6^{th} European TEX Conference

September 23–26, 1991, Paris

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Abstract

- **User groups:**
  CyrTUG is bound to become important. CSTUG prospers. HunTUG is modest. The Poles can't get organized. Yunus is only a list. The other five just go on.
- **Panels:**
  TEX in Europe, how can we obtain better acceptance?
  LATEX 3: impressive history, no release dates of yet.
- **Presentations:**
  Zlatuska's ACCENTS processor, for automatic generation of accented virtual fonts for European languages from English input fonts in the TEX font layout, looks promising.
- **Publishing houses:**
  MIR is involved. Springer is active and has some user guides out for a pilot journal. The Czech scientific journals are all formatted by TEX!
- **Products:**
  LAMS-TEX is still going public. Very promising though, especially the wizards manual.

1 Introduction

GUTenberg took the lead in organizing this meeting. The program committee contained representatives from other LUGs. The conference was well-organized. Some presentors forgot at which date they were scheduled for their act. Outside the (big) lecture room there were vendor exhibition space and PC's with FTP facilities, so that participants could read their e-mail and exchange files. (I received Nelson's TUGlib paper in this way!) Well-done! The conference was bi-lingual, simultaneous translation French ⇔ English. Representatives from mid and eastern Europe could attend the meeting due to grants from TUG and GUTenberg. In total ≈120 people registered, and roughly 100 attended the meeting. It became clear that DANTE had supported CSTUG tremendously! Bravo!

The proceedings are incomplete, and not of top quality, alas. My paper proved itself by stating that for math papers when changing from two into one column format, it is not enough to change the optional (columns) parameter. Furthermore, there is no entry to the paper in the index. It could have been Math, or education, or better still both. Both entries as such are completely lacking as well! An index entry to my paper does not occur under plain either, while it is all about math formatting in plain. Curious. Perhaps, the editor's task will be alleviated if keywords are provided by authors.

In the week before the meeting courses were held: LATEX (Intro by Malcolm Clark and Modifying styles by Chris Rowley), TEX (capita by Philip Taylor) and Metafont (by Doug Henderson and Yannis Haralambous). The organization of the courses was in the hands of Malcolm Clark.

I also grasped the opportunity to put some energy into the TUG publications committee work, while having a 'plat du jour' with Barbara Beeton. Via Patrick Ion I could also lay my hands on the proposed TEX encoding schemes for math: dmsy10, dmex10, deum10, and dmsa10.

From The Netherlands there were three speakers: Johannes Braams, Theo Jurriens and myself, and three other participants. I had a nice time with Theo together with the Russian delegates: Anatoly Urvantsev, who participated also in NTG's 6^{th} meeting at Utrecht, and Alexander Samarin.

Zlatuska won the Cathy Booth reward for the best paper.

Next year's meeting will be in Prague, September 92.

There was no 'Euro-summit', perhaps because Malcolm resigned as European coordinator. There had been no discussion either between the presidents of the local groups about for example evaluation of this meeting and how to procede in future. Bernard just announced the next meeting at the end of the conference, with consent of CSTUG (Zlatuska?), I presume. Although TUG's democracy has it's negative effects, I prefer the democratic model.

In the sequel I will not follow the day-to-day events, but concentrate on user group issues, presentations, BoFs and panels.

I did travel by train. The night train, couchette included, is very cheap.

2 User Group Issues

Nelson Beebe gave a survey of the state of affairs within TUG. Heavily biased towards his own (good) works.

Since Cork91 CSTUG prospers with a group of similar size as NTG. Most, if not all, of their scientific papers are formatted via TEX. They consider themselves strong enough to organize next year's meeting.

CyrTUG got organized, and is bound to dominate the scene in the (late) nineties. I expect this because of the rich scientific tradition in Russia, the PD character of TEXware coupled to the lack of money at the users level, THE publishing house —MIR— is strongly involved, the sound organization, and the sheer number of Russian (Cyrillic speaking) people. This all in spite of the reorganization difficulties at this moment in Russia.

