President's Column

Nelson H. F. Beebe

1 Looking back

This is my last communication to you as President of the TEX Users Group for 1990–91. The past two years have seen considerable changes in the TUG office and the TUG Board, and change is often painful. With the new election procedures described in the pilot issue of *TEX and TUG News*, next year may see more changes, with possibly a very different membership on the Board. I wish the organization well, and hope that it can overcome the financial difficulties that it has suffered during the last three years, and move on to serve an ever-increasing number of TEX users. You can help: find some friends or colleagues who use TEX, but don't know about the TEX Users Group, explain the benefits of membership, and get them to join.

If I reflect on the last two and a half years, I confess that my biggest disappointments have been the turmoil in the Board, and the financial limitations that have prevented support of some important activities, particularly research into new directions in typography, such as the LATEX 3.0 redesign project, and beginning the groundwork for the design of possible successors to TEX and METAFONT.

Since the question of the names of descendents of TEX and METAFONT, in view of Don Knuth's wishes for immutable programs expressed in [13], has caused considerable confusion in the TEX community, I requested a clarification in a telephone conversation with Don a few days before writing this.

He made it quite clear that he wishes only that the names TEX and METAFONT be permanently bound to those programs as he wrote them; variants on the names, such as E-TEX [14], VTEX [19], or `nmf`, *are* acceptable to him. New names should be sufficiently different that there is no possibility of confusion with the old ones, even when accents are dropped, or letter case is mangled.

I must therefore retract my call [2] for a change in the name VTEX. So that no confusion remains as to my motives, I reiterate my position that experiments with new designs, like VTEX, MetaPost [11], Lilac [6], and the work of Luigi Semenzato and Edward Wang [16] are *vitally important* to the future of computer-assisted typesetting.

Don did express his hope that the architect(s) of any descendants of TEX and METAFONT will stand behind the new programs, as he has for his own creations.

2 Looking forward

One of my goals as President was to enhance access to TEX archives. The `tuglib` server at Utah has been operational for over a year, providing electronic mail access to archives for those who lack Internet `anonymous ftp` access. A preliminary description of the server appeared in UK TEXline at the Cork meeting last year, and is being reprinted by NTG. *TUGboat* publication of a revised version is scheduled for spring 1992.

The TUG office is collaborating with Jon Radel to provide distribution of TEXware on floppy disks.

The `tex-archive`, `tex-implementors`, and `tex-fonts` lists now provide a way for worldwide coordination of related activities. Maintenance of consistency in archives is a very large problem, because with several operating systems in use at archive sites, there is as yet no easy way for them to exchange files automatically. Eventually, we must find a solution, because the job is too large, and too important, to be relegated to fallible humans. The file headers described below provide a way to verify correctness and versions of files fetched from archives.

The Cork font standard should offer a solution to the use of 8-bit character sets with TEX 3.0. Work on extended Computer Modern fonts is nearly complete. The LATEX 3.0 development has had excellent ground work done, and I fully expect that the final product will be truly international.

TEX servers grow in number and size; the Aston server in the UK now even has its own Internet address. Within a few months, we hope to see it accessible from the Internet.

TUG membership now includes members from 51 countries, and over a dozen national/regional/language TEX user groups cater to the needs of specific segments of the TEX community.

TUG has launched a newsletter, TTN, to supplement *TUGboat*, and provide a forum for less technical communications.

TUG'92 will be held in Portland, Oregon, on July 27–30, 1992.

Malcolm Clark, the new TUG President for 1992, comes to us with ample TEX experience. He has written or edited at least three books with TEX, co-organized the EuroTEX88 meeting, edited and produced TEXline, chaired the UK-TEX group, and taught many courses about TEX and electronic document production. I'm confident he will do a fine job, and I'm sure you'll enjoy reading his contributions to *TUGboat*. Good luck, Malcolm.

3 News Items

3.1 EuroTEX91

The Sixth European TEX conference was held in Paris, France, on September 23–25, 1991, followed by the GUTenberg'91 meeting on September 26. About 120 people from at least 21 countries attended. The conference papers have already been published as numbers 10 and 11 of *Cahiers GUTenberg.*

Several papers dealt with the use of TEX in languages with accented characters, and working groups met daily for the polishing of the font standard proposed at the Cork meeting in 1990. We heard progress reports from representatives of each of the user groups, and I was pleased to hear that TEX is now being used for typesetting several journals in Eastern Europe.

