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# TEX and TUG NEWS

for and by the TEX community

A Publication of the
TEX Users Group

Electronic version

# TeX and TUG NEWS

## Mission Statement

The TeX Users Group (TUG) provides leadership:

1. to encourage and expand the use of TeX, METAFONT, and related systems
2. to ensure the integrity and portability of TeX, METAFONT, and related systems
3. to foster innovation in high-quality electronic document preparation

*TeX and TUG NEWS* is a newsletter for TeX and LaTeX users alike: *a forum for exchanging information, tips and suggestions*; *a regular means of communicating news items to one another*; *a place where information about TeX and TUG can be quickly disseminated.*

Throughout the newsletter "TeX" is understood to mean TeX, LaTeX, AMS-TeX, and other related programs and macros. *TeX and TUG NEWS* is produced with the standard LaTeX distribution, and is to be as portable a document as possible.

The entire contents of this newsletter are being placed in the public domain. The source file of this issue will be placed in the CTAN archives. Copying and reprinting are encouraged; however, an acknowledgement specifying *TeX and TUG NEWS* as the source would be appreciated.

Submissions to *TeX and TUG NEWS* should be short, the macros must work, and the files **must** run without special font or graphics requirements: this is to be a *portable* newsletter (the new font selection scheme has not yet been implemented). Correspondence may be sent via e-mail to `tug@tug.org` with the subject line `NEWSLETTER`. Advertisements are accepted in TTN: contact the TUG office for details.


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|---|---|---|
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# Editorial

We're back again, with another issue of news and helpful hints from our regular columnists.

Peter Flynn's back (pp. 3–5) with more tidbits on typesetting — and yet another nifty little `.sty` file you'll probably want to acquire. New Publications by Peter Schmitt continues to include articles about TEX — if you know of any, please get in touch with him (pp. 6–7). Jeremy's column has some pretty neat stuff too — see pages 8–12. However, this will the last column for Robert Becker (pp. 17–19), who's moving on to other interests. I'd like to thank him for the columns he's given us, and for his hints in the current one.

In TTN 2,2:20, I reported on *La Lettre GUTenberg*, and that it was going to use a different font in each issue. They're now on issue no. 3, and so far, they've kept to their word: *Rotis* was used in no. 0, *Stone* in no. 1, and now *Lucida-Bright* in no. 3. From now on, we'll make a note of the font in our New Publications column — you might consider becoming a member of GUTenberg, if only for the font samples! And perhaps we could inveigle someone to bring sample copies to post at the annual meeting this summer. It's quite a nice treat to see these issues.

Contests? Were you mildly intrigued by the last one? We have winners! But we have an even better contest lined up for you now! Go to page 28 and find out more. And for those who've been reading *La Lettre GUTenberg*, they've had a few interesting ideas as well!

But we mustn't forget the first contest we ran: the "A-in-LATEX" contest results are in! And the winners are:

| | |
|---|---|
| Basic solution: | Peter Schmitt |
| Elegant and sophisticated solution: | Jonathan Fine and Jean-luc Doumont |
| Guru solution: | nobody ... |

Their full-blown, glorious solutions will be appearing in the next *TUGboat* issue (sorry, we don't have the space here). Congratulations to the winners, and to all those who sat down and argued with TEX and LATEX for a while.

**Membership numbers are coming!** Starting with the 1994 members, we will finally be assigning membership numbers. This was to have been sent out with the TUG'94 registration material, but there's been a bit of a delay. You will be receiving your membership number (which will always be yours, as long as you're a TUG member) via e-mail or regular mail during the next two months or so. And eventually this number will appear on all mailing labels. We just need a little more time to get all the bugs worked out. By July, we should all be tagged, though `;-)`.

More from the office front: some of you may have noticed what seem like long delays in e-mail traffic, or even complete silence to your queries. It's because of the `uucp` connection which we currently have — recently, it's been really unstable. Please — if you are corresponding with the office, it might be more effective (and less frustrating) if you use FAX or regular mail for the next while. We expect to change the network connections and upgrade to a proper link, but in the interim ...

**Getting these newsletters out.** *Mea culpa*! The last issue's Table of Contents page bears the date 199**1**! It should of course have read 199**4**.

Have you ever been working in `report.sty`, and found that cross-referenced labels start with zero: e.g., Fig. 0.1? Maddening when you're really too busy to try and figure this one out. I found it maddening ... it was in Peter Flynn's column. Solution? Insert `\setcounter{chapter}{1}` to force the "0" to kick up to "1": we're usually so busy writing up our sections and subsections and subsubsections that we forget that above "section" in the LATEX hierarchy comes "chapter" (and above that, there's "part").

Another command I've found occasionally useful is `\centering{...}`, rather than the more usual `\begin ... \end{center}`.

And finally, some new elements we're considering: (a) occasional updates on CTAN; (b) carrying want ads ("Looking for signed copy of the *The TEXbook*" or "Selling all my *TUGboat*"); and (c) news from vendors.

The CTAN updates would include such information as the following:

> After you ftp over to a CTAN node, you probably sit there and try to think "now where would they store `xxxxx.sty`?". Instead of digging through the whole archive, try this: `quote site index` < *filename* >. AND USE LOWERCASE!! It's case-sensitive and there was a bit of confusion in some early documentation. But give it a try. And feel less intimidated next time you step up to the ftp plate. Note: if you turn off messaging by using a hyphen as the first character of your password, this won't work.

For want ads, we need to first see if there's a wide-spread demand for this. Send your comments and suggestions to `cthiele@ccs.carleton.ca`.

And with this issue, I've started a subsection in the (LA)TEX column called "News from vendors", since I keep getting their flyers! I don't pretend that this is all the news that's out there — consider it a sampling. Send your comments and reactions to me as well.

Well, I've had my say here for this issue — hope you enjoy reading the rest of it! And plan on coming to Santa Barbara — it's going to be a terrific 15th anniversary meeting: see pp. 22–23 for the prelimary program.

Christina Thiele
Editor, *TEX and TUG NEWS*

# *Typographer's Inn*

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## Shady practice

A call for help on the `comp.text.tex` Usenet newsgroup a while back asked how to create a shaded box superimposed on a word like this. I cooked up a macro to do it, and posted it on the newsgroup, but since then I've been experimenting with more general applications and come up with some twiddles which could be useful in technical documentation.

I'm not going to show them here: if they're ready in time they might be in a paper to the annual conference at the TeX Users Group Meeting (this year it's in Santa Barbara, California, July 31–August 4). Book early for a seat: if you use, support or sell TeX, this is the one show you can't afford to miss.

## Ditto marks

Chet Creider of the University of Western Ontario has noticed that grammars published in England have a distinctive 'ditto' mark consisting of a right double quote at the same level as a comma (Wright & Wright's *An Elementary Old English Grammar* [OUP]) but American ones did not (Smyth, *Greek Grammar* [Harvard]). He asks if this has been implemented in TeX/LaTeX.

I know some non-English-language implementations of TeX used to define open-quotes „like this“, and the DC fonts do it with extra sorts, but I have also seen ditto marks using commas cast at the x-height, and I have used these in Fig. 1.1. What do other people use? That is if they use anything — with computer-generated tables, ditto marks are not used to avoid having to reset the same word or number over and over again, but I feel they have a valid place as they indicate explicitly what the eye may miss in scanning large amounts of figures: exactly where a repeated value ceases to repeat.