HunTUG remains modest. Yugoslavia was absent for obvious reasons. And Italic? Peter is active for sure. Yunus is just a list, a 'virtual' group? And what about the Polish TEXies? Hanna mentioned the lack of organization and cooperation: 'two people have three different opinions.'

There was no time scheduled for the other European groups to report about their activities and inspire each other with their plans. A pity! Next best, I dropped 'NTG's Third Year' close to the copying machine. I also dropped the recent MAPS for inspection. Another copy of ukTEXug's 91–92 schedule of workshops was obtained by similar mechanisms.

3 Presentations

3.1 Language aspects

A few presentations dealt with the use of TEX in languages different from English, and even different from the Latin alphabet.[1] Johannes reported about his meanwhile mature, Babel project, which is bound to be incorporated in LATEX 3. Yannis was quite impressive with his ScholarTEX report. I leave the non-Latin contributions for what they are, because I'm a layman on the issue. One thing stroke me however: at least one presentor on the issue did not speak himself even one of the languages aimed at!

3.2 User interfaces

With respect to user interfaces we had Alexander Samarin: TEX integrated shell for the IBM PC, Lavaud: AsTEX an integrated and customizable multiwindow environment for scientific research, and Göpelt & Schmid: WYSIWIG-TEX-editors etc.

Samarin reported about 'yet another window/menu' system, intelligent with respect to selective loading of the needed (font) files. The system is written in Lisp, and not in the public domain of yet, if ever.

Lavaud's principle is sound: Try to make the best available, possibly at lowest cost, with what is available. His system is quite complex: Framework 3, a hypertext like file manager, interactive restructuring facilities for LATEX documents, an interface to FORTRAN for performing numerical calculations from a LATEX document, an interface to MAPLE for performing computations interactively from a text, a worksheet or a database. A PC in a LAN, equiped with this software, is claimed to to be a low-cost alternative for a workstation. Would you believe that?

G&S reinvented the wheel. No mentioning of the GRIF project was done. It is not clear to me how useful this editor is. It does not, because I don't need it, nor does it alleviate the task of typists because their problems are not solved by this, while formatting TEXscripts.

3.3 Utilities

On this front there was: Spivak's LAMS-TEX, Schrod's Makeindex activity, Leguy's Drawing tree structures, Cérin's Macros for colour TEXing, Laugier's Composition of chemical formulas.

Spivak has got fans in France, and he deserves it. His package is in the public domain and is certainly an alternative for LATEX at the moment, and possibly for LATEX 3, at least for mathematicians. So the AMS facilities, and Spivak's package are the tools for them. Hackers might profit from his wizard's manual, to be ordered via spivak@rice.edu, at copying costs.[2]

Schrod drew attention to the problems in creating a foolproof international makeindex. The problems can be indicated by the keywords: non-latin alphabets, special characters, formatting tags, different sorting orders. Does this demonstrate that one should not strive after universal tools, because of complexity?

Leguy demonstrated the reinventing of the wheel. He was not aware of earlier work. Therefore it is not clear in what sense this is better than what is already

[1] There was a curious presentation about the history of alphabets, and their relations by the Association Alphabets.
[2] See elsewhere is this MAPS for details.
[3] A. Brüggeman–Klein & D. Wood(1989): Drawing trees nicely in TEX. EP-ODD, 2, 2, 101–115.

available.[3] Of course his trees look nice, but suffer from the page-size restrictions. With a 'forest' every tree has to be handled separately.

For colour TeX it is believed that better alternatives than TeX are available. A research paper?

Laugier again reinvented the wheel. Since he is employed by Publishing house Louis-Jan, they certainly needed these macros for their formatting. Special symbols —lines— were available in the LINE10 font.[4]

3.4 Publishing houses

Interesting was the presentation of Angelika Binding, from Springer. They experiment with the production of one journal via TeX. She reported about the maintenance problems of all the files involved. The set-up of the styles was not similar to TUGboat, nor AMS. I have asked for a copy of the Springer demo and user guidelines.