The organizers did a fine job. Meals were provided one floor above the meeting hall. About ten workstations with Internet connections were freely available, allowing participants to login to their home machines to read mail and exchange software; this is a valuable service which I hope can become a tradition at future meetings. Simultaneous translations between French and English were provided. Participants were lodged in various Paris hotels, but thanks to the efficient Métro system, could quickly reach the meeting site.

EuroTEX92 is scheduled to be held in Prague, Czechoslovakia, in the month of September.

3.2 Project Gutenberg

I recently came across Project Gutenberg at the University of Illinois in Urbana/Champaign. Here are some comments from literature I obtained from them:

> The purpose of Project Gutenberg is to encourage the creation and distribution of English language electronic texts. We prefer the texts to be made available in pure ASCII formats so they would be most easily converted to use in various hardware and software. ... Our goal is to provide a collection of 10 000 of the most used books by the year 2001, and to reduce, and we do mean *reduce*, the effective costs to the user to a price of approximately one cent per book, plus the cost of media and of shipping and handling. Thus we hope the entire cost of libraries of this nature will be about $100 plus the price of the disks and CD ROMS and mailing. ... The easiest way for you to find out about Project Gutenberg is via subscription to the GUTNBERG listserver. You can do it by sending the following message to `listserv@uiucvmd.bitnet`:
>
> `SUB GUTNBERG your name`
>
> Your name must have at least two words. ... Please do not hesitate to ask for specific information so it is included in the GUTNBERG mailings. Please send these question messages separately from your subscription message.
>
> Michael S. Hart, Director, Project Gutenberg
> National Clearinghouse for Machine Readable Texts
> Bitnet: `Hart@uiucvmd`
> Internet: `Hart@vmd.cso.uiuc.edu`
>
> The GUTNBERG server is located at `gutnberg@uiucvmd.bitnet`. The Internet address is `gutnberg@vmd.cso.uiuc.edu`.

The 21-year old project is currently producing electronic versions of materials in the public domain, or for which copyright permission can be obtained, at the rate of one book per month. Plans are to double production yearly, and preparations are underway to produce a CD ROM of the current holdings. The collections are accessible for Internet `anonymous ftp` on several machines. The main archive is at `mrcnext.cso.uiuc.edu` in `~ftp/pub/etext`.

Through the GUTNBERG list, I uncovered another interesting effort at Georgetown University in Washington, DC, which reports

> Our project is involved in the cataloging projects around the world that are involved in the creations/storage/dissemination of electronic texts. So far, we have recorded the activities of over 320 projects around the world.

The catalog I received covers mainly the humanities, and only a small portion of the projects are accessible electronically.

3.3 Bibliography collections

The bibliography project mentioned several times in these columns continues to grow, with some collections receiving several updates a week. There are now over 51 000 lines in the bibliography files. A snapshot of the TEX-related material was published in the May 1991 TEX Users Group Resource Directory, which all of you should have seen by now.

Conversations that I had with representatives of several publishers at the TUG91 and EuroTEX91 meetings this year indicate that there may be another 1000–2000 books typeset by TEX that have not yet been included. I will continue efforts to get these incorporated, but the volume is large enough

that it will have to be from machine-readable material that can be manipulated into BibTeX form with the help of the wonderful `awk` language [1].

A recently added collection is the files `ep.*`, containing entries for papers from several recent electronic-publishing conferences; kudos to Karl Berry for initiating this one.

The collections are accessible via `anonymous ftp` to `math.utah.edu` from the directory `~ftp/pub/tex/bib`, and via electronic mail to `tuglib@math.utah.edu` with requests `help` to get started, and `send index from tex/bib` to find out what is there. Each BibTeX file has a corresponding LaTeX file to typeset the complete bibliography, and there are several supporting style files for BibTeX, LaTeX, and TeX.