## Mailbox

In January, our editor Christina posted the table in Fig. 1.1 to the `TYPO-L` mailing list. It shows the result of setting five pages of text in different fonts. The differences are due to the 'set' of each font, which is a measure of the horizontal space that an alphabet will occupy (and which foundries used to quote as part

| **Font face** | **Lines per page** | **5 pages 'normal'** |
|---|---|---|
| Times New Roman | 43 | 4.5 |
| Palatino | ,, | 4.75 |
| Computer Modern | ,, | 4.7 |
| New Century Schoolbook | ,, | 5 |
| Pandora | 42 | ,, |

Figure 1.1: Set widths in various fonts.

of the specifications of a font). My gripe a while back was that Palatino (for example) was implemented with too narrow a set in the Adobe version.

Frans Goddijn from the Netherlands pointed out that Huib van Krimpen, the Dutch typographer, in a lecture for the NTG (Dutch TeX users group), went into detail on the very exact calculations a typographer has to make before deciding how to change fonts or layout, and remarked dryly that 'using a DTP computer for typesetting is not the same as doing typography. But from the prints you see, it is obvious that many [people] *think* they are...' I hope he wasn't referring to TeX.

## Books

Christina also recommends Alex White's *How to Spec Type* [Watson-Guptill Publications, New York, 1987], and Tony Galt from Wisconsin says that those interested in Zapf and Palatino (and his other faces) might enjoy *Twentieth Century Type Designers* by Sebastian Carter [Taplinger, 1987].

## Interletter spacing

I didn't think I'd opened such a can of worms when I mentioned this topic. I've had both praise and brickbats, and a reminder of Frederick Goudy's statement that "anyone who would letterspace [lower case] would steal sheep".

I've even been taken to task by a colleague on my own campus who regrets abandoning her antique wordprocessor (on a DEC Rainbow, no less) for a more supportable product because the new program refuses to letterspace, and she feels adjusting the interletter spacing on loose or tight lines is an elegant addition to justified text. We've agreed to disagree on this one.

On a more technical note, I've had an interesting set of results from Wally Martin in Toledo, Ohio, who has made some experiments in adjusting the character widths in the `.tfm` files for BitStream fonts and for a TrueType version of Bodoni (see Fig. 1.2)[1] using Personal TeX's PC-TeX under MS-Windows.

[1]For the purposes of portability, this does not use Bodoni, but the original PostScript file

This is to test letterspacing of various sorts. (CMR 10, good)
This is to test letterspacing of various sorts. (Serif, Inc. Bodonoff font)
This is to test letterspacing of various sorts. (add 3%)
This is to test letterspacing of various sorts. (add 6%)

Figure 1.2: Adjusting the interletter spacing in an Adobe font.

The experiments used some of the BitStream utilities provided with PC-TEX, their TrueType-to-`tfm` for MS-Windows, and the normal `tftopl` and `pltotf` programs. He notes that a powerful text editor is needed (with the ability to do mathematics with digits coming from within the text) to perform the repetitive recalculation of the `CHARWD` entries.

Joachim Schrod warned (in an article in *Offizin* [DANTE, Bonn, 94 : 1] ) about the dangers of this kind of manipulation. While it may have its place, I feel that hand-bodging `.tfm` files still has its dangers, particularly when `.dvi` and PostScript rely on the font metrics matching the bounding boxes inherent in the outlines or bitmaps so that adjacent unkerned characters can be represented without positional information.

It is clearly possible to do interletter space adjustments using TEX. Whether or not it is a 'good' thing to do is probably more a matter of æsthetics than dogma. Whether or not it will work with a specific driver or device is a moot point. Me, I don't steal sheep.

## 'Serif' magazine

Don Hosek's new magazine, *Serif*, will be a quarterly magazine of Type and Typography with the first issue coming out in the fourth quarter of 1994. Requests for information should be directed to *Serif*, 555 Guilford, Claremont, CA 91711, USA. Articles are always welcome and will be paid for at industry-typical rates.

## Apology

In my last column, I praised the `\path` macro found in Karl Berry's `eplain` format. If I had read the documentation properly I would have credited it correctly: `\path` was written by Nelson Beebe for `path.sty` and reimplemented at Nelson's request by Philip Taylor in 1991. The latest version of `path.sty` is available on `ftp.math.utah.edu` in `/pub/tex/bib` (via e-mail, send "`send path.sty from tex/bib`" to `tuglib@math.utah.edu`). Sorry Nelson and Phil: always pays to RTFM.

---

can be retrieved by anonymous `ftp` from `curia.ucc.ie` as `pub/tex/bodoni.eps`

# *New Publications*

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**P.W. Abrahams, K. Berry** and **K. Hargreaves.**
*TEX per l'impaziente [TEX for the Impatient].*
Milano: Addison-Wesley, 1991. 396pp. ISBN 88-7192-022-8.
• This is a translation (by Gaia and Guido Franchi) of the well-known introduction, amplified by material relevant to the Italian language. (See review by Claudio Beccari, *TUGboat* 14, no. 4, pp. 421–422.)

**Michel Goossens, Frank Mittelbach** and **Alexander Samarin.**
*The LATEX Companion.*
Addison-Wesley, 1993. 480pp. (paperback). US$41.25.
ISBN 0-201-54199-8.
• This book is based on LATEX2$\varepsilon$, the new version of LATEX which is currently available in its beta test release. It explains tools and techniques that enhance the use of LATEX and help format documents more quickly and more efficiently. Topics treated include customizing commands and environments, changing page layout, preparing indices and bibliographies, and the New Font Selection Scheme (NFSS), as well as using PostScript fonts and PostScript images. [adapted from promotional material]

**Helmut Kopka.** *LATEX — Einführung [LATEX — Introduction].*
Addison-Wesley, 1994.
• The new edition of Kopka's well-know (German) books on LATEX (also available in a partial English translation) includes LATEX2$\varepsilon$ and will comprise three (instead of two) volumes. The first volume is already available.

**Norman Walsh.** *Making TEX Work.*
O'Reilly and Associates, April 1994. (approx.) 500pp. US$29.95.
ISBN 1-56592-051-1.
• There are many books on TEX and LATEX, but so far (it seems) no book has been devoted to the TEX system as a whole, i.e., all the software, tools, and macros that are available and can be used when working with TEX. This book tries to fill the gap and provides a comprehensive guide to the world of TEX. It discusses the various implementations of TEX on all common platforms and how to obtain them, presents the major macro packages, discusses the installation and the use of fonts (including PostScript and TrueType fonts), and the inclusion of graphics as well as the prepara-

tion of indices and bibliographies. It will certainly be a valuable source of information, in particular, for all those TeX users who lack net access.

## Articles on TeX

**George Grätzer.**
"Advances in TeX Implementations. II. Integrated Environments".
*Notices of the American Mathematical Society*: vol. 41, no. 2 (February 1994) 106–111.
• "In this article I will review two integrated TeX implementations. *Textures*, the classical implementation on the Macintosh (in its modern variant, *Lightning Textures*), and the brand new *PCTeX for Windows* for IBM compatible computers. I shall also review *Scientific Word*, a TeX preprocessor." [from the introduction]

**Allyn Jackson.**
"*What's Happening*: New Publication Takes the AMS in New Directions".
*Notices of the AMS*: vol. 41, no. 6 (July/August 1994) 626–627.
• This article presents the concepts of a new publication. The following is an excerpt from the production remarks: "Though the design is certainly more complex than the Society's other TeX documents, TeX was chosen over a what-you-see-is-what-you-get desktop publishing program for its superior typographic quality. (A few small sections of the book were produced using a desktop publishing program but the output was manipulated and massaged by hand to make it look as good as the TeX output.)"

