New books on TEX[1]

Victor Eijkhout

Center for Supercomputing Research and Development
University of Illinois
305 Talbot Laboratory
104 South Wright Street
Urbana, Illinois 61801-2932, USA

eijkhout@csrd.uiuc.edu

Even though English seems to be understood by just about everyone nowadays[2], TEX books in other languages still serve a useful purpose. Sometimes it looks as if the whole of Germany learned LATEX from Helmut Kopka instead of from Leslie Lamport, and in France Raymond Seroul's *un petit livre de TEX* is very popular. In both cases, the rest of the world is getting a chance to see what it's been missing. Kopka's introductory volume (see elsewhere in this issue) is being translated, and Seroul's book has just appeared, under joint authorship with its translator, Silvio Levy.

A Beginner's Book of TEX (Springer Verlag, New York, 1991, ISBN 0-387-97562-4) is more than just a translation of the earlier book[3]. Levy is described as 'translator-turned-coauthor', and the most visible difference is the incorporation of the features of TEX version 3. The result is a rather handsome volume. For one, the text is very well-written, never feeling like a translation. The worst errors that I found were the misspelling 'wierd' which appears twice; the idiom 'head over heels' is used where something like 'topsy-turvy' was meant, and the reader is told once that by finding an error in TEX 'you'll earn your prize and a place in the official listing of TEX's (former) bugs'. In general, the style of writing is the type of 'dialogue with the reader' that characterizes the TEXbook.

Another good point about the book is the rather open layout. The typefaces used are Times Roman and (its inevitable companion) Helvetica. Choosing these typefaces instead Computer Modern, while in itself not too adventurous, removes the book immediately from the spheres of 'yet another book done with the TEX font'. The Computer Modern family is used to show examples of TEX output. A nice idea, although the effect is sometimes rather subtle, if just a single word of Computer Modern appears in a paragraph of Times.

My only criticism of the layout is that the book itself uses `\parindent=0pt`, so the output of some of the examples is different from what the ordinary user (who sticks to the default value of the indentation) will get. The authors should have made a remark about this, or have prevented this from happening altogether.

The structure of the book is as follows. Chapter 1 is an introduction, chapter 13 is the 'Dictionary and Index', and in between are chapters that each treat an aspect of TEX, for instance modes, glue, paragraphs, math, or TEX programming. Although the final chapter is at 90 pages a generous one, and, well-stocked with examples, more than a mere index, I was most impressed with the expository chapters. They are meant for careful reading through them, rather than for easy reference (although the index refers back to the them), but they contain an amount of information that is very respectable for an introductory book. It pleased me particularly to read the section on modes, a subject that is shunned by all other introductory books on TEX so far. The book contains many examples that illustrate their point well.

Of course, this book doesn't treat everything about TEX. The chapter on page layout has many examples, but, understandable, doesn't go very deep into output routines. The control sequence `\expandafter` appears only in the Dictionary, and even there the reader is told that 'this subtle primitive is not for beginners'.

I have one comment about the Index/Dictionary, and that is that it contains too many irrelevant entries for my taste. It was the authors' idea to make the index refer to the examples 'by content', but it irritates me finding the likes of Humpty Dumpty and Bilbo Baggins

[1] To be published in TUGboat, © 1991, TEX Users Group.
[2] Maybe excepting the American students who just scored an all-time low for their language abilities on the Scholarly Aptitude Test.
[3] In this reviewers opinion, however, the title has suffered from the translation. The original title had more of a *je ne sais quoi.*

all over the place.

In general, however, I found little to complain about in this book. There are hardly any TEX errors, and the ones that I found are not very serious. The worst error was that the authors claim that the keywords `height`, `depth`, and `width` have to appear in that order, whereas they may appear in any order. A case of misleading information is that the authors repeatedly recommend `\vglue` where the plain format of TEX version 3 has `\topglue`. Some other comments: the authors talk about 'the family `\fam1`' as if it were an identifier like 'the font `\MyFont`', whereas it is an assignment; calling `$` with category 12 an 'active character' because it prints as a dollar (page 173) is an unfortunate choice of words; and the reason that there are 18 `mu` to a quad may be an obscure one, but it is not 'only known to Knuth' as the authors state: the division of a quad in 18 basic units has been the standard for Monotype equipment for ages (this fact also appears in the space of the computer modern fonts: for the roman font the space is 1/3em plus 1/6em minus 1/9em).

