

General Delivery

From the President

Bart Childs

When I first started writing this, I was about to say "there is little to report." That is not the case. The T_EX community and TUG have been quite busy and there are many things to report.

You were informed in vol. 9, no. 1 that TUG headquarters was moving to a fire station. It has happened! Our separation from AMS is not like a divorce, it is more like sending your child off to grow up. We are appreciative of the support from AMS in getting us started. TUG will still be a customer of AMS in many ways and we expect to continue to have excellent relations. Please bear with us, because moves are never the easiest things to live through.

Dean Guenther has put together an excellent program for our annual meeting in Montréal. It certainly promises to be another great meeting.

One topic we might want to consider at the meeting is scheduling BOFs for some of the "personal" systems (IBM PC, Macintosh, and others), and perhaps making sure there is adequate representation for users of these systems on the Steering Committee.

I hear that Robert McGaffey's committee is sending a lot of paper back and forth in their work on driver standards. That is a big task and any progress will be worthwhile.

We are moving forward with a special study group to try to standardize our classes with syllabi, milestones, checklists, prerequisites, and tests. We are also discussing means to try to increase the success rate of offering courses. Too often, we have to cancel classes due to inadequate enrollment. Alan Wittbecker, TUG's T_EXnical Director, will be closely involved in these activities.

Some of you have probably noticed that we have new classes of institutional memberships. Organizations with large sets of T_EX users can now conveniently and economically involve more of their T_EXers. Texas A&M (of course) and Los Alamos National Laboratories have taken advantage of this.

Los Alamos Sets New Membership Record

Ray Goucher

Los Alamos National Lab set a new membership record when it renewed its 1988 Institutional Membership listing **52** individuals!

At TUG's 1985 annual meeting at Stanford University, the Lab sent half a dozen staff members to investigate the feasibility of adopting T_EX. In addition to participating in the meeting, several attended the T_EX courses which were being offered. In September, Gary Benson called and asked if TUG would do an in-house T_EX course for the Lab. Since then, about two dozen courses at all levels of T_EX and L^AT_EX have been conducted at the Lab, attended by more than three hundred staff members.

What an undertaking! What an accomplishment!

Congratulations! And **thank you** to all at the Lab who helped make this endeavor such a rousing success, especially Gary Benson, Gary Doolen, David Kratzer, and Pat Vucenic! And a very special thanks to our instructor, Stephan v. Bechtolsheim, who spent so much time commuting between Indiana and New Mexico that he must have given serious consideration to taking up residence in Los Alamos.

Donald Knuth Awarded Franklin Medal

At the Franklin Institute's Medal Day program on April 13, Donald E. Knuth was awarded the Franklin Medal, in recognition of his work in the fields of computer science and typesetting.

The Franklin medal, established in 1914, is the highest honor bestowed by the Committee on Science and the Arts of the Franklin Institute, and is awarded to those involved in physical science and technology who have advanced a knowledge of physical science or its application. The medal was first awarded in 1915 to Thomas Edison. Other medalists include Wilhelm Roentgen, Edwin Land, Albert Einstein, and Marie Curie.

Knuth's citation recognizes him for the development of T_EX, and for the series of books *The Art of Computer Programming*. The same series of books was also recognized by an earlier award, the American Mathematical Society's Steele Prize for Expository Writing, presented in 1986.

T_EX in a Publishing Environment: A Survey of Production/Commercial Users

Elizabeth M. Barnhart
TV Guide

How the Question of T_EX in the Production Environment Started

In August of 1987, members of **TV GUIDE**'s staff presented a paper at the Annual TUG Conference. A discussion of the needs and problems of production users of T_EX as opposed to individual academic users followed.

When we first got involved with T_EX, in 1985, we discovered that a large percentage of the T_EX community consisted of academic users of T_EX, but that few production typesetting applications were using T_EX. However, it seems that in the last few years more publishing operations are adopting T_EX for parts of their typesetting production.

Sample Problems in a Production/Commercial Environment

Although T_EX has many positive features, problems were encountered by production users as they experimented with the T_EX language. Discussions with other production users at the Conference in Washington led to some of the following points being raised.

The individual academic user is usually involved with a relatively small quantity of output—from a few pages to perhaps several hundred pages. In contrast, production users deal with much larger volumes of output—and on strict production deadlines—posing quite different processing problems.