Andrew Dobrowolski's presentation was similar to the one at Dedham. All about SGML, TeX, and FOSI.

3.5 Education

Not much about education. No education entry in the index of the proceedings. I think my presentation could best be classified under education. It deals with understanding plain in relation to math, and extending it when necessary, with as simple macros as possible. For complex math structures it is advised to adapt templates, and not to start from scratch. In the 'Am I Blue' section a handful of complex examples are provided.

The pitfalls treated are fundamental. LaTeX, (L)AMS-TeX, or ... TeX users might profit from it as well.

3.6 Fonts

Louarn reported about the use of the Lucida font families. Apart from a 'matter of taste' aspect, no fonts within these families are available for screen preview.

Zlatuska reported about accents handling via virtual fonts. His conclusion: 'The ACCENTS processor has been presented, designed for automatic generation of accented virtual fonts for European languages from English input fonts in the TeX text font layout. We have discussed the reasons why accented virtual fonts are worth being considered as a viable alternative to genuine Metafont-defined accented fonts. The ACCENTS processor has been programmed in WEB with substancial parts taken from VFTOVP and VPTOVF. It can be distributed freely and its source text modified under the GNU General Public licence condition of the Free Software Foundation. So far, change files for ports under MS-DOS and SCO UNIX are available (by the author and David Toman).'
Very intresting if only I needed them. In education as example of virtual font usage?

4 Panels

A pity of publishing the proceedings before the meeting is among others that panel discussions and the like disappear into thin air. No recording was done during the meeting and no conclusions were arrived at. What is the use of this?

4.1 TeX in Europe

Well-prepared by Joachim Schrod. No ETO (European TeX Organization) was mentioned.
His points are (with my comments within parentheses added):
TeX is for hackers not for users (I don't agree),
TeX does not meet the requirements of the different faculties of Universities (Again I don't agree),
TeX is not accepted at large because of high costs in teaching, maintenance and adaptation on the one hand, and on the other hand because housestyles require more typesetting capabilities than TeX can offer. (There is some truth in there, but the context is lacking. Publishing starts with authors in relation with a publishing house. And that might work, see Knuth's impressive books.)
TeX is a monster to maintain (If you want to do everything, even if you don't need it, you will of course end up with a software monster. But once you have targetted your users the task of what to maintain cost-effectively is simplified and shrinked into manageable proportions.)
Eastern Europe requirements are unknown. (Just wait and see what among others CyrTUG will come up with. Just publish your own papers.)
Will adopting other related standards improve acceptance? (Again show by the quality and cost-effectiveness of your publications that it is a worthwhile tool. If so, other standards will come down the road.)

4.2 LaTeX 3

I was very much surprised to see Philip Taylor on this panel. He justified his presence because of the complete flexibility aimed at in the LaTeX 3 project. Chris Rowley neatly summarized the activities.[5] The keywords are: flexibility, extensibility and modularity. The approach is: kernel + modules, with fully documented code and module interfaces, a designer's interface will also be provided. Some further thoughts are: no fragile

[4] From the Heidelberg server one can obtain chem.TeX, a different but suitable package.
[5] I received from Chris a copy of David Read's report: Some ideas to improve LaTeX. It is discussed from the SGML viewpoint.

commands, support for multiple languages, extra graphics facilities (using standard specials), error recovery, support for built-in help, support for any font, more commands will have environmental forms, named arguments, register arithmetic, support for various short forms, flexible float facilities, formatting of SGML-Tagged documents.
A walk through history lane

- Frank Mittelbach and Rainer Schöpf started the project.
- At Stanford89 Frank included a designer's interface.
- During 1990 discussion took place of what was needed for the user-interface. In May91 Leslie Lamport agreed with the specification.
- During 1990 it became clear that modification was not sufficient: a complete new system had to be developed.
- In 1990/91 workshops were held to discuss and elaborate on the designer's interface.
- Now and then some prototype code appears and is promptly critisized and modified.
- . . . no release dates of yet.