All of this is minor squabbling. This book does an admirable job of bringing together in single chapters enough information about topics in TEX for a starting TEXer to be able to 'typeset just about any document'. It is superb as an introductory reading text, and the Dictionary/Index can be used for reference later on.

Impression INRSTEX, and some more

Kees van der Laan

cgl@rug.nl

1 Prelude

Hi Michael,
Thank you very much for the INRSTEX materials: the soft bound syllabus and floppy with the system. At the moment I can't read these high-density floppies but I trust it contains the INRSTEX manual, while the syllabus reflects the reference book. I read the reference book and in order not to let my energy go into thin air, and feeling obliged to you, I decided to comment the manual and with your consent publish this 'Impression', adopted to MAPS style, in next NTG's MAPS.
Kees

2 Impression of INRSTEX

INRSTEX is a macro collection on top of plain TEX developed by Michael J. Ferguson. The version I received was dated 1986/4/8. So the most simple observation is that it does not reflect TEX version π. INRSTEX has similar functionalities as LATEX. The reference book is quite elaborate on how to use INRSTEX and well-done. For inclusion of figures TEXgraph is used. TEXgraph is built upon the graphic primitives of the QMS laser printer. The latter approach is outdated because most people use nowadays encapsulated PostScript for that purpose. Moreover, other more recent graphic capabilities —like PiCTEX or Capture— are not mentioned. The mentioning of similar work is in general lacking in the syllabus. The syllabus I read contained page 137 and 138 in wrong order.

With respect to TEX and INRSTEX my general impression is that the syllabus is thorough and well-done. Personally, I would have liked references to the pages in the TEXbook to be included, for explanation of more details. Despite this positive impresssion I have the following critics, though.

2.1 Fonts

The fonts chapter needs adaptation with respect to: virtual fonts, font selection schemes, and cmr instead of amr usage.

2.2 Math

The math chapters can be improved by adapting the macroscopic and microscopic viewpoints: how is the math entity positioned within the surrounded text, and how are the math commands combined in order to obtain the entity proper. Furthermore, I would like the list of math symbols to be structured into the different symbol classes similar to the way it is done in appendix F of the TEXbook. I missed how to obtain correct sizing of newly created operators dependent upon the context of usage. Agreed the use of `\buildrel` is mentioned, but that is not enough. With respect to automatic equation numbering, I pity that parentheses around the equation number to be part of the copy and not a result of the used format. The `\smash` command is not accompanied by a (practical) example, nor is the empty formula concept introduced, which is sometimes handy in multi-line math alignments. Not to speak about the effect of a pair of braces around an operator. (Changing a formula class into class 0.) The hyphenation of long math formulas, and how to achieve that with (INRS)TEX, is not mentioned either.

2.3 Table making

For table making the complicated example on page 106/107 consists of one header row and two contents rows, with the header row substructured. The (INRS)TEX encoding needed something like 11 rows. An unnecessary and unwanted discrepancy between the (descriptive) structure and the TEX encoding. Provide one headerrow, and two contents rows with the text in the first column appropriately placed in a `\vbox` with suitable `\hsize`, vertically centered for each row.[1]

2.4 TEX example book?

The publication made me curious with respect to the TEX Example Book, which was alluded to, without a concrete reference. I'm also curious to the INRSTEX

[1] In the Dedham preprints Michael Downes mentions Cowan's work —tables.sty— which has the unique feature that you don't have to type the preamble line setting up the format of the columns in the table. The format is determined automatically by the contents of the table! (Michael has used it for simple examples and it worked well. Interesting).

manual with all the macros listed and programming decisions explained. From the way the complicated example about table making was encoded, I expect the TEXniques 2 issue: Table making - the INRSTEX method, not structural simpler than plain's facilicities, nor do I expect table encoding to be guided by the descriptive approach.