**Tom Scavo, Yannis Haralambous,** and **Werenfried Spit.**
"TeX on the Macintosh".
*Notices of the AMS*: vol. 40, no. 10 (December 1993) 1353–1360.
• "There are currently four implementations of TeX available for the Macintosh family of computers: *CMacTeX*, *DirectTeX*, *OzTeX*, and *Textures*. The latter is a well-known commercial product which won't be reviewed here; the others are either freeware or shareware and are the focus of this report." [from the introduction]

## Latest issues of other TeX newsletters

*Baskerville*: vol. 4, no. 1, Feb. 1994, 24pp.; vol. 4, no. 2, Apr. 1994, 24pp.

*GUST*: Zeszyt 3 (1994), 50pp. Official newsletter of the Polish TeX User Group.

*La Lettre GUTenberg*: no. 2, février 1994, 24pp. [using Lucida-Bright]

*Die TeXnische Komödie*: 5. Jahrgang, Heft 3, Dezember 1993, 68pp.

# *"Hey — it works!"*

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Welcome again to *"Hey — it works!"*. This column is dedicated to elegant, interesting, or just plain useful techniques in TeX and LaTeX—in the style of Jon Bentley's *Programming Pearls* or Richard Bird's *Functional Pearls*, for the 'computists' among you. If you have any such items, no matter how trivial, please pass them on to me at the above address.

In this issue we have three pieces: one by Donald Arseneau on interleaving under- and overbraces; one of my own on constructing new symbols from existing ones; and one by Navindra Gambhir on constructing tables, illustrating the use of `\afterassignment`.

## Non-nested braces

Donald Arseneau
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Sometimes one would like to interleave braces labelling parts of an equation:

$$a + b + \overbrace{c + d + \rlap{$\underbrace{\phantom{e + f + g + h}}_{z}$}e + f}^{x} + \overbrace{g + h + i + j}^{y} + k + l + m = \pi r^2$$

This is something that `\overbrace` and `\underbrace` cannot do. The solution I have chosen (for both plain TeX and LaTeX) is based on visual formatting into columns, like an array or table.

First (on paper or imagination), write the formula and divide it into segments at the tip of each brace. In our example there are seven segments:

$$\begin{array}{|c|c|c|c|c|c|c|l}
 & x & & & & y & & \\
a + b + & c + d + & e + f & + & g + h & + i + j & + k + l + m & = \pi r^2 \\
 & & & z & & & & \\
1 & 2 & 3 & 4 & 5 & 6 & 7 &
\end{array}$$

although segments 1 and 7 could be omitted. We will type the main line of the formula with `&` inserted between each segment:

```
a + b +&c + d +&e + f&+&g + h&+ i + j&+ k + l + m
```

Each segment then becomes a column in an alignment, and each brace may span multiple columns. The idea is best illustrated by a LaTeX array:

```
\begin{array}[c]{ccccccc}
  & \multicolumn{2}{c}{x}& & \multicolumn{2}{c}{y}\\
  & \multicolumn{2}{c}{\downbracefill}
                          & & \multicolumn{2}{c}{\downbracefill}\\
  a + b +&c + d +&e + f&+&g + h&+ i + j&+ k + l + m\\
  & & \multicolumn{3}{c}{\upbracefill}\\
  & & \multicolumn{3}{c}{z}
\end{array} = \pi r^2
```

This doesn't work well, having bad braces with bad vertical and horizontal spacing. We should instead use TEX's primitive `\halign` command, and measure the size of boxes to get the correct vertical positioning of the formula's main line. Rather than type the very messy TEX commands directly with each use, it is better to make a new command:

`\overunderbraces{`*upper_braces*`}{`*main_formula*`}{`*lower_braces*`}`

We already know how to write the main line of the formula (by segmenting the formula and inserting `&` between segments), and we will also use `&` between braces. Each labelled brace will be specified in the format:

`\br{`*n*`}{`*label*`}`

where $n$ is the number of segments spanned by the brace. Each top brace of our example spans two segments (with an empty segment between them) and the bottom brace spans three segments, so they are specified by:

| | |
|---|---|
| top braces: | `&\br{2}{x}&  &\br{2}{y}` |
| bottom braces: | `& &\br{3}{z}` |

Having determined all three parameters to use with `\overunderbraces`, the complete command is

```
 \overunderbraces{&\br{2}{x}& &\br{2}{y}}%
    {a + b +&c + d +&e + f&+&g + h&+ i + j&+ k + l + m}%
    {& &\br{3}{z}}
  = \pi r^2
```

which produces the equation at the start of this article.

Here is the definition of `\overunderbraces`. It may look long, but it has some repetition in order to measure the height of the top half of the formula. There are also the auxiliary macros `\brAup`, `\brAdown`, and `\brAlabel` that allow the same `\br` command to produce up-braces, down-braces, and centered labels at the appropriate places.

```
% \overunderbraces{upper_braces}{main_formula}{lower_braces}
%
\def\overunderbraces #1#2#3{{%
 \baselineskip=0pt \lineskip=4pt \lineskiplimit=4pt
 \displaystyle % deliberately generate error if not in math mode!
% first, do the top half of the alignment in a save-box
 \setbox0=\vbox{\ialign{&\hfil${}##{}$\hfil\cr
   \global\let\br\brAlabel #1\cr % upper labels
   \global\let\br\brAdown #1\cr  % upper braces
   #2\cr % main line of the formula
 }}% finished partial alignment and \vbox.
 \dimen0=-\ht0 %   Measure height of partial alignment --
% ... it is the height we want for the whole.
% Now do the whole alignment (notice the repetition from above)
 \setbox0=\vbox{\ialign{&\hfil${}##{}$\hfil\cr
   \global\let\br\brAlabel #1\cr % upper labels
   \global\let\br\brAdown #1\cr  % upper braces
   #2\cr % main line of the formula
   \global\let\br\brAup #3\cr    % lower braces
   \global\let\br\brAlabel #3\cr % lower labels
 }}% finished whole alignment and \vbox.
 \advance\dimen0 by\ht0 % calc. the necessary lowering
 \lower\dimen0\hbox{\box0}% shift to get the desired height
}}

% Three aliases for \br.
% #1=number of spanned columns,  #2=label
\def\brAup#1#2{\multispan{#1}\upbracefill}
\def\brAdown#1#2{\multispan{#1}\downbracefill}
\def\brAlabel#1#2{\multispan{#1}\hidewidth $#2$\hidewidth}
```

If you check the electronic version of this newsletter, you will find the text of `oubraces.sty` which contains these definitions, except for some streamlining with 'internal' commands such as `\dimen@` used for `\dimen0`.

## Overlaying symbols

Jeremy Gibbons

My particular branch of computer science often requires me to construct new mathematical symbols. Sometimes I do this with METAFONT, but if I want to be able to distribute my TEX or `dvi` files, I need to construct the new symbols out of existing ones. One technique for doing this is simply to 'overlay' two existing symbols; for this purpose, I wrote the style file `overlay.sty`.

The basic usage is to overlay two symbols, centre-aligning them with respect to each other and producing a symbol as wide as the wider component. Thus, `$\overlay{\triangleleft}{-\!\!-}$` yields '$\triangleleft\!\!\!-$'. Two variations on this theme involve left- and right-alignment instead of centre-alignment; using `\loverlay` or `\roverlay` (great names!) yields '$\triangleleft\!\!-$' or '$-\!\!\triangleleft$', respectively.