In the typical academic environment, one person might key in text through a word processor or PC editor and handle the style and output of the text by the insertion of typesetting commands directly into the text. In a publishing environment, the flow of capturing keystrokes and correcting files may be done by many people in several areas and revisions have to be passed around easily. Output is handled by feeding items through predefined typesetting-specification files created by a specialist.

One problem encountered is that T_EX was designed for wide columns. When working with narrow-column type for multi-column output, many adjustments have to be made to the `\tolerance` and penalties that control the line-breaking algorithm in T_EX. However, it has been pointed out that as you become more familiar with T_EX, making these adjustments is relatively easy.

T_EX is a paragraph setting composition language; most other composition languages set type line by line. In line-by-line systems, once a line of type has been hyphenated and justified, it is closed and will not be changed; T_EX can rework a paragraph completely differently when one word is eliminated. This can present some problems in a production environment, since knowing exactly where a line breaks is often important, for example when laying out multiple items on a page.

Another difficulty discussed is the fact that when T_EX produces a .dvi file, the fonts involved lose their identity. They are assigned a number in the font table contained in the “postamble” of the .dvi file. Some environments need to be able to convert text stored on a database back to the original format, so they must be able to reconstruct the font calls made in the original text. Sending “notes” to the .dvi file using the `\special` command can be used to handle this.

One of the biggest problems that most users faced was the complexity of defining page layouts with “output” routines. There can be many different types of output required in a publishing environment since this is all governed by the type designer's specifications for each job processed. Someone with quite a bit of T_EX knowledge has to be available to create these varying output routines. Creating large “runaround” text can be complicated, but with some adjustments to how T_EX sees paragraphs, this can be handled.

In the publishing world there is also the question of tracking errors, separating “PEs” (Printer's Errors) from “AAs” (Author's Alterations). T_EX has no facility to track this sort of thing.

The Point of this Discussion and Survey

The idea of surveying production users to identify their needs and problems was discussed. I was asked to create a questionnaire and circulate it to the production users of T_EX. A questionnaire has been developed; it begins on the next page. You can use this questionnaire to let us know if you have encountered similar problems, or others that are unique to your production environment. Please take the time to fill it out and return it by September 1, 1988. Results of this survey will be published in a later issue of *TUGboat*.

Information gathered here could lead to future articles or a section of *TUGboat* devoted to the problems of production T_EX users and solutions gathered from the T_EX community.

Production/Commercial T_EX Users Questionnaire

Company:

Representative's Name:

Street Address:

City, State, Zip:

Phone:

1. What typeset product is the main output of your organization?

General Topic Books

Technical Books

Magazine

Journal

Labels

Directories

Forms

Newspaper

Internal Documents

Other: _____

2. Are you using T_EX now for output of any typeset pages?

Yes No

2A. If yes, what percentage of your typeset output is produced by T_EX? _____

2B. If no, are you experimenting with the use of T_EX in your production? _____

3. In what environment are you using T_EX, mainframe or micro?

Mainframe (Make/model, operating system?)

Micro (Make/model of machine(s)?)

4. On what type(s) of device(s) are you producing output? Specify make and model of machine.

Laser or impact printer

Typesetter

Outside service bureau

4A. Is your proofing output produced on a different device than camera copy? If yes, have you had problems with font compatibility, and how have you solved them?

Yes No

5. How do you feel about the level of training required to use T_EX for typesetting? Please explain your answer.

Less than other systems

More than other systems

About the same

6. Do your keyboarders really have to know T_EX, or is it "hidden" from them? (Please explain.)

7. Who creates the code for output routines, etc., in your environment? (Explain.)

An in-house T_EX guru

Consultant

Production personnel

Other

8. Do you use Plain T_EX or a "standard" macro package? Which package(s)?

Plain Macro package

9. Where and how do you get fonts not delivered with the standard T_EX release?

10. Have you used METAFONT at all in your installation? Explain.

11. What have been some of the problems you have encountered trying to develop the use of T_EX in your environment?

12. How did you find out about T_EX?

13. What do you feel are T_EX's strong points?

14. What do you feel are T_EX's weak points?

15. What would you change about T_EX if you could?

16. What sources have you used to help with T_EX problems? (Please explain.)

- T_EX Users Group in Rhode Island
- AMS Offices
- Copies of *TUGboat*
- Knuth's *The T_EXbook*
- T_EXhax
- T_EXMag
- Courses offered in T_EX
- Other

16A. If you have contacted the TUG headquarters, were they able to answer your question or solve your T_EX problem for you?

