Book Reviews

Review of recent LaTeX books

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Helmut Kopka and Patrick Daly, *A Guide to LaTeX, Document Preparation for Beginners and Advanced Users.* Addison Wesley, 1993. 436 pages (including indexes) ISBN 0-201-56889-6.

Antoni Diller, *LaTeX Line By Line, Tips and Techniques for Document Processing.* John Wiley & Sons, 1993. 291 pages (including index) ISBN 0-471-93471-2.

Whenever I read a book that describes a computer-related topic I ask myself these questions: does this book contain information I haven't seen elsewhere, does it explain things in a way that gives new insights? And I do this especially with books on TeX or LaTeX.

In April 1992 I gave a favourable review of two books about LaTeX, two *good* books, written by Helmut Kopka. However, they were written in German, which made them inaccessible to a large portion of the TeX user community. Fortunately the first of these two books is now available in an English version: *A Guide to LaTeX, Document Preparation for Beginners and Advanced Users.* This version was written by Helmut Kopka and his colleague Patrick Daly at the German Max-Planck-Institut für Aeronomie, and is based on the fourth edition of *LaTeX, eine Einführung.* The English version is not a mere translation, but an internationalized version, where parts specific to the German language have been replaced by descriptions of, e.g., the new font-selection scheme (NFSS) and the Babel system.

As in the German original, Kopka and Daly follow Lamport's basic notion that with LaTeX the user is freed from worrying about the layout while writing a piece of text. *A Guide to LaTeX* has chapters on document and page styles, displayed text, mathematical formulas, pictures, user-defined structures and a few advanced features of LaTeX. In the appendices the authors treat the `letter` document style, including possibilities for customization, BibTeX, SliTeX, LaTeX extensions, and the CM and DC fonts.

Their book provides a wealth of information, and if the updated English version of the companion volume *LaTeX, Possibilities for Extensions* will be published by Addison-Wesley soon enough, there is practically no need for further books about LaTeX,

since almost everything beginning or advanced users need to know is in one of these two books.

In contrast with this, Antoni Diller does not present LaTeX as a system for the production of structured documents. LaTeX is a system that emphasizes structure over presentation, and that is ideally suited for the production of many instances of a certain type (class) of document, for example office memoranda or scientific articles. Instead, in *LaTeX Line By Line* LaTeX is presented as a collection of TeX macros, with which you can achieve all sorts of effects. Therefore, all examples and explanations in the book use a mix of LaTeX commands, plain TeX commands and TeX primitives.

There is of course nothing wrong with this approach, if the book is intended as a book on tips and tricks in LaTeX and plain TeX. However, the preface of *LaTeX Line By Line* clearly shows that the book is intended as a book for novice users, and attempts to explain *all* about LaTeX. In other words: it is intended as 'your first and only book on LaTeX'.

There are no glaring errors or omissions in the book, but it lacks structure, and the mix of LaTeX, plain TeX and TeX primitives will really confuse any novice user. Because of this, *LaTeX Line by Line* is not a book for beginners, even though the author writes in the preface 'This book can be read by someone who has no previous knowledge of either LaTeX or TeX.'

In the introduction of this review column I explained what the things are that I am looking for in a new computer book: what makes this book special or unique? What does it explain that I haven't seen before, or in a way I haven't read before? For what special group of people is it written? Antoni Diller's book on LaTeX isn't special in any sense; it is just another poorly written book about LaTeX, of which there are unfortunately a few too many already. *LaTeX Line by Line* contains a lot of useful tricks, especially in the area of mathematics, but they are presented in an unstructured and confusing way. Also, the title is not appropriate: it is not a book about LaTeX, but a book about how to combine LaTeX, plain TeX and TeX primitives to achieve certain special effects in layout.

A detail: both books give the old address of the TeX Users Group (that is a problem with putting addresses and similar factual information in a book).

Another detail: the book by Helmut Kopka and Patrick Daly has the nicest LaTeX logo I have ever seen — including the one on Lamport's book! No wonder, since the designer at Addison-Wesley called

Barbara Beeton and asked her what it should look like. And I must say: she did a very nice job!

The logo on Antoni Diller's book looks horrible, since the 'A' in LATEX is *much* too far to the right. Not only that, but it is also reproduced like that many times on the front cover. Add to this the poor design of the book and the fact that it was reproduced from low-resolution output, I am afraid that there is another book about LATEX on the market that I cannot recommend.

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Typesetting on Personal Computers

ET — A TEX-Compatible Editor for MSDOS Computers

John Collins

Abstract

An editor for visually editing (LA)TEX files is described. It runs on MSDOS computers. A comparison with `Scientific Word` is given.

1 Introduction

Many of us are familiar with the advantages of (LA)TEX for scientific word processing and typesetting. It provides a high quality of typesetting of complex mathematical material that is fully acceptable for the best publishers. The software runs on a wide variety of host computers. Document files are plain ASCII files that can be readily transmitted without problems between disparate computers and over network connections. In the kinds of scientific collaboration that many of us are involved in, these last advantages are very important. The portability allows electronic submission of papers to journals and electronic bulletin boards.

However, the user interface of TEX shows its great age of well over a decade. For LATEX to output

$$\phi(x,Q) = \frac{Z_2^{(Q)}}{Z_2^{(\Lambda)}} \int^{Q^2} \frac{dk_\perp^2}{16\pi^2} \psi^{(\Lambda)}(x,k_\perp), \qquad (1)$$

the user has to put up with typing

```
\begin{equation}
\phi(x,Q) = \frac {Z_2^{(Q)}}{Z_2^{(\Lambda)}}
        \int^{Q^2}
        \frac {dk_\perp^2}{16\pi^2}
        \psi^{(\Lambda)} (x,k_\perp).
\end{equation}
```

Even though this formula is quite simple, the source text is relatively complicated to edit. The reason is that one's mind has to translate the TEX source to something like Eq. (1).

On the other hand, one mostly edits scientific papers in terms of content rather than appearance. Thus it is not essential to have an editor with a full WYSIWYG ('What You See Is What You Get') display that shows on-screen exactly what one will get on paper. Remember that a handwritten equation in a colleague's draft of a paper is much easier to read than the corresponding TEX source, at least if the equation is complicated and the handwriting is neat. But one should be able to edit in terms of the content of a document, not in terms of the low-level TEX commands. This is particularly important when one is composing a document at the keyboard, as I often do, for example from the transparencies of a talk at a conference.

To handle this problem, I have written an editor called ET (for Edit TEX). It satisfies the following requirements:

- ET should allow one to edit visually the most common mathematical constructs directly, and should immediately show them on-screen. ET in fact works with Greek letters, sub- and superscripts and built-up fractions, showing them as mathematics, not as TEX control sequences.

- ET should make it easy to type and edit these objects from the keyboard. It is frustrating to navigate a menu to perform a common and simple operation like entering a single Greek character.

- ET should generate standard, or almost-standard, TEX and LATEX files, with at most a small number of special macro definitions.

- ET should be able to import an ordinary (LA)TEX file and edit it. That is to say, it can handle files generated by a collaborator who neither uses ET nor knows about it.