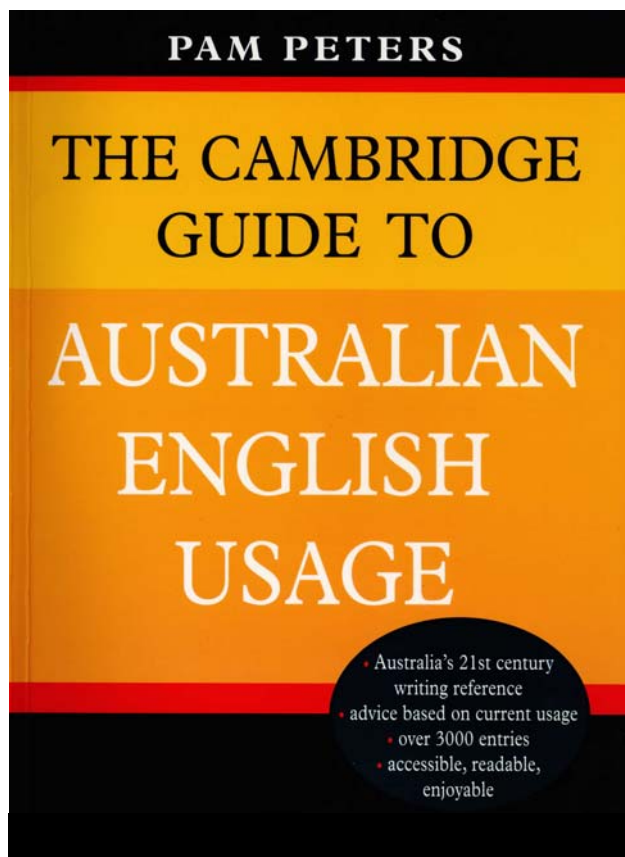
How does this growing sceptical attitude affect a book like *The Cambridge Guide to Modern Australian Usage*? How can it avoid the charge of being too 'prescriptive' and still answer those pressing questions? And if it's not allowed to tell us what's right, what can it say? Should it focus more on what's *clear* and less on what's *correct*?

These are some of the questions I brought to the task of reviewing Pam Peters' book.

The introduction to the book—best read together with the reprinted introduction to the previous edition (which had the name *The Cambridge Australian English Style Guide*)—gives us the first inklings of Peters' attitude to these questions: '[The book] steers a course between the extremes of prescription and description, invoking both linguistic principle and the usage evidence available when making recommendations.' A notable feature of Peters' book is its reliance on statistical analysis of actual usage, particularly usage in Australia. The entry *English language databases* describes some of the resources Peters uses to back up her pronouncements and recommendations. This suggests that she will focus more on how the language is actually used than on making judgments about how it should be used, and that is partly true, though she does also include advice from other publications as a basis for indicating what's regarded as acceptable, and occasionally even makes her own dogmatic pronouncements.

It is not easy, however, to discern what principles lie behind the selection of topics. There is an *Overview of Contents*, which features a table of the major themes under which the entries can be grouped, but no description of why these themes were chosen and others were rejected.

The title, of course, provides some orientation. First of all, the book is intended as a guide to *Australian* usage. There are a number of entries specifically on Australian usage and these are an important asset of the book, as they often cover topics where information is hard to find or scattered in different sources. There is a long and interesting entry for *Australian English* and also one about *flash language* (the language of thieves and convicts, from which many Australian words derive). And if you want to know about the different words used in different states for the beer glasses we drink from



(‘schooner’, ‘middy’, ‘pot’, etc), you can look under *interstate differences*. If you want to know about how to refer to the different Aboriginal tribes or how to spell Aboriginal words, you will find information under *Aboriginal* or *Aborigine*. And, of course, wherever Peters discusses any question of usage, she is careful to provide evidence of usage specific to Australia.

Leaving aside specifically Australian themes, let’s now look at some other major topics.

Questions about punctuation are covered in entries for the various punctuation marks: *comma*, *full stop*, *semicolon*, *dashes*, and so on. There is also detailed and useful guidance on how to use paragraphs under the heading *paragraphs*. In the entry for *comma* I was disappointed to see no reference to the common error often referred to as the ‘comma splice’, in which two independent clauses are linked with a comma and no conjunction—as, for instance, in

You select the command from the menu, there is no keyboard shortcut.

I’d expect a usage guide to warn you that some of your readers would regard this sentence as poor grammar, and possibly as evidence that you haven’t mastered the art of punctuation fully. That may reflect a prescriptive attitude, but it’s commonly held, and your writing could be judged because of it.