The macro copes with changing 'styles', so that symbols get smaller in subscripts and so on. Thus, `$X_{\overlay{\triangleleft}{-\!\!-}}$` yields '$X_{\triangleleft\!\!\!-}$'. Within the arguments to `\overlay`, the macro `\overlaystyle` expands out to the style, so the overlaid components can involve boxes and still respect changing styles; for example, the (rather contrived) definition

```
\def\symbol{\overlay{-}{\raise.4ex\hbox{$\overlaystyle\bullet$}}}
```

yields '$\bullet$' in text style and '$X_\bullet$' in script style—note the different `\bullets`.[1]

The macro is even sufficiently robust to cope with nested overlays; the code

```
$\overlay{\lower.6ex\hbox{$\overlaystyle\smile$}}
         {\raise.6ex\hbox{$\overlaystyle
            {\roverlay{\circ}{\cdot}}{\roverlay{\circ}{\cdot}}$}}
 \;\;
 \overlay{\lower.6ex\hbox{$\overlaystyle\smile$}}
         {\raise.6ex\hbox{$\overlaystyle
            {\loverlay{\circ}{\cdot}}{\loverlay{\circ}{\cdot}}$}}$
```

yields two friendly smileys: $\overset{\circ\circ}{\smile}\;\;\overset{\circ\circ}{\smile}$

```
% overlay.sty - overlay and align two symbols, respecting styles

\def\loverlay#1#2{\mathpalette\@overlay{{#1}{#2}{}{\hfil}}}
\def\overlay#1#2{\mathpalette\@overlay{{#1}{#2}{\hfil}{\hfil}}}
\def\roverlay#1#2{\mathpalette\@overlay{{#1}{#2}{\hfil}{}}}
   % calls to \@overlay look like
   %    \@overlay\textstyle{{x}{y}{\hfil}{\hfil}}
\def\@overlay#1#2{\@@overlay#1#2}
   % strip brackets from 2nd arg, to get
   %    \@@overlay\textstyle{x}{y}{\hfil}{\hfil}
\def\@@overlay#1#2#3#4#5{{%
   \def\overlaystyle{#1}%
   \setbox0=\hbox{\m@th$\overlaystyle#2$}%
   \setbox1=\hbox{\m@th$\overlaystyle#3$}%
   \ifdim \wd0<\wd1 \setbox2=\box1 \setbox1=\box0 \setbox0=\box2\fi
      % \box0 is now the wider box
   \rlap{\hbox to\wd0{#4\box1\relax#5}}\box0}}
```

[1] Actually, this definition is not quite right: an `ex` doesn't get smaller in script styles. The best fix I know of involves defining a macro to replace the `ex`, choosing a dimension based on `\overlaystyle`. Unfortunately, I don't think `mus` can be used for vertical movement.

## Making tables by iteration

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We sometimes use tables similar to the one shown on the right when grading homework or exams for a class. These tables differ from one problem set to another only in the values in the last column and the total number of rows. Therefore it is possible to build these tables by simply listing out the numbers that go in the last column. For example, the table shown here was typeset by typing '`\maxpoints 35 5 60 -1`'. In general a table for $n$ questions with maximum possible points $p_1, p_2, \ldots, p_n$ is produced by typing

| | | | |
|---|---|---|---|
| Name | ______________________ | | |
| Question 1 | ____________ | out of | 35 |
| Question 2 | ____________ | out of | 5 |
| Question 3 | ____________ | out of | 60 |
| Total | ____________ | out of | 100 |

`\maxpoints` $p_1$ $p_2$ $\ldots$ $p_n$ $\langle$negative number$\rangle$

The macro `\maxpoints`, given below, uses `\afterassignment` trickery to read the numbers one at a time. It generates a line specification for each non-negative number in the list. When it finds the negative number, it wraps up the table by generating the last ("Total") line.

```
\newcount\exno \newcount\expoints \newcount\totalexpoints
\def\doublestrut{\vrule height20.5pt depth3.5pt width0pt \relax}
% each line of the table is made the proper height by including
% \doublestrut in the preamble; interline spacing is turned off
\def\maxpoints{\noindent $$\offinterlineskip
  \halign\bgroup\doublestrut##\hfil& % preamble of the table...
      \ \ \leaders\hrule\hskip6pc \ \ out of \hfil##\cr
    Name \ \hrulefill\span\omit\cr % first line of the table
    \global\exno=0 \global\totalexpoints=0 \getnum}
% if the next number in the list is negative, wrap up the table;
% otherwise generate the next line and continue
\def\getnum{\afterassignment\g@tnum\global\expoints}
\def\g@tnum{\ifnum\expoints<0 \let\next=\finishtable
              \else \let\next=\nextline\fi \next}
\def\nextline{\global\advance\exno by 1 Question \the\exno&
  \global\advance\totalexpoints by\expoints \the\expoints\cr
  \getnum}
\def\finishtable{Total&\the\totalexpoints\cr\egroup$$}
```

# (LA)TEX News

## *TUGboat* tables of contents on-line

Barbara Beeton
Editor, *TUGboat*

In the SHSU archive (`ftp.shsu.edu`), the *TUGboat* area is in `tex-archive/digests/tugboat`. Among other things, it contains the plain and LATEX styles for *TUGboat* and the TUG meeting proceedings, complete tables of contents for all issues, and Nelson Beebe's explosion of this information into a BIBTEX file and permuted index.

The tables of contents are stored by year in files named `tb`*vvyy*`.cnt` (*vv* is the volume number and *yy* the year); they can be run through TEX in 5-volume chunks with "driver" files named `tbcv`*vv*`.tex` where *vv* is a multiple of 5 giving the number of the last volume in the group. To process the tables of contents, the file `tbcont.def` is also needed.

The file of *TUGboat* contents in BIBTEX form is `tugboat.bib`; the files `tugboat.kwic` and `tugboat.ptx` present the same information in keyword-in-context and permuted index form, respectively.

I've done some work toward creating a "real" index for *TUGboat* but it is still quite a way from completion. Until that is available, anyone looking for a particular *TUGboat* article should be able to find it with the help of one of these files if they know either the author or some word(s) from the title.

## German node of CTAN has moved

Rainer Schöpf
`Schoepf@sc.ZIB-Berlin.de`
`Schoepf@sc.ZIB-Berlin.d400.de`

The German node of the Comprehensive TEX Archive Network (CTAN) has moved:

*Old*: `ftp.uni-stuttgart.de` *New*: `ftp.dante.de`

The latter is a dedicated machine, kindly supplied by the Association of German-speaking TEX users (DANTE e.V.). We are grateful to the computing center of the University of Stuttgart, especially Barbara Burr and her crew, for having supplied the services to run the TEX archive on one of their hosts, and to DANTE and its members for contributing the necessary funds through their membership fees.

Note that `ftp.uni-stuttgart` will continue to offer access to the TEX archive; users of that node will not notice any difference.

## Announcing a new publication: *Serif*

As mentioned in Peter Flynn's column, *Serif* is a new publication coming out this fall (address on p. 4), put together by Don Hosek, a long-time member of the TEX community. From the prospectus (done in Monotype Perpetua):

> While some designers are challenging the basic premise of typography as a transparent means to present an author's ideas, others are re-discovering the texts that they are typesetting and eschewing the typographic innovations of their colleagues in favor of a more traditional style.
>
> ... articles scheduled for the first issue "American Type Specimen Books," "Notes on Century Schoolbook," "Renaissance Typefaces" ... [and] first issue authors ... Charles Bigelow, co-designer of the Lucida type family, Dan Carr, type designer and punch cutter ... "

## Fraktur German Gothic font

Daniel Taupin
taupin@rsovax.lps.u-psud.fr

METAFONT source of release 1.0 of Fraktur (German Gothic) fonts in `cm/dm` and `dc` layouts (German Gothic) is available at `rsovax.lps.u-psud.fr` in `[anonymous.gothic.fraktur]`. These Fraktur fonts (now called `cmfrak` and `dcfrak`) were generated by myself, using the 1990 designs of font `yfrak` by Yannis Haralambous.