3.4 Errata collections

I have recently established a new directory on `math.utah.edu` to hold errata files; any book in the bibliography collection is eligible for representation. The new book on LaTeX by Jane Hahn [10], and the new book by Raymond Seroul and Silvio Levy [18] (both cited in earlier columns) are covered there, as are some earlier books about TeX and LaTeX. Several of these errata and comment summaries can be typeset by LaTeX using a style file, `erratum.sty`, included in the collection.

You can find these files in `~ftp/pub/tex/errata` with `anonymous ftp`, or in `tex/errata` with the `tuglib` server.

3.5 Standard file headers

The file headers described in my editorial [3] a year ago are now being generated in new additions to the archives with the help of GNU Emacs Lisp code in the file `filehdr.el` stored with the bibliography collection. This code is quite general, and easily customized; it knows how to generate file headers for more than 110 different file types and over 60 different computer languages. Functions are provided for updating major and minor version numbers, dates, and checksums. The function `update-file-header-and-save` does all of those jobs, making it painless to maintain the headers after a file has been edited. Extended documentation will be available in LaTeXinfo format, which permits producing both a typeset manual, and on-line documentation.

Robert Solovay's `checksum` program in CWEB described in [4] is available for `anonymous ftp` from `math.utah.edu` from the directory `~ftp/pub/tex/pub/checksum`, and via electronic mail to `tuglib@math.utah.edu` with the request `send index from tex/pub/checksum` to find out what is there. `checksum` should compile and run on any system that has a C compiler, and an IBM PC executable is included in the distribution.

I encourage TeX archive sites, and authors, to incorporate these headers and checksums in files that are expected to be exchanged between systems. The American Mathematical Society has incorporated similar headers in the September 1991 release of $\mathcal{A}\mathcal{M}\mathcal{S}$-TeX 2.1. During the next year, I expect that tools will be developed to scan file directories, extracting information from the file headers to produce catalogs, abstracts, and version summaries.

Perhaps some clever programmer will volunteer to convert the approximately 1100 lines of code in `filehdr.el` to another editor language, such as that for `jove`, which runs on Apple and IBM personal computers, as well as UNIX and VAX VMS, so that the support for the file headers becomes readily available to a larger number of users.

3.6 Typesetting computerese

Peter Neumann's *Inside Risks* column in the Communications of the ACM [15] recently commented on the garbling of net addresses by LaTeX, `troff`, and hyphenation algorithms. Such problems have bothered this author, and I'm sure, the *TUGboat* editors.

Some time ago, I wrote a prototype of a TeX macro to typeset a string of characters in typewriter text, with discretionary breaks automatically inserted at punctuation characters, so that TeX could do a good job of line breaking without the tedium of the user having to supply explicit break points. I used it in the bibliography collection for file names, host names, and electronic mail addresses.

My implementation was not optimal, so after a redesign attempt that still did not meet my goals, I passed the problem off to Philip Taylor who kindly provided a robust solution. The macro is invoked as `\path|...|`; as with LaTeX's `\verb|...|`, you can pick the argument delimiters. However, the package goes further: you can specify the characters at which line breaks are permitted by saying something like `\discretionaries|-@%.!|`, which is a suitable set of break points for electronic mail addresses. This makes it easy to customize the line break points for particular applications. The default break set is all punctuation characters. The macros are available in the bibliography collection at Utah in the file `path.sty`.

3.7 New Books

As far as I am aware, as I write this, only one new book on TEX in English is in press, although I know of several others that are close to completion. Arvind Borde's *TEX by Example* [5] should be available from the publisher by the time you read this. I myself have not seen it yet.

Don Knuth informs me that the first book published by Soviet MIR Publishing using TEX will be a Russian translation of *Concrete Mathematics* [8], using special Concrete Cyrillic fonts designed with METAFONT especially for the book, following the style of Concrete Roman [12].

I recently obtained a copy of the book *Code Typographique* [7]. It is a comprehensive collection of rules for French typography, and for the typesetting of several foreign languages in French texts. It includes tables of diacritics for most European languages, plus hyphenation rules for English, German, Greek, Italian, Latin, Portuguese, and Spanish.

