This is a **low resolution**, **black and white** version of the article you downloaded. To download the whole of Free Software Magazine in *high* resolution and color, please subscribe!

Subscriptions are free, and every subscriber receives our fantastic weekly newsletters — which are in fact fully edited articles about free software.

Please click here to subscribe:

http://www.freesoftwaremagazine.com/subscribe

Computers & Typesetting *by Donald E. Knuth*

Gianluca Pignalberi

Professor Donald E. Knuth doesn't need an introduction: he created TEX (a powerful typesetting system) and METAFONT (a program to design fonts). He also designed a font family, called Computer Modern, which is the default choice of TEX.

Mr. Knuth is known to write sharp and enlightening books. His books about typesetting are no exception: he wrote five books dedicated to these topics, and Addison-Wesley now sells them all in one box, entitled "Computers & Typesetting Millennium edition".

The contents

The five books are: "The TEXbook", "TEX The Program", "The METAFONTbook", "METAFONT The Program", "Computer Modern Typefaces".

The TEXbook and *The METAFONTbook* are reference handbooks that describe the commands, capabilities and drawbacks of TEX and METAFONT. If you want to learn anything about TEX and METAFONT, these books are a must.

These two programs are released as free software—Knuth describes their source code in detail in the books *TEX The Program* and *METAFONT The Program*.

Finally, the fifth book describes how Knuth programmed METAFONT to output Computer Modern font family.

One interesting feature of the book is that they have plenty of exercises (all of the solutions are published in the appendices).

Who are these books for?

The occasional reader might believe that these books are for TEX or METAFONT users. Well, that's not exactly right. I would say instead: "They are for TEX and METAFONT *programmers*".

TEX is a powerful typesetting system, but it isn't visual. Everybody could start using a visual product without reading a handbook (not necessarily obtaining good results), whereas using TEX or METAFONT needs preliminary study.

So, why should anybody use TEX rather than a visual product? Once you program TEX to obtain a certain kind of typesetting results, you can obtain these results with *any* input documents. This means that if you have a set of articles to typeset, you don't have to worry about their final aspect: TEX will do it for you. When you use a visual product, you normally have to apply every style by hand, and humans are surely more error prone than a program.

Readers can find advice concerning typography too. So, these books could be a useful read for typographers and font designers as well (as long as they have some programming skill!).

TEX and METAFONT have their own programming languages. Since Prof. Knuth has done a great job, studying the exercises, the examples and the source code will be useful to programmers using any programming language.

Pros

Everything I have written in this review should be considered *Pros*. Moreover, the quality of the edition is very high, thanks to years of bug hunting and fixing (Knuth rewards anyone who finds and reports real bugs); the covers are very elegant; the paper is fine. Of course, the author expresses the concepts using his precise and polished style—even when he slips into his humorous approach.

Cons

None.

In short

Title	Computers & Typesetting
Author	Donald E. Knuth
Publisher	Addison-Wesley
ISBN	0201734168
Year	2001
Pages	2598
CD included	No
Mark	10

Copyright information

© 2005 Gianluca Pignalberi

This article is made available under the "Attribution-NonCommercial-NoDerivs" Creative Commons License 2.0 available from http://creativecommons.org/licenses/by-nc-nd/2.0/.