2.5 Bi-linguality

But, . . . the bi-lingual aspect, an issue Michael has paid attention to for so long a time, is a strong point, further elaborated in MLTEX.

3 Michael's comments

3.1 INRSTEX

I have a brand new package with an updated Reference book. It now includes the graphics and is based on cm fonts rather than am. The font selection mechanisms of LATEX are not terribly important because INRSTEX font families, eg `\tenpoint`, . . . automatically choose the correct fonts for section headings, etc.

3.1.1 Description

INRSTEX is a complete document preparation package, including graphics for document preparation. It was designed from the beginning for use in a bi-lingual (French/English) environment. The system, excluding its graphics component, is usable with any TEX system but is most useful, when using ordinary 'cm' fonts with an MLTEX system. TEXGraph will work with any reasonable PostScript driver ans has been specialized here to work with a modified modified version of Nelson Beebe's DVIALW on the IBM PC and uses Tom Rokiki's DVIPS on the UNIX workstations. The PC Version of the package includes an MSDOS version of the modified DVIALW.

The INRSTEX macro package kernel is built on top of PLAIN. All the facilities of plain are left intact and available. Additional facilities are included for

- section and chapter heads,
- lists,
- easy tables,
- floating figure and table insertions,
- footnotes,
- automatic generation of table of contents, list of figures, and list of tables,
- automatic numbering of equations, section heads, etc.,
- symbolic referencing of equations, sections, etc.,
- optional margin notes to aid in keeping track of symbolic references,
- automatic generation of citation lists (IEEE style only),
- a subdocument feature for building large documents in pieces,
- a verbatim style using `typewriter` fonts for such things as program listings,
- a several document styles including a paperstyle and bookstyle,
- TEXgraph,[2]
- slide making including graphics for letterhead.

3.1.2 FTP availability

I am making the INRSTEX document preparation package available over the network. There is both a unix and a pc version available. These differ only in the way they handle auxiliary files and graphics.

It is available from:
`aldebaran.insl.mcgill.ca` (132.206.94.5)
`/pub/inrstex/pc` (directory for the pc)
`/pub/inrstex/unix` (directory for the unix version).

3.2 MLTEX, Oct. 1991

Next to INRSTEX information, Michael also provided information about MLTEX.

3.2.1 Description

MLTEX is modification of TEX3.+ that allows hyphenation of words with accented letters using ordinary "cm" fonts. It does this by translating TEX's internal code, following the TEX EC standard, into an equivalent ⟨accent⟩⟨letter⟩ just before the character is sent out to the .dvi file. These modifications have been called, internally "charsubdef".

In order to use it, you must merge the `char_sub.ch` file with the appropriate change file for your port. This `char_sub.ch` change file is essentially system independent.

3.2.2 FTP availability

The change files for MLTEX are available on
`aldebaran.insl.mcgill.ca` (132.206.94.5)
`/pub/mltex` (directory).
The files included in both `mltex.zip` and `mltex.tar.Z` are as follows:

1. `char_sub.doc` —charsubdef documentation.
2. `char_sub.ch` —change file for charsubdef, modified May 1991, missing characters in sub list.
3. `extdef.tex` —an essentially ISO-Latin 1 definition of charsubdef . . . including uccodes (Mar 91).
4. `compatible.tex` —a set of macros to translate accent sequences into internal 8 bit codes. This set also includes inverses for the characters.

[2] A graphics system for drawing figures and inserting external figures. This uses the graphics primitives of PostScript. It is inside rather than outside the TEX system.

5. `masthyph.tex` —a master hyphenation control file that allows pattern files with accented letters to be input with the accented letters given by TEX's backslash codes eg `\'e` for . . . ,
6. `frhyph.tex` —a (the?) French hyphenation file illustrating the \. . . coding in the patterns.
7. `ctex_csb.ch` —The Unix change file for converting TEX 3.14 to Big MLTEX.