3.8 New TEX packages

TEXhax recently reported an implementation of a LATEX extension for Arabic typesetting [9]; it includes METAFONT sources and LATEX style files. This is a preliminary distribution from Prof. Klaus Lagally <lagally@informatik.uni-stuttgart.de>. The collection is stored on servers at ifi.informatik.uni-stuttgart.de and niord.shsu.edu, and may be expected to appear on others as well.

3.9 Electronic mail

Users of electronic mail have frequently experienced problems of corruption (particularly in TEX files), truncation, non-delivery, and the general inability to send 8-bit character data without special encoding. A June 1991 Internet Draft entitled *Mechanisms for Specifying and Describing the Format of Internet Message Bodies* can be obtained by sending an e-mail message with the text SENDME DRAFT.BODY* to d-vlserv@shsu.bitnet. It describes a proposal for extending electronic mail support to character sets other than US-ASCII, inclusion of binary data and image and audio fragments, and tagging of mail objects to convey type information, using a syntax compatible with SGML. As a draft, this document is circulated for comment only: in no way does it represent a commitment from the Internet authorities or network software developers. Nevertheless, I found particularly interesting its incorporation of a "text-plus" type which includes TEX, troff, and PostScript, and several proposed binary formats, one of which is TEX DVI. This may give us hope that by mid-decade, electronic mail may be much less troublesome for TEX users.

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Editorial Comments

Barbara Beeton

It will not escape your notice that there has been a considerable delay between the previous regular issue and the present one, with the result that some items are no longer "fresh". This is regrettable, but I hope their usefulness is not affected by the delay.

Some of the news we have to offer is sad, but there are also some bright spots.

Cathy Booth, a remembrance

Cathy Booth, one of the most dedicated TEX supporters in the U.K., was defeated by cancer last July.

I remember meeting Cathy first at the TEX meeting in Strasbourg in 1986. She was cheery, outgoing, and always ready to help someone else.

With Malcolm Clark, Cathy organized the "TEXeter" meeting in 1988. For me, the local arrangements for this meeting were the most successful of all the EuroTEX meetings, with all the participants housed in a single Exeter University residence. Plenty of lounges and discussion areas and few distractions made it easy for everyone to really get to know one another. Cathy was the person to thank for this.

Our contact continued at TUG and other EuroTEX meetings, and in between, through electronic mail. It was a real shock to learn that she was ill, not from Cathy herself, but from a mutual friend.

I last saw Cathy in Cork, at EuroTEX'90. As always, she spread cheer and caring, even when she was obviously very tired and just keeping up was a great effort.

Her friends in the UKTEXug have established a fund in her memory, and the prize for the best paper at EuroTEX meetings has been named in her honor. All her many friends will miss her. I am glad to have had the opportunity to know her.

Sam Whidden, a remembrance

Another TEX stalwart lost to us was Sam Whidden. A more formal recollection follows this column. However, I can't omit saying what a good boss and friend he was for so many years. He helped mold the way my generation of AMS employees approach and solve problems. Sometimes he just didn't let on that he thought something couldn't be done, and was rewarded by seeing it done by his staff who didn't know any better.

The department Sam built was remarkably free of bureaucracy, and he always gave us opportunities to learn interesting new things. I hope that I pass on some of that enthusiasm to others. My world just isn't the same without Sam around.

Trip report: EuroTEX, GUTenberg'91

The sixth European TEX Conference took place on 23–25 September 1991 in Paris. Like previous editions, it was attended by a diverse collection of speakers and audience, on this occasion 121 people from 21 countries, including several in eastern Europe.

The spread of (LA)TEX in new geographic and language areas was a recurring theme throughout the conference. Reports were presented on activities and developments in Russia (and separately Siberia), Czechoslovakia, Poland, Hungary, Turkey, for African languages, for languages using Arabic scripts, and other topics related to linguistic and multilingual support. Several of the formal presentations on these topics appear in the proceedings, which form N° 10–11 of the *Cahiers GUTenberg*, distributed as part of the registration materials.[1]

Other presentations included updates on existing packages — Babel, MakeIndex, LAMS-TEX, and of course LATEX 3.0 — and reports on new work — database applications, SGML, windowing environments, tree structures, and color.

[1] See abstracts of this issue of the *Cahiers*, p. 101