Compare this with the ease of using whatever TEX as-is, and modifying manmac if need be, next to collaboration with your publisher (or better your context) on the available tools to be used to get the material out. But we are a vocational group are not we?

From the audience I picked-up the following.
Graphics? Will not be available.
Will the specs be published as such? All will be documented. No dates available.
Will TEX be a proper subset of LATEX 3? Phil suggested to provide an environment which would supply full plain TEX.

5 BoFs

The usual BoFs were held: Future of TeX, Drivers, Fonts, and the brand new one, yes at last, about education. 10 persons for education signed up. The subject is very diverse because of the different backgrounds. Because I chaired that BoF it is easy to include the opinions expressed. It might be of interest to forward these kinds of opinions to the BoD of TUG or to the relevant committee, if any. Certainly, I will pay attention to this as part of my work for the Long-range Planning committee.

Education BoF report. In total 10 people attended:[6]
Kees van der Laan, cgl@rug.nl ((La)TEX, SGML teaching experience),
Theo Jurriens, taj@rug.nl (LATEX teaching experience especially with personnel),
Kriszta Hollo, h115hol@ella.hu (Occasional teacher),
Anne Desarmien, desarmea@esiee.fr??? ((La)TEX teacher),
Ghita Olsen, mdgugo@vms2.uni.c.dk??? (LATEX teacher),
Pierre Dagnelie, gadneliebgxfsa51.be (No teaching at the moment),
Philiipe Maziers, anorsubuclln11.be (TEX teacher),
Lothar Meyer-Lerbs, g07mhbrrz41.ge??? (After course assistance),
Simon Claudet, (Not a teacher),
Mesniry(???), (Not yet teacher).

Time was too short to arrive at conclusions. One thing became crystal clear: teaching is very much context dependent, and biased by the local situation. TUG courses should not address the beginner, that can be handled locally. I mentioned TUG's activities: the TUG courses, and the activity of the Longe-range Planning committee paying attention to the issue.
Then there is the (inactive) TEX education list: tex-ed@uicvm.bitnet.
We also have Bart Childs' TUG publications: Teaching TEX, TUGboat 10, 2, 156–163, and Answers to TEX tests, TUGboat 10, 3, 319–323.
A reaction to Childs' Teaching TEX: Van der Laan: Teaching TEX: Critics and LATEX proposal. MAPS 90.1, 77-82.
Furthermore, there has been published: Charles Martin(1990): TEX for TEXnical typists, TUGboat 11, 3, 425–428, and Theo's contribution about TEXniques in Siberia, Cahiers GUTenberg, 10&11, 7–13.
Donald Knuth (1984): A course on Metafont programming, TUGboat, 5, 2, 105–118.
Richard Southall's report: experiments in Teaching Metafont, in TEX for Scientific Documentation(1985), Addison-Wesley.
Last but not least NTG has a working group on the issue: WG1 Education. Reports of its activities appear in NTG's MAPS.
Generally available selfteaching courseware:
Michael Doob: Gentle introduction to TEX.[7]
Michael Urban: An introduction to LATEX.[8] Both can be ordered from the TUG office. Other books introducing (La)TEX do exist, see for example Nelson Beebe's bibliography at TUGlibscience.utah.edu.
Then there is the pile of video tapes (with DEK life): Software design course based on TEX The Program, available for rent from the TUG office. A set of exercises for 'The Program' has been published in TUGboat, 11, 2, 165–170.

Other aspects mentioned at the Paris Education BoF were:

[6] Email addresses proved wrong in distributing this part.
[7] Translated into many languages. For a review see elsewhere in this MAPS91.2 or consult TEX-NL.
[8] Also translated into French, as part of