

Travels in T_EX Land: Using *memoir* for a book

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Abstract In this column in each issue I muse on my wanderings around the T_EX world. In this issue I describe my first attempt to use the *memoir* class to produce a book.

1 Starting out

Once before I briefly tried the *memoir* class for something small—I can't remember what. As I began to draft my most recent book, I decided it was time to try *memoir* for a substantial project.

First I downloaded a copy of the manual from www.ctan.org/tex-archive/macros/latex/contrib/memoir/memman.pdf and saved it in the directory of my book project for easy access, and I put the following command at the beginning of the include file for my book:

```
\documentclass[book,b5paper,showtrims]{memoir}
%b5 = 176 x 250 mm = 6.8 x 9.8 inches
```

Note that I used *memoir's* `showtrims` option to the `\documentclass` command as I wanted to be able to see how the typeset text fit on the actual book size page. (I will drop this option just before sending the file to the printing company because I have no experience with having trim marks in a file going to a printer and printers have successfully trimmed pages from book files I sent without trim marks.)

I did nothing else except use *memoir* just as if I were using L^AT_EX as I drafted the books for several months.

Some time later, I added another command not available in L^AT_EX

```
\tightlists %close up spacing for itemize, enumerate, etc.
```

and I went several more weeks without thinking about *memoir* again.

Finally, as I neared completion of the first draft of the book, I decided to change the text block size within the page size. I printed out a copy of chapter 6 of the *memoir* manual, glanced over it, and tried different commands that I thought should change the text block size or the margin sizes. Nothing worked. Eventually, I sought help from `comp.text.tex` and found a January 4, 2002, exchange of messages where *memoir* creator Peter Wilson reminded someone about the necessity of issuing the

```
\checkandfixthelayout
```

before the

```
\begin{document}
```

command. I did this, and then the margin and text block size commands had more reasonable effect.

However, I still could not (immediately) get the exact layout I wanted. The *memoir* system was checking for correct arithmetic or correct styling (I don't know which) and giving error messages. Since I needed to finish my first draft, I decided to not worry about the text block size and position any more at that time; I was able to achieve something closer to what I wanted, and there would be plenty of time to struggle with further refinement later.

So far, using *memoir* had not *required* much new study (although undoubtedly I would have benefitted for doing a little more study rather than doing almost none).

At this point in working on my book project, I made a small diversion, which doesn't fit within the main line of this story and which I describe in the Appendix.

2 Bibliography, footnotes, and references

A few weeks went by after I drafted the previous section. I had continued drafting my book and struggling with a problem that I have had with previous books and papers—how to handle footnotes, the bibliography, and references in the main text to items in the bibliography.

In my three previously published books, I have in each case bowed to the marketing wisdom or publisher's demand that footnotes not be at the bottom of pages and instead be endnotes. In the first published book, the notes are at the end of each chapter, referenced by superscript numbers in the main text, and bibliographic entries are mingled with the other notes. In my second published book, there are again notes at the end of each chapter referenced by superscript number in the main text; however, all the bibliography entries are at the back of the book in alphabetical order by first author's last name and referenced by sequence numbers in square brackets in the main text. In this case, the bibliographic entries were done with `bibtex`. In my third (self-published) book, all of the notes are at the end of the book in separate sections for each chapter with the notes referenced from the main text by superscript numbers which restart at 1 for each chapter. In this case, I created the bibliography manually (not using `bibtex`) in alphabetical order by first author's last name and used (unconventionally) the first author's last name and publication year in square brackets in the main text, e.g., [Walden98] or [Walden05b]; I like this unconventional convention quite a lot and would have used it again in my current book if I knew how to make `bibtex` do the work for me.

My decision with the current book was to put all of the notes and bibliographic entries in a single References list at the end of the book, referencing the list with superscript numbers in the main text. I looked in the *memoir* manual for how I could do this, but didn't find anything relevant and then went to `comp.text.tex`, where I found the following information from Boris Veytsman in July 1997:¹

...to make footnotes appear as end-notes intermixed with citations is rather easy. Just create a file `footnotes.bib` with all your footnotes written as `@misc` entries like this:

```
@Misc{footone,  
      note = {This is a footnote}}
```

1. Yuri Robbers says, "I think the `natbib` package (an add-on for `bibtex`) is able to provide bibliographic references according to your unconventional convention. If not, the `makebst` package will definitely be able to create a `.bst` file according to that convention, and it only requires you to answer a load of questions in order to do its job."

Yuri is undoubtedly correct. However, the approach I used didn't take much time to implement, and I suspect I was happier going in this ad hoc way than bothering to learn a new package.