Yours,

Michael J. Ferguson
`mike@inrs-telecom.uquebec.ca`

$\mathcal{AMS}$-TEX

Ralph Youngen

I wish to thank everyone who has used the recent versions of the $\mathcal{AMS}$ products and reported bugs or suggestions to the $\mathcal{AMS}$ Technical Support group. The purpose of this mail is to announce an incremental posting of new versions of several files in our TEX distribution on `e-MATH.ams.com`, subsequent to our major upgrades which were posted on July 2. The version numbers for the products themselves will remain unchanged: $\mathcal{AMS}$Fonts and $\mathcal{AMS}$-TEX are version 2.1, and $\mathcal{AMS}$-LATEX is version 1.1. However, the version numbers embedded into any updated files (listed below) have been incremented by adding a letter to the version number. For example, `ams/amsfonts/doc/userdoc.tex` is at version 2.1a, but `ams/amslatex/doc/amslatex.tex` is at version 1.1b because it has been updated twice since version 1.1 of $\mathcal{AMS}$-LATEX was released.

Changes to $\mathcal{AMS}$Fonts 2.1 are in the documentation only. Changes to $\mathcal{AMS}$-LATEX 1.1 are in the documentation, as well as a some bug fixes. See the amslatex.bug file for details. Changes to $\mathcal{AMS}$-TEX 2.1 are in the documentation, as well as a few bug fixes. See the amstex.bug file for details. Changed to files in the author-info area are bug fixes which caused TEX errors to occur in previous versions.

Additionally, at the request of several people, we have made tar archives of the $\mathcal{AMS}$Fonts pk files available for retrieval by FTP. These tar archives are broken down by resolution and can be found in the main `/ams` area where the other tar archives live. See the `ams/READ.ME` file for more details.

Below is a list of all files that have changed on `e-MATH` since the major posting on July 2, 1991 (excluding tar archives). We ask that archive maintainers please consult this list and retrieve these files from `e-MATH` to update the ams area on your own archive.

Archive maintainers should feel free to report any problems or questions concerning this update directly to me at `rey@math.ams.com`. Bug reports, general questions, or suggestions should continue to be sent to `tech-support@math.ams.com`.

Thank you.

Ralph Youngen
Supervisor, Technical Support
American Mathematical Society
Internet: `rey@math.ams.com`