Additions to Yannis' work include shifting umlauted letters to the Cork positions, building umlauted versions for capitals and creating non-German accented letters (to enable quoting foreign proper nouns, for example), after moving the ligatures to some free places and removing the "small-e-umlaut" variants.

The double-quote ligatures have also been removed, since they were not compatible with `german.sty`, which makes the quote character *active*. Conversely, the `s:` has been kept to yield the final short *s*. Unfortunately, it is likely that this ligature will inhibit the correct hyphenation of a word like *Ausgang* whose internal *s* is typed with a final `s`.

Complaints and suggestions about special letters are welcome — especially Icelandic or Central European — and should be e-mailed to `taupin@rsovax.lps.u-psud.fr`.

## NTG's CD of 4AllTEX

At the end of 1993 the NTG (the Dutch-speaking TEX users group) released the package "4AllTEX: A TEX Workbench for MS-DOS PCs" on 31 discs. This June a CD will be released, on which the most important TEX- and LATEX-related packages are assembled, including public domain system-independant software. This CD-ROM should enable users to set up a 4AllTEX system with minimal effort. The price of the CD plus booklet is set at Dfl. 60,– or US$35. To order, contact your local user group, or the NTG Secretary, P.O. Box 394, 1740 AJ, Schagen, The Netherlands, `ntg@nic.surfnet.nl`. In the UK, contact Sebastian Rahtz (`spqr@ftp.tex.ac.uk`). In North America, contact the TUG office (see address, cover 2).

## Where to announce new releases

The mailing list `tex-archive@math.utah.edu` is a good place to look for announcements of new TEX-related software. To join, send email to `tex-archive-request@math.utah.edu`. You may recognise this site as that of a machine and a list maintained by Nelson Beebe.

Occasionally other archive-related discussions take place, but traffic is light. (And please keep it that way; this is not an appropriate place to ask questions about new releases, report bugs, etc.) If you yourself release TEX-related software to the public, please do send mail giving the details, so the various archive maintainers can spread its availability. The list is archived; retrieve the files `/pub/tex/mail/tex-archive*.*` on `ftp.math.utah.edu`.

## New releases from Karl Berry (`kb@cs.umb.edu`)

Karl has been very busy this spring! All his stuff can be ftp'd directly from `ftp.cs.umb.edu`, in the `/pub/tex` subdirectory.

**web2c 6.1:** There's a new release, version 6.1,[1] of `web2c`, a port of the basic TEX project `WEB` programs (TEX, METAFONT, `GFtoPK`, etc.) to UNIX. Subdirectory and files: `pub/tex/{web,web2c}.tar.gz`; they should also be available from any of the CTAN sites in `tex-archive/systems/web2c`. Send bug reports to `tex-k@cs.umb.edu`; if you want support, or if you cannot ftp, he suggests contacting `unixtex@u.washington.edu`.

**eplain 2.5:** For those who haven't previously heard of Eplain: it is a collection of macros intended to provide relatively low-level capabilities, regardless of how your document appears. For example, it has macros to do symbolic cross-referencing, but not macros to produce a section heading. It also has some definitions that make it easier to change the conventions of plain TEX's output. For example, it lets you produce left-justified math displays by simply saying `\leftdisplays`. Available in the file `eplain.tar.gz`.

**kpathsea 1.8** and drivers**:** In early April, Karl announced the release of new versions of `kpathsea` (version 1.8) and the drivers he's modified to use it: `dvipsk` (version 5.55a, a modified version of Tom Rokicki's `dvips`), `dviljk` (version 1.1, modified version of Gustaf Neumann's `dvi2xx` driver), and `xdvik` (version 1.8, modified version of Paul Vojta's `xdvi`). The new

[1] By the way, the new version number is 6.x because 5.8515 was just too many decimal points (also running out of characters on my system V file systems). –kb

releases can be found in the files `{xdvik,dvipsk,dviljk}.tar.gz`. As always, he thanks the many contributors and invites "additions, criticisms, or other comments" from the community.

**fontname 1.6:** Finally, he announced a new version of his font naming scheme for TEX fonts. The document is in Texinfo format, so you'll need the TEX macros in the file `texinfo.tex` to print it; he includes `texinfo` in the distribution (it's also available in most GNU distributions). From the same ftp address as above, get the file `fontname.tar.gz`, which also contains files showing the naming scheme applied to Adobe, Monotype, Computer Modern, and fonts from other sources.

## News from vendors

Christina Thiele

Lots of bits and pieces to report from various vendors, as they continue to provide us with upgrades, enhancements, improvements, and generally work hard to compete with all that public domain stuff!

**Micro Programs acquires MicroTEX:** In November 1993, Micro Programs of New York acquired Arbortext's line of PC-based TEX products, including MicroTEX (by David Fuchs), the PREVIEW screen previewer, and the DVILASER drivers developed by Arbortext. Micro Programs can be reached at 251 Jackie Ave., Syosset, NY 11791 USA. Phone: 516-921-1351; FAX: 516-921-1004.

**PCTEX for Windows:** Lance Carnes' PTI (Personal TEX Inc.) has PCTEX for Windows, with the following attributes: "graphical interface and drop-down menu system incorporates Big PCTEX/386, On-line Help, a built-in 64K text editor, fully scalable Computer Modern TrueType fonts (other TrueType fonts can also be used), plus DVI screen preview and print utilities for any Windows 3.1 supported monitor and printer." PTI can be reached at 12 Madrona Street, Mill Valley, CA 94941, USA. In North America: 1-800-808-7906, elsewhere: 415-388-8853; FAX orders: 415-388-8865. Note that their e-mail address has changed; it is now `pti@crl.com`. Registered users also receive a newsletter, *PTI News*.

**Release 1.1 of Y&Y's TEX Package:** Berthold Horn sent in an announcement that version 1.1 of Y&Y's TEX for the IBM PC was available. Lots of key attractions listed, including the following points:

- Y&YTEX — first 'dynamic' TEX for IBM PC
- DVIWIndo's new customizable 'TEX Menu' — call any application
- DVIPSONE now *also* supports TIFF image insertion
- new integrated installation procedure

Y&Y can be reached at 106 Indian Hill, Carlisle, MA 01741-1747, USA. For North America: 1-800-742-4059; elsewhere: 508-371-3286.

# *"You Rang . . . ?"*

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## The look of automatically-generated numbers

Every kind of TEX has a little memory box labeled "page", which contains the current page number. Each time TEX typesets the page number it has to know what the current value is, so it looks in the box and sees what it is, just like you or I might do. Well, this is fine, but how does TEX know how the page number is supposed to look? TEX creates another box called "thepage" and *it* contains the formatting details. Normally (there are exceptions), the definition of the page number format is `\rm\arabic{page}`. The `\arabic` command tells each form of TEX to get the page number stored in the "page box" and typeset it using arabic numerals (1, 2, 3, etc.). The `\rm` command typesets the 1, 2, etc. in roman face, so our page numbers usually look like a roman 1, 2, etc.

How do I change the way the page number appears? Change the definition of `\thepage`!

In LATEX: `\renewcommand{\thepage}{--\em\arabic{page}--}`
In plain TEX: `\def\thepage{--\it\arabic{page}--}`

The same holds true for other automatically-generated things; equation numbers, for example. In LATEX each time we use a `\begin{equation} ... \end{equation}` environment, we use the `equation` box (or counter). When we use a `\section` command, the `section` counter is used. When we use a `\chapter` command, the `chapter` counter is used, and so on, and so on.

