

and D in such a way that I would be a candidate for such a prize if it were actually given! More seriously, I intended these books to be useful to computer scientists for self study as well as for study in college seminars. Volume D, in particular, should make a good text for a group of advanced students.

The fifth volume, volume E, is the most fun of all. I hope you will all open a copy and riffle through the pages, so that you can see what I mean. **METAFONT** is a computer language that is not very much like any other, so my goal in this book was to provide lots of examples of how **METAFONT** can be used to produce fonts of reasonably good quality. Over 500 examples appear here; they cover every letter, digit, punctuation mark, and other symbol that was used in printing these books.

The fonts you get from these programs have the general name 'Computer Modern'. My colleague Charles Bigelow has contributed an introduction that talks about Modern fonts in general. The book explains how you can make your own personal variations of the fonts, which are designed with many parameters so that they can be generated in almost limitless variety. At the end of the book there are sample pages that show specimens of 75 standard Computer Modern typefaces; and thousands of additional varieties could be generated with ease.

Even if you don't read the **METAFONT** programs in this book, I think it's appealing just to look at the pictures of these constructed alphabets,⁴ and to 'know' that the program on the page facing each letter was what 'drew' that letter; it's all there. Somehow this gives a satisfying sense of completeness and order.

The most important thing I want to talk about this morning is *HELP*. I had lots of help — literally hundreds of people who volunteered to assist this project in significant ways — beginning with Hans Wolf of Addison-Wesley, who taught me the details of the Monotype systems that had been used to typeset *The Art of Computer Programming* in the 60s. I was especially fortunate in my work on font design to have had extensive help from world leaders like Hermann Zapf and Matthew Carter.

⁴ (Editor's note.) The pictures, it was pointed out, were generated separately from the text of the examples, and pasted in. If both the raster images and the text had been incorporated at the same time, it would have exceeded the capacity of the machines used to produce the book.

Another stroke of luck was to have outstanding research associates like David Fuchs and John Hobby. Furthermore my research project at Stanford had generous financial support, most notably from the National Science Foundation and the System Development Foundation. With so much help, it would have been very hard for my research to fail. And my wife Jill gave the most help of all. (Next month we will celebrate 25 years of marriage!)

One final note: People often ask me why **T_EX** and **METAFONT** are symbolized in these books by a lion and a lioness. When Duane Bibby first came up with the lion idea, I instinctively felt that it was right, but I never understood exactly why this was, until about a month ago when I was in the Boston Public Library. I passed by the magnificent stone lions on the library's grand staircase, and I thought: "That's it! **T_EX** and **METAFONT** try to be like these lions, fixtures that support a great library.⁵ I love books, and lions represent books!" No wonder I'm so happy when I realize that **T_EX** and **METAFONT** have already contributed to the making of several dozen books of fine quality; it makes me extremely pleased to think that this research will probably contribute to the making of many more fine books in years to come.

Comments on Document Design Prompted by the New TUGboat Format

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I've been looking at the latest issue of TUGboat and wondering if I should comment. I decided that I should. It is unfortunate that I reach such a decision when we have a guest editor; the responsibility has always been there.

I *think* I now have a *little* more understanding about what a designer and a typographer and a compositor are trying to achieve in the sense of basic qualities. Note "little."

The guest editor idea was (is) fantastic. And, I can't think of better people to do it than Kellerman and Smith. They're serious and demand the best

⁵ (Editor's note.) One is also reminded of the lions that grandly guard the entrance to the New York Public Library, which celebrated its 75th anniversary during this same week.

of themselves. Their effort, like Knuth's, is one of people that learn from others rather than invent without regard to prior work. It's a fine piece of work and I hope they can find the time to share the nitty-gritty of the experience with TUG members.

I suggest that all TUG members can learn from this experience. How? Have the issue critiqued by several professional designers, typographers, compositors. Publish their critiques. That modality appears to be the predominant one for training people in the graphic arts. Work is not considered right or wrong, or a consensus sought; it is the exposure to critical review that develops the worker.

I hope that there will be other guest editors. I once suggested to Pierre MacKay that there be a competition among T_EX users where a work would be judged by professionals. My objective—provide input to users that would improve their visual literacy of typographic material. I cannot think of a better alternative to that than guest editors and subsequent critique by professionals.

Editor's note: Professional criticism has always been welcome, as have well-thought-out comments and suggestions for improvement in the appearance and utility of TUGboat. There have been presentations at several TUG meetings dealing with design issues, and there is a session scheduled for the Tufts meeting on the creation and implementation of the format used for TUGboat 7, No. 1. If any readers know any designers, typographers or compositors who might be interested in critiquing T_EX documents for publication in TUGboat, please forward their names and other relevant information to the Editor.

Software

VAX Language Sensitive Editor Templates and Guide for Use with L^AT_EX

Kathy Hornbach
Lear Siegler/Instrument Division

A *Quick Reference Guide* and VAX/VMS Language Sensitive Editor (LSE_{EDIT}) templates have been made available for distribution by TUG. The package includes both the printed Guide and the software, which consists of an LSE_{EDIT} language definition for L^AT_EX and several new styles, described below. [The software will be provided on magnetic media; for details, see the current TUG publications list.]

Using LSE_{EDIT} and the L^AT_EX language definition, a user, regardless of his/her level of experience, can quickly and easily learn to format complex documents using L^AT_EX. Use of LSE_{EDIT} reduces the amount of typing necessary by automatically supplying the user with a set of templates that define the basic structure of a given L^AT_EX style. These templates can be selected and filled in or deleted as appropriate. The novice user will use the templates extensively, while the more experienced user will use the templates as an aid in remembering infrequently used commands or formats.

The default L^AT_EX styles supported by the LSE_{EDIT} language definition are: article, report, letter and slides (SLi_TE_X). Also included are three new styles for L^AT_EX: memo, MIL-STD-490 documents, and book form documents. These new styles are supported by the LSE_{EDIT} language definition.

VAX/VMS format HELP library entries are included for most of the features in version 2.09 of L^AT_EX and SLi_TE_X.

Use of this package requires that LSE_{EDIT} be installed.