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ams/amsfonts:
         6495 Sep 13 15:18 READ.ME
ams/amsfonts/doc:
        20351 Sep 13 15:17 userdoc.def
        29498 Sep 13 15:17 userdoc.ins
        53989 Sep 13 15:17 userdoc.tex
ams/amslatex:
        19887 Sep 13 15:20 amslatex.bug
ams/amslatex/doc:
        62362 Aug  7 09:45 amsart.doc
        15660 Aug  7 09:45 amsbook.doc
        16643 Sep 13 15:19 amslatex.aux
       158726 Sep 13 15:20 amslatex.tex
         8853 Sep 13 15:20 amslatex.toc
        88056 Aug  7 09:48 testart.tex
ams/amslatex/inputs:
        25709 Aug  7 10:03 amsart.sty
         9575 Aug  7 10:03 amsbook.sty
         9431 Sep 13 15:19 amsfonts.sty
        11304 Sep 13 15:21 fontdef.ams
ams/amstex:
         5112 Aug  7 10:31 amsppt1.tex
         7115 Sep 13 15:23 amstex.bug
ams/amstex/doc:
        73452 Sep 13 15:22 amsguide.tex
        21688 Sep 13 15:22 amstinst.tex
ams/author-info/guidelines:
        19695 Aug  7 10:14 amsl-art.tex
        17716 Aug  7 10:14 amst-art.tex
        63170 Aug  7 10:14 amst-gid.tex
        12113 Aug  7 10:14 amst-mon.tex
ams/author-info/sty-files:
        28478 Sep 13 15:23 memo.pkg-amstex
---------------------------------------
```

LAMS-TEX

Michael Spivak

spivak@rice.edu

1 The Software

LAMS-TEX (version 2.01) is now public domain.

The MS-DOS version is available by anonymous ftp at
math.berkeley.edu
in /pub/lamstex.

A UNIX version, a compressed tar file, is available by anonymous ftp at
june.cs.washington.edu
in ~ftp/tex.

You might also try
The TEX Users Group (TUG)
P. O. Box 9506
Providence, RI 02940-9506
Phone 401/751-7760
FAX: 401/751-1071
Internet: tug@math.AMS.com

I do not know of any MAC source at the present time.

2 The Documentation

The LAMS-TEXManual, 'LAMS-TEX, The Synthesis', approximately 300 pages, wire-bound, is $30.00, including postage (book rate, surface mail). For first class mail in the United States add $1.50. For air mail to Europe, Canada and Mexico, add $7.50. For air mail elsewhere add $9.50.

'The LAMS-TEX Wizard's Manual', presumably of very limited interest, is printed on demand. It explains the code of LAMS-TEX in thorough, complete, and nauseating detail.

It is 600 pages, printed by laser printer, on (both sides of) 3-hole punched paper (or regular paper, if you prefer). The cost is $40.00, including postage (again book rate). For first class mail in the United States add $2.50. For air mail to Europe, Canada and Mexico, add $15.00. For air mail elsewhere add $20.00.

This is actually only Volume I, and covers the material in Part I of 'LAMS-TEX, The Synthesis'. Volume II will not appear for quite a while, if at all. It should be noted that the material in Volume I covers virtually anything needed by style file designers, because commutative diagrams and tables already allow customization, as explained in 'LAMS-TEX, The Synthesis'.

'The LAMS-TEX Style File Designer's Manual' is still being written. It is essentially a considerable condensation of the 'Wizard's Manual', covering only the parts that are of importance to style file designers, although with some elaboration on those parts. It will probably be about 200 pages, wire-bound, and probably be sold for some bargain price.

The TEXplorators Corporation
3701 W. Alabama, Suite 450-273
Houston, TX 77027
713-524-5515
FAX: 713-523-6743

ScholarTEX

Yannis Haralambous

ScholarTEX is a collection of fonts, macros, preprocessor, hyphenation patterns, other related software and a 150-pages manual with many illustrations, exemples, exercises and mottos. It's purpose is to allow the use of TEX in the following alphabets:

- **Greek:**
  ancient as well as modern; input in 8-bit mode or entirely in 7-bit mode through ligatures; special Oxford symbols for epigraphical texts; hyphenation patterns in 7 or 8 bit mode. End-of-word ligature used for the final sigma.
- **Epigraphical Greek & Latin:**
  over 200 glyphs of letters coming from ancient inscriptions; two fonts: the second being the mirror-image of the first is used for automatic boustrophedon typesetting; simplified input in an active uppercase letters environment.
- **Armenian:**
  calligraphic or plain; slanted or straight; lowercase letter ligatures; input in 8-bit mode or entirely in 7-bit mode, through input ligatures; hyphenation patterns in 7 or 8 bit mode.
- **Arabic:**
  for Arabic, Persian, Ottoman, Urdu, Pashto, Malaysian; input encoding user-defined; possibility of transliterated output; insertions and marginal notes; compatibility with LATEX and TEX–XET; unpointed letters for old manuscripts.
- **Hebrew:**
  Hebrew and Yiddish; input encoding user-defined; possibility of transliterated output; insertions and marginal notes; compatibility with LATEX and TEX–XET.
- **Syriac:**