Let's say we wanted our equation numbers to come out as

`(chapter.section.equation)` *i.e.,* (5.4.22)

In LATEX, all we need to do is change the definition for the "theequation" box, like this:

```
\renewcommand{\equation}{%
          {(\arabic{chapter}.\arabic{section}.\arabic{equation})}}
```

That does it!

## report.sty: breaking lines in the Table of Contents

When LATEXing the test file below, the word "SEGMENTATION" is hyphenated to the next line in both the `\part` and `\subsection` sections.

```
\documentstyle{report}
\begin{document}
\tableofcontents
\part{THREE-D MOTION ESTIMATION AND SEGMENTATION}
\chapter{THREE-D MOTION ESTIMATION AND SEGMENTATION}
\section{THREE-D MOTION ESTIMATION AND SEGMENTATION}
\subsection{THREE-D MOTION ESTIMATION AND SEGMENTATION}
\end{document}
```

Normally, to break to the next line we would use `\\`. Unfortunately, if this is put in the sectioning command LATEX complains loudly. This is because `\\` is a fragile command (see Lamport, page 190) and fragile commands have to be "protected". LATEX offers the `\protect` command to do this. Here's how:

> Insert `\protect{\\}` just before the word SEGMENTATION.

This solves the hyphenation problem, but raises two more:

- When you LATEX the file, you'll notice that SEGMENTATION breaks to the left margin on the "part" line in the `.toc` file, making the part number hard to see; and
- We need to make sure LATEX doesn't overwrite our changes the next time we typeset the file (LATEX re-writes the `.toc` each time it's run on a file).

Here's what to do:

1. Leave the entire problem alone until the text is finished completely.
2. Add a `\nofiles` command to the preamble of the document. This will prevent LATEX from re-writing the `.toc` file (or any other file, for that matter).
3. In the first `\contentsline` command you see several

   ```
   \uppercase {i}\phspace {1em}
   ```

   These commands add an "I" and a certain amount of horizontal space for visual effect. On the line where SEGMENTATION appears we need to skip that amount of space, whatever it is. To do this we use the `\hphantom` command from plain TEX, and we do it this way:

   ```
   \hphantom{I\phspace{1em}}SEGMENTATION
   ```

> The `\hphantom` command does a "horizontal phantom" typesetting of "`I\phspace{1em}`": it doesn't print it, but it *does* leave the horizontal space (which is why it's a *phantom*)![1]

Typeset the file again, and voilà! it works.

## More about protecting "fragile" commands

Generally, the only time a fragile command has to be protected is when it's in a "moving argument". What's that, you say? Glad you asked.

A "moving argument" occurs when an argument gets put in more than one place (*i.e.,* it "moves"). For example, the argument of a `chapter` command gets put not only in the text, but also in the `.toc` file, and maybe even the header of a page. Commands that do this include sectioning commands and also the `\caption` command from the `figure` and `table` environments. (Remember that there's a `\listoffigures` and a `listoftables` command.)

In these cases, `\protect` is used to protect fragile commands in the moving argument. For example, the `\cite` command is fragile. If you were to cite something in the caption of a figure, you would do this:

```
\caption{Example of science (see Janson, \protect{\cite{AFJ}}).}
```

Another example of where `\protect` is useful is when one is trying to create bold math symbols in a sectioning command. The usage is similar to the caption command above. The `\boldmath` command is fragile, and it's used this way:

```
\section{\protect{\boldmath$\alpha$}}
```

What if you have a mathematical expression with only one symbol bold in your sectioning command (bad style, I know, but anything is possible). The expression might look like this:

```
$f \times \mbox{\boldmath$\alpha$}$
```

In this case, we protect *only* the boldmath'd material, as follows:

```
\section{$f \mbox{\protect{\boldmath$\alpha$}}$}
```

The key here is that *you only protect the command that is fragile, not the command that contains the fragile command.*

[1]Ed.: Further to Robert's point about `\phantom`, here's a small rule of thumb I find pretty handy. Maybe it's gimmicky but ...

- `\llap` and `\rlap` mean "print it but don't measure it!" (especially useful in tables)
- `\phantom`, etc. means "measure it but don't print it!"

# Reports on Meetings

## Nordic Group — Nov. 1993 in Finland

Dag F. Langmyhr
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dag@ifi.uio.no

The 1993 annual meeting of the NTUG (Nordic TEX Users Group) was held on Monday, November 29th, at the University of Helsinki, Finland, and hosted by Martti Nikunen. The following talks were presented:

**Typesetting of multilingual documents:** Johannis Likos talked about the problems of typesetting text with non-Latin characters. The presentation focused on the use of ScholarTEX, a package that makes it possible to typeset such documents using TEX, created by Yannis Haralambous and commercially available for various platforms. It contains several alphabets, including Arabic, Hebrew, and polytonic Greek.

**The TEX multilingual effort:** Enn Saar (Estonia) gave a summary of the present status of this project, and particularly the TWGMLC (Technical Working Group on Multiple Language Coordination). At the TUG meeting last year in Aston, this group had formulated the contents of a minimal TEX language package, and has since extensively discussed the subtleties of the future language-switching commands. Most languages will be able to use the Cork code table for output, but one of the most serious problems is how to incorporate into the packages the myriad of existing input encodings. The mechanisms proposed include filters, TEX active characters and the TEX codepage extension. Saar favoured the last as the most complete solution, although this does not belong to the standard TEX.

PostScript **fonts for Scandinavian languages:** Dag F. Langmyhr first told the history of the particular Scandinavian letters (e.g., æ, ð and ä) and quotation marks (e.g.,« and „) in TEX and Computer Modern. The Cork encoding made all these characters available and made it possible to use the letters in hyphenation patterns.

Using the Scandinavian characters in PostScript fonts was also difficult for many years, until it became possible to specify an encoding vector to the DVI-to-PostScript driver. The most important remaining problem is that PostScript font metrics seldom give any kerning pairs for the Scandinavian characters. This issue has now been solved by Alan Jeffrey's package `fontinst`, which creates kern pairs based on character similarity.

The final part of the meeting was spent discussing how to make it easier for Scandinavian users to install and maintain an up-to-date TEX. It was decided to split the Nordic TEX archive in two: one in Finland for PC implementations, and the other in Sweden for UNIX and Mac installations.

The next NTUG meeting will be held in Oslo on May 16th of this year.

## TUG'94 — Santa Barbara, California 31 July – 4 August

By now most of you will have received the pink flyer with preliminary information on the conference: the presentations are outlined on the next page, the courses are listed on p. 26. Some points to highlight include:

1. The conference and accommodation fees cover the period from **Saturday evening** (30 July) to **Thursday afternoon** (4 August).
2. **Registration** begins on Saturday; the **Reception** will be held that evening.
3. The **Banquet** is *included* in the accommodations fee (for those staying off-campus there will be a $35 charge).
4. **News Flash!** There will be a one-day registration fee of 100.00 (can only be used once).

**Bursary Fund:** This will be the second year for TUG's Bursary Fund. Although some funds were left over from last year, we are taking this opportunity to let the membership know that the current Bursary Committee will be inviting all TUG members to consider contributing to the fund. TUG'94 registration forms will provide a space for donations; if you are unable to attend, but would still like to contribute to the fund, you may do so by contacting the TUG office directly for more information. The Bursary Committee comprises Bernard Gaulle and Norman Naugle, with Christina Thiele as liaison to the board.