In discussing apostrophes, Peters becomes a little too prescriptive, in my view, asserting—without quoting any supporting authorities—that ‘apostrophes are not now obligatory’ in expressions such as *five weeks’ leave*. Apparently the inconsistency that results from dropping the apostrophe here but still using it in *one week’s leave*, an obviously parallel construction, does not bother her. For other cases she does quote authorities who have backed dropping apostrophes, such as in place names like Frenchs Forest—where Australia Post is now the authority—and names of publications like ‘Visitors Guide’—where the Australian Style Guide has made a recommendation. While I may not agree with Peters’ recommendations, the subject is certainly well covered.

Spelling is covered under many individual words and under common suffixes such as *-able* and *-ible* that can cause problems. There are also a number of entries on differences between American and Australian spellings and on how spelling is affected by inflection. The latter cover, for instance, the question of when a consonant at the end of a verb is doubled to form a past tense or a participle (e.g., is it *travelling* or *traveling*? is it *biased* or *biassed*?) The author takes a surprisingly revolutionary position on certain spelling questions—for instance, she advocates (and uses in the book) not only the

American forms *traveling* and *dialing*, but also the American spellings *defense* and *offense*. In my judgment, switching to the last two would require a major cultural shift in Australia, including presumably renaming a major Government department. I’m not too enthusiastic about this happening.

Specific linguistic terms such as *sentence*, *clause*, *subject*, *subjunctive* and *mood* are all covered and there are some references to newer linguistic theories. There are also interesting entries relating to *information focus* and *topic*, which provide useful ideas on how to provide structure to a piece of writing.

There are entries for a large number of foreign words and phrases, mostly with only brief translations or explanations of how they’re used and little or no commentary. Many would argue that most of them could, and should, simply be dropped, and I would have liked the author to follow suit. For instance, as Latin is so little understood nowadays, I’d persuade an author who has written *ceteris paribus* to change it to ‘all things being equal’—and I’d probably wonder why he was being so pompous.

There is an entry for *Plain English*, but I would have liked to see more on the subject throughout the book. While the tide may be turning against prescriptivism, there is a growing recognition of the value of plain language, and people are starting to react against the PR consultants’ ‘spin’, particularly in political contexts. I think this is a topic that could do with more attention.

The topic of inclusive language is well covered, with a sensitive explanation of the reasons to take it seriously, along with sensible recommendations, covering non-sexist language, the problems of racist terms and how to write about people with disabilities.

The book also contains material about publishing, including how to set out the preliminary material in a book and when and how to include an index or a glossary.

I also found, somewhat to my surprise, a number of entries relating to logic and argument and some other topics traditionally covered in philosophy classes. While the study of formal logic did originally develop from the work of classical rhetoricians, I didn’t expect to find it covered in a usage guide. Unfortunately, the entries in this area need some editing by a professional philosopher and can’t be relied on for accuracy in their present form: for instance, the discussion of syllogisms contains mistakes and the description of the term *a priori* is at odds with its current usage (refer, for example, to the Stanford Encyclopaedia of Philosophy, which you can find online).



Some of the topics are standard material that you will find, not only in usage guides, but also in publishers' and organisations' style guides. For example, there's material on how to use lists and tables, how to use hyphens and capital letters, when to write numbers out in full. All of these are topics that a writer often needs to refer to, though they can be found in many places already.

Word enthusiasts like myself don't read usage guides only to answer specific questions—we sometimes read them for pleasure. Many usage guides, such as the famous *Fowler's Modern English*, bear the stamp of the author's personality on every page, and it's a pleasure to watch the author uncover the pomposity and pretension as he discusses one of his *bêtes noires*. Pam Peters' book doesn't carry such a strong personal stamp. It is, after all, not the product

of her research and experience alone. This does mean, though, that it isn't so well suited to reading for pleasure alone. Nevertheless, it is undoubtedly a book that belongs on the shelf of any writer and editor—whether technical or not—in Australia.

### Howard L. Silcock

Howard Silcock is a contract technical writer in Canberra. He has worked for a number of Government departments, including the Australian Agency for International Development (AusAID), CSIRO, the Department of Foreign Affairs and Trade and the Department of Defence.

Originally Howard was a mathematician, but a reawakened interest in language propelled him into technical writing in 1988, and he has been doing it ever since, apart from some ventures into Excel consulting and programming. He is a committee member of the Australian Society for Technical Communication (NSW) and a passionate advocate for plain language.

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