  Estrangelo; input encoding user-defined; possibility of transliterated output; insertions and marginal notes; compatibility with LATEX and TEX–XET.
- **Saxon**
- **Old German:**
  Fraktur and Schwabacher; end-of-word ligature used for the short s; hyphenation patterns adapted.
- **Phonetic alphabet:**
  the WSUIPA fonts (public domain) compiled and their original documentation reproduced.

The aim of ScholarTEX is to provide scholars the tools needed to typeset classical texts like the Bible (Hebrew, Syriac, Greek, Armenian), the Coran (Arabic), Homer's Poems (Greek), the Anglo-Saxon Chronicle (Saxon), Goethe's Faust (Old German) etc. ScholarTEX is an evolutive package: according to the specific needs of users, new glyphs can be added or the existing modified.

ScholarTEX is available in three versions, all three featuring bitmap (magstep 0 to 5), PostScript Type 1, EPSF and TrueType fonts, as follows:

Version	Mac-Textures	Mac-OzTeX	PC
Bitmap fonts	Mac Suitcase	PK & TFM files	
PostScript	Macintosh Type 1 Format (Type 1 font, suitcase and AMS file)		PC Type 1 (AFM, PFM, PFB)
TrueType	Macintosh TrueType suitcase		PC TrueType (TTF)

PostScript Type 1 fonts are also available for the NeXT device.

ScholarTEX also serves as a platform for the distribution of related public domain software after kindly permission of their authors; in all cases the original documentation is reproduced and the software is ready-for-use. For this release of ScholarTEX are included:

- the WSUIPA fonts, as already mentionned,
- the SB32 implementation of TEX–XET and ivd2dvi (in the PC version).

The price of ScholarTEX is $200 for individual users (please specify the version required); add $100 to obtain the sources (metafont, Pascal-WEB, PostScript). The price for Academic Institutions and Publishers is $500 (sources included).

For orders or information please contact:

Yannis Haralambous
101/11, rue Breughel
59650 Villeneuve d'Ascq, France
Bitnet: `YANNIS@FRCITL81`
Fax: (33) 20910564

Table of Contents TUGboat

Volume 12.1 and 12.2

March/June 1991

TUGboat tables of contents files are on `math.utah.edu` in `~ftp/pub/tex/pub/tugboat`, also accessible via `tuglib@math.utah.edu` server by "send index from tex/pub/tugboat".

1 TUGboat 12.1 (March 1991)

2 TUGboat 12.2 (June 1991)

'Insights in TEX' course

preliminary announcement

by David Salomon

Abstract

This course, with no hands-on, is aimed at TEX and LATEX users who are ready for to acquire more insights into the TEXnigma. For those who are still working at the 'book' level an extra one-day introductory course can be organized if need for that is large enough.

1 Course outline

Day 1: Introduction to TEX. The cm fonts. Tables (examples). Math typesetting (some advanced features). Modes of TEX.

Day 2: Boxes & glue. Paragraphs & Horizontal mode.

Day 3: Macros (advanced features & examples). Leaders. Tokens & \toks registers.

Day 4: File I/O in TEX. Examples of two-pass jobs. Output routines.

Day 5: Insertions. The line break algorithm (in detail). The page break algorithm (in general). The last afternoon can be spent to capita brought in by the participants.

2 Who? When? Where? How much?

Who? TEX and LATEX users.[1]

When? It is aimed at early June, 8–12th. The date is not completely fixed yet.

Where? Probably at the CWI, Amsterdam.

How much? For NTG members and member of similar user groups a flat Fl 100,– (no lunches and refreshments are comprised).
For non-NTG members Fl 500,–.[2]

The teacher is David Salomon, a well-known TUG teacher, and famous for among others his lucid tutorials in TUGboat. He is also a pedagogical gifted teacher, as I (Kees van der Laan) can tell from experience, attending his Dedham class.

3 How to subscribe?

Via snail Send a note, mentioning 'Insights in TEX'-course subscription along with name, complete address, phone number and email, to

Kees van der Laan
Hunzeweg 57, 9893PB
Garnwerd, The Netherlands
05941–1525

Mentioning of topics for the capita afternoon is very much appreciated.

Via email Send a subscription note, mentioning 'Insights in TEX'-course along with name, complete address, phone number and email, to

`cgl@rug.nl`.

Payment Along with the subscription, payment of the fee has to made to

Penningmeester NTG,
Giro: 1306238
mentioning 'Insights in TEX' course.

There is always the (improbable) possibilty that the course might be cancelled.

[1] For those who have no experience with TEX or LATEX an introductory one-day course can be organized, at additional costs, assuming enough participants.

[2] For those who don't believe in a quality course for that fee, it must be explained that NTG subsidizes the project. So it is a unique opportunity. NTG's philosophy is to provide the opportunity for members to increase their general TEXnowledge in one stroke.