The bursary fund is intended to provide financial assistance to cover travel and/or expenses to attend the upcoming TUG meeting in Santa Barbara. The fund is not focused on any specific geographic region; rather, the fund is for those who demonstrate reasonable need, and/or have never attended a TUG meeting before.

If you wish to apply for a bursary, kindly send a letter to Bernard Gaulle, chair of the Bursary Committee, providing details of your requirements, including precise costs where possible. Bernard Gaulle, 4, avenue Cadoux-Girault, F-92270 Bois-Coulombes, France; e-mail: `gaulle@idris.fr`.

## Preliminary outline program

**Sunday July 30th:**
*Publishing, languages, literature and fonts*

- ▷ Glenn Reid: *Reflections*
- ▷ Frank Mittelbach: *Real Life Book Production*
- ▷ Yannis Haralambous: *Typesetting the Holy Bible in Hebrew, with TEX*
- ▷ Basil Malyshev: *Automatic Conversion of **METAFONT** Fonts to Type1* POSTSCRIPT
- ▷ Alan Jeffrey: POSTSCRIPT *Font Support in LATEX2ε*
- ▷ Y. Haralambous: *An Indic TEX Preprocessor — Sinhalese TEX*
- ▷ Michel Cohen: *Zebrackets: A meta**METAFONT***

**Monday August 1st:**
*Colour and LATEX*

- ▷ Leslie Lamport: *Looking Back At, And Forward From, LATEX*
- ▷ Tom Rokicki: *Advanced 'Special' Support in a* `dvi` *Driver*
- ▷ Timothy van Zandt and Denis Girou: *An Introduction to PStricks*
- ▷ Sebastian Rahtz and Michel Goossens: *Simple Colour Design in TEX*
- ▷ Michael Sofka: *Color Book Production Using TEX*
- ▷ James Hafner: *The (Pre)History of Color in Rokicki's* `dvips`
- ▷ Friedhelm Sowa: *Printing Colour Pictures*
- ▷ Angus Duggan: *Colour Separation and* POSTSCRIPT
- ▷ Jon Stenerson: *A LATEX Style File Generator*
- ▷ Johannes Braams: *Document Classes and Packages in LATEX2ε*

**Tuesday August 2nd:**
*TEX Tools*

- ▷ Oren Patashnik: BIBTEX *1.0*
- ▷ Minato Kawaguti and Norio Kitajima: *Concurrent Use of Interactive TEX Previewer with an Emacs-type Editor*
- ▷ Y. Haralambous: *Humanist*
- ▷ Pierre Mackay: *A Typesetter's Toolkit*
- ▷ Jean-luc Doumont: *Pascal Pretty-printing: An Example of "Preprocessing within TEX"*
- ▷ Michael P. Barnett and Kevin R. Perry: *Symbolic Computation for Electronic Publishing*
- ▷ Norm Walsh: *A World Wide Web Interface to CTAN*

**Wednesday August 3rd:**
*Futures*

- ▷ Chris Rowley and F. Mittelbach: *The Floating World*
- ▷ Joachim Schrod: *Towards Interactivity for TEX*
- ▷ Arthur Ogawa: *Object-oriented Programming, Descriptive Markup, and TEX*
- ▷ William Erik Baxter: *An Object-oriented Programming System in TEX*
- ▷ John Plaice: *Progress in the Omega Project*
- ▷ Philip Taylor: *e-TEX & NTS: A Progress Report*
- ▷ Jonathan Fine: *Documents, Compuscripts, Programs and Macros*
- ▷ George Greenwade: *TEX as a Commodity*

**Thursday August 4th:**
*Publishing and design*

- Maurice Laugier and Y. Haralambous: *TeX Innovations by the Louis-Jean Printing House*
- Michael Downes: *Design by Template in a Production Macro Package*
- Gabriel Valiente Feruglio: *Macro Packages for Typesetting Commutative Diagrams*
- Alan Hoenig: *Less is More: Restricting TeX's Scope Enables Complex Page Layouts*
- Don Hosek: *Sophisticated Page Layout with TeX*
- Henry Baragar and Gail E. Harris: *An Example of a Special Purpose Input Language to LaTeX*
- Marko Grobelnik, Dunja Mladenić, Darko Zupanič and Borut Žnidar: *Integrated System for Encyclopaedia Typesetting Based on TeX*
- Y. Haralambous and J. Plaice: *First Applications of Ω: Adobe Poetica, Arabic, Greek, Khmer*

**Posters, workshops and discussion sessions**

1. The TUG WWW Server (Peter Flynn)
2. Accessing CTAN (N. Walsh)
3. Practical Indexing (Nelson Beebe)
4. TeX and Linguistics (Christina Thiele)
5. TeX and Humanities Journals (C. Thiele)
6. Database Publishing (M. Grobelnik)
7. Floats (David Salomon)
8. Adobe Acrobat and Related Technologies (S. Rahtz)
9. Standards for Colour Drivers (T. Rokicki)

# INNOVATIONS!

## TUG 15th Anniversary Meeting

| | |
|---|---|
| Where? | Santa Barbara, California (west northwest of Los Angeles) |
| When? | July 31 to August 4 (with courses before/after these dates) |
| Who? | Everyone interested in TeX, LaTeX, and METAFONT! |

## EuroTEX'94 — Sobieszewo, Poland 26–30 Sept.

EuroTEX'94 will take place at Sobieszewo on an idyllic island off the coast of Gdansk in Poland. The conference will run from Monday to Friday, 26–30 Sept., and the *maximum* cost (two people sharing) will not exceed $260.00/£175.00/DM 450.00. Those arriving early on Monday will be able to take part in a guided tour of the old town of Gdansk, whilst Tuesday to Thursday will be jam-packed with talks and tutorials on TEX and related topics.

Delegates will stay in a single building, cut off from civilisation for a whole week: no distractions, no need to leave the island — everything will be provided. For those unable to sustain the pace, quiet meditative walks along the shore searching for amber will provide the ideal opportunity for therapeutic meditation.

Early registration for the conference is advised: with its Central European location and idyllic setting, the conference is expected to attract many delegates. If you are even *thinking* of coming, then you are urged to contact us to be added to the mailing list.

| | |
|---|---|
| Provisional registration: | 1 June (no charge for cancellation) |
| Confirmed registration: | 1 Sept. (cancellation charged at 50%) |
| Late registration: | 15 Sept. (no cancellation possible) |

**Bursaries:** As with EuroTEX'92 and the TUG meeting at Aston last year, it is hoped to be able to offer financial assistance to delegates who would otherwise be unable to attend; of course, we cannot be sure at this stage that sponsors will be as generous as in the past, but intending delegates who will need assistance in order to be able to attend should indicate in the space provided the *minimum* bursary which would allow them to be able to attend, and should give clear reasons why they are applying. All applications will be treated in the strictest confidence. Delegates who are in no need of a bursary and who are able to assist others less fortunate are urged to pledge a donation.

**Tutorials and Courses:** It is intended to offer both tutorials (which will take place during the week of the conference proper), and courses (which will take place during the week following the conference); proposed topics include book design and LATEX2$\varepsilon$, but no firm decisions have yet been taken on topics, durations or costs. Further details concerning this area will be circulated as soon as they are known.

**Correspondence:** Sent queries to EuroTEX'94 Conference Organisers, c/o Włodek Bzyl, Department of Mathematics, University of Gdansk, Poland; e-mail: Włodek Bzyl at `EuroTeX@Halina.Univ.Gda.Pl`

# TUG Board Activities

## New officers

Christina Thiele
President

The board has elected new officers to take the place of outgoing Vice-President Ken Dreyhaupt and Treasurer Bill Woolf. The new faces are, respectively, Michel Goossens and George Greenwade. I would like to take this opportunity to thank Ken and Bill for their work for TUG, and I also welcome the arrival of Michel and George. Peter Flynn continues as Secretary.