- Yes
- No (Explain.)

17. Can you think of any areas where the T_EX Users Group could be of help to you?

18. What do you anticipate will be your future involvement with T_EX?

Please fill out by September 1, 1988, and return to:
Elizabeth Barnhart
National EDP, TV Guide
100 Matsonford Road
Radnor, PA 19088

Editorial Comments

Barbara Beeton

First, I would like to apologize for the many errors that crept into the last issue. Some new production procedures were being instituted, and some of the final checks that should have been made just didn't get done. Through the end of volume 8, production of TUGboat was essentially a one-person job—mine. The TUG office now has a staff TEX nician, Alan Wittbecker, as announced in the last issue, and he will be the TUGboat Production Editor. This means that he will acknowledge incoming items, maintain the administrative records, assist in the TEX ing and makeup, and make sure that everything gets to the printer on time. The EDITOR will still be responsible for what does or doesn't get accepted for publication, and will still nag contributors about accuracy, grammar, and other sundry details of that sort.

Some of last issue's errors are amended by errata or addenda in this issue. One omission, TUG's new telephone number, was beyond our control—the phone hadn't been installed until after the copy was delivered to the printer. Though it's listed elsewhere in this issue, here it is again: 401-751-7760. However, we should have gotten the ZIP code for the new address right; it's 02904. Please change it on the last line of page 5.

Several names and addresses of authors were omitted from the last issue. All have been included in this issue's address list.

The most egregious omission was that of Barry Smith's Macintosh site report. It contained two major announcements. The first was Addison-Wesley's withdrawal from the TEX software business, and Kellerman & Smith's assumption of the distribution of *Textures* (as the implementor of *Textures*, Barry was already handling maintenance). The second announcement was that a new version, 1.01, had been released, and that K&S were trying to let all registered users know it was available. Kellerman & Smith have now gone their separate ways. Dave will continue to handle the VAX/VMS work from his new company, Northlake Software, and will be the new VAX/VMS site coordinator; Barry, at Blue Sky Research, will deal with the Macintosh world and *Textures*. Our best wishes to them both.

In order to help keep future submissions to TUGboat from getting lost, a new mail drop has been set up on the Math Society's computer: TUGboat@Math.AMS.com on the Internet. Send your articles and your questions there, instead of directly to me. I'll be checking it regularly, and so will Alan,

but if either of us is out of town, someone else will be assigned to check it, acknowledge the receipt of messages and inform the senders how long it will be until someone is actually there to read them.

We keep hearing requests that items from TUGboat be made available on-line. A subdirectory <TeX.TUGboat> has been created at Score, where it will become part of the standard the TEX distribution, and it will gradually be populated with macros that have been the basis for articles in the Macros and $\text{L}\text{A}\text{T}\text{E}\text{X}$ columns, and with other selected items. As a start, the macros used to produce TUGboat are already there, along with a couple of sample articles. Our current plan is to start with the latest issue, and work backwards. But if you have a favorite macro from an earlier issue that you'd like to see moved higher on the list, please let us know. (You can use the new mailing address ...) The macro for trees, by David Eppstein (6#1, pp. 31 ff.) has already been requested. I will be getting in touch with the keepers of additional repositories on Bitnet (TEX -L, etc.) and elsewhere, to arrange for inclusion of these files in their collections.

Finally, I'd like to thank all the readers who have had kind words for TUGboat—that's what makes all of this worthwhile.

Software

New Version(s) of TEX and METAFONT

Barbara Beeton

Not long before the printer's deadline, I received a message from Don Knuth—yet another bug, one that affected both TEX and METAFONT. It's been fixed. We're now up to TEX 2.93 and METAFONT 1.5.

During 1987, twelve bugs were found in TEX and two in METAFONT; so far in 1988 the count is six bugs in TEX and two in METAFONT. Some of them have been pretty obscure (the finders constructed samples akin to the TRIP test to do their worst), but some of the bug fixes will solve problems that have been bothering users for a long time without their knowing quite what was wrong.