Then in the body of your document instead of the command

```
\footnote{This is a footnote}
```

put

```
\cite{footone}
```

In the list of your bibliography files put `footnotes.bib` like this:

```
\bibliography{physics,math,footnotes}
```

and you are done.

If you need the labels to be superscripted instead of normal square brackets like [1], install the cite suite from CTAN and put

```
\usepackage{cite}
```

in the preamble of your document.

So I did that and it all worked except that the numbers on the items in the References list at the end of the book were still in square brackets. I looked in the `cite.sty` file and found that I needed another cite option, i.e.,

```
\usepackage[super,biblabel]{cite}.
```

That worked very well, until I decided to make the text of the References text be `\small`, i.e.,

```
\backmatter  
\renewcommand{\bibname}{References}  
\small  
\raggedright  
\bibliography{biblio}
```

at which point the superscripted numbers on the References list entries became almost too small to read. I read a little more of `cite.sty` and decided I needed

```
\usepackage[super]{cite}  
\makeatletter  
\renewcommand\@biblabel[1]{#1.}  
\makeatother
```

which put unsuperscripted numbers the same size as the rest of the text in front of each entry in the References list.

Another issue had to do with URLs which were alone in the reference list. If in the main text I reference an organization's website, I often wanted to include the URL in the References list, e.g., "... CII's website\cite{CIIurl}" Then, in the References list I put an entry such as

```
@misc{CIIurl,  
  note="\url{www.ciionline.org}"  
}
```

However, that had the problem the `bibtex` added a final period after the URL, and could confuse a reader. Once again I queried `comp.text.tex` and Lars Madsen responded with the following trick:

```
\def\myurl#1#2{\url{#1}}  
...  
@misc{CIIurl,  
  note="\myurl{www.ciionline.org}"  
}
```

where `\myurl` uses `TEX`'s macro calling process to throw away the extra period inserted by `bibtex`. (Lest Lars be faulted, he told me to use `\newcommand`, i.e.,

```
\newcommand\myurl[2]{\url{#1}}
```

rather than `\def`. I don't have any valid excuse for not using `\newcommand`.)

3 Finishing

Another couple of weeks later, I once again felt I was nearing completion of drafting the book and it seemed like time to think about part and chapter running headings, which I have used in my previous books done in `LATEX` and not *memoir*. This seemed pretty complicated in `LATEX`. From reading the manual, creating running headings seemed much simpler in *memoir*. However, after thinking about it for a little while, I decided to skip having running headings for this book, for a lighter if less informative look.

I guess I am going to seek reviews with the formatting I have now, which I am thinking will be my final formatting. I haven't really used many of *memoir's* capabilities, but the few that I have used have been easily accessible. It has been a great convenience to have the *memoir* manual readily available in the directory of my book files, and I have often gone to it.

In the previous section on “bibliography, footnotes, and references,” I described how I handled the bibliography, footnotes, and references in this book. It occurs to me now that I didn't bother to look in the *memoir* manual to see if it already had a mechanism for what I wanted to do. In any case, I'm not going to make any changes in that handling at this late date.

All in all, I made the change from using L^AT_EX to using *memoir* with minimal effort and with less need to explicitly load additional packages. I assume that if I had used more of *memoir's* capabilities, I would have found it even more useful.

Appendix: Another tool

I am away from home as I write these words, using a laptop computer as I try to change the margin and text block sizes (described starting on page 2). On this laptop, the only application files I have were in a directory and subdirectories containing all the files for this book that I was working on. Therefore, it also seems like a good time to try out Google Desktop, which I have heard about but never used before. I downloaded Google Desktop, messed around for a few minutes trying to make some sensible decisions about preferences, restarted my computer (I'm not sure if this was necessary), and then left my computer alone for a while to allow Google Desktop to index the files on my computer.

Once that indexing was done (or at least well underway—it is done in the background), I tried using the Google Desktop window to search for a few phrases relating to my book project, and it quickly displayed (in Google format) links to the files where these phrases appeared.

I am not sure how much I will like using Google Desktop when I am at my home desktop computer with its 60,000 files from *innumerable* projects, but for now, Google Desktop seems like it is going to be a great help as I complete this one project.

Acknowledgments

Yuri Robbers reviewed this column, made several suggestions for improvement, and caught a number of typos. Thank you, Yuri.

As always, the people past and present at `comp.text.tex` provide much support. I also enjoy the fact that MiKTeX automatically loads packages when one gives a `\usepackage` command for a package that is not already installed. Finally, I benefit every day from the packages, format, classes, etc., that members of the TeX community write or have written; I don't think often enough to thank them.

Biographical note

David Walden is retired after a career as an engineer, engineering manager, and general manager involved with research and development of computer and other high tech systems. He holds an undergraduate math degree and completed a graduate school sequence of courses in computer science. More history is at www.walden-family.com/dave.