## • Conference Planning Committee

Jackie Damrau, Chair

The Conference Planning Committee (CPC) has completed its search for new committee members—Michael Doob and Walter Obermiller—to replace outgoing member Mimi Jett.

We are actively working on a draft of Conference Guidelines that will help in organizing future conferences. A large thank-you goes to Peter Flynn and Christina Thiele for their excellent work on the first draft. We do have plans to make it available on a WWW in the future.

Ongoing committee activities include getting tentative meeting sites lined up for 1996 (for Europe) and 1997 (for the North American West Coast), and of course, beyond. If you would like more information, please contact the CPC at: `tugcpc-l@irlearn.ucd.ie` .

## Next Board Meeting

29–30 July, at TUG94
University of Santa Barbara, California

## 1994 TTN Schedule for Submissions

| | |
|---|---|
| July issue | **June 1st** |
| Oct. issue | **Sept. 1st** |
| Jan. issue (1995) | **Dec. 1st** |

# TEX Users Group
# 1994 Course Schedule

## Courses at the Annual Meeting

| | | |
|---|---|---|
| **26–29 July** | Intensive Course in LATEX | Malcolm Clark |
| **27–29 July** | Doing More with LATEX | Michael Goossens<br>Frank Mittelbach |
| **5–7 August** | Typography | Peter Flynn |
| **5–7 August** | PostScript and Graphics | Sebastian Rahtz<br>Michel Goossens |
| **8–11 August** | Beginning/Intermediate TEX | To be announced |
| **8–11 August** | Advanced TEX | To be announced |

| | |
|---|---|
| *Beginning/Intermediate TEX** | *Intensive Course in LATEX** |
| Santa Barbara Oct. 17–21 | Santa Barbara Oct. 24–28 |

*Lab classes — computers will be provided for all students

- TUG courses are small, with 8–15 students in most classes.
- Dates and locations subject to change. Direct course inquiries to John Berlin at the TUG Office. Anyone interested in courses dealing with TEX and SGML should contact John as well (`john@tug.org`).
- TUG office: phone 805-963-1338 FAX 805-963-8358 `tug@tug.org`

## On-Site TEX and LATEX Courses from TEX Users Group

- Courses in TEX, LATEX, SGML and TEX, PostScript, or TEX for Publishers tailored to the needs of your group
- Courses at every level from beginning to advanced
- Five full days of instruction at your site
- One-week course fee includes all instructor fees and expenses plus textbooks and other materials for up to 15 students

# *Upcoming Events*

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| **30 April– 2 May** | **GUST**: "BachoTEX'94" 2nd General Meeting of the Polish TEX Users Group, Bachotek (Brodnica Lake District), Poland. | Hanna Kołodziejska, International Computers Ltd. Poland, ul. Leszno 21, 01-199 Warszawa, Poland hkolo@plearn.edu.pl |
| **16 May** | **NTUG** (Nordic Group): Oslo, Norway. | Dag F. Langmyhr dag@ifi.uio.no |
| **20 May** | **The Goudy Center**: "Starting Your Own Publication" (with Frank Romano). Rochester, NY. | Margaret von Koschembahr Phone: (716) 475-2052 FAX: (716) 475-7029 |
| **2 June** | **GUTenberg**: LATEX2$\varepsilon$ (with Goossens and Mittelbach); GUTenberg annual general meeting. Paris, France. | (331) 30 87 06 25 tresorerie-gutenberg@ens.fr |
| **8–10 June** | **SSP** 16th Annual Meeting: "Reshaping the Information Marketplace". San Francisco, California. | Phone: (303) 422-3914 FAX: (303) 422-8894 5686814@MCIMail.com |
| **9–10 June** | **NTG** 13th Meeting: "(LA)TEX, METAFONT, and tools education." Groningen, the Netherlands. | Gerard van Nes vannes@ecn.nl |
| **31 July– 4 Aug.** | **TUG '94**: 15th Annual Meeting, Santa Barbara, California. | Debbie Ceder tug94@tug.org |
| **26–30 Sept.** | **EuroTEX'94**: Sobieszewo, Poland. | Włodek Bzyl eurotex@halina.univ.gda.pl |

# *Fun and Games*

## Teaser

Malcolm Clark
Christina Thiele

Malcolm and I ran this little teaser in the last issue of TTN (3,1:14): "What's special about this sentence?" The answer? Put it all into caps, and then change the font, and ... voilà!

NO MEAN FEAT OFTEN MEANT FAME TO TEAM MEN ON A FOAM MAT.

The first three answers received were from: Jacques André (France), Ulrik Vieth (Germany), and Martyn Johnson (UK). Honourable mentions go to Katherine Butterfield (California) and Ed Baker (Massachussetts).

But that was, as we said, just a teaser. Now go on to the next stage!

## Tester

The task: Create the longest sentence possible using the letters in "METAFONT". It *does* have to be a (semi-)plausible sentence. The rules:

1. You may use any letter as many times as you wish to form a word.
2. You may not use the same word more than once in the sentence.
3. Sentences may be created in any language: diacriticals are not required. If the sentence is not in English, a translation must be supplied.
4. The words should be able to be verified by reference to an authoritative language dictionary (e.g. *OED* for English, *Langenscheidt* for German, *Larousse* for French).
5. Only one entry per person.
6. Deadline for submissions: **June 15, 1994**, via e-mail to `cthiele@ccs.carleton.ca` or snail mail to Christina Thiele, 5 Homestead Street, Nepean, Ont. K2E 7N9 Canada.

This time, the *best* three will be selected, each in a different language (choosing the first three answers turns out to be a bit unfair — you're at the mercy of your postal service!). To the esteemed panel of judges (Malcolm and myself), we've added Berthold and Blenda Horn. Good luck — and start creating!

# TeX and TUG NEWS
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**Volume 3, No. 2, 1994**

# Innovations!

# TUG'94 in Santa Barbara

We would like to take this opportunity to elaborate on what we have scheduled as social events for the conference this year. The conference will open with registration on Saturday and that evening there will be a reception in the Residence Hall. This will be a good time to say hello to old friends and possibly meet new ones. Sunday will see the ever-popular night of bowling.

For those staying on campus, Monday evening's dinner will be a barbeque on one of the beaches surrounding the campus. Tuesday afternoon will be open for exploring Santa Barbara, sightseeing in the Santa Barbara Channel aboard one of the charter boats, or a trip to a local winery for a tasting experience. That evening we will all meet at the Red Dog Saloon for a romping good time of country and western music and dance.

The banquet will take place outdoors on Wednesday evening in the courtyard of Santa Rosa Residence Hall. The cost of the barbeque and the banquet are part of the room and board fees for those staying on campus. If you choose to stay off-campus and wish to take part in these activities, please contact the TUG office for the additional charge.

We at the TUG office want this year's conference to be the most memorable to date and are striving to make it as entertaining for all as possible. Santa Barbara is a beautiful setting and we hope your stay with us will be a pleasant one.

## TUG 15th Anniversary Meeting

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| **Where?** | Santa Barbara, California (west northwest of Los Angeles) |
| **When?** | July 31 to August 4 (with courses before/after these dates) |
| **Who?** | Everyone interested in TEX, LATEX, and METAFONT! |

See pp. 21–23 for more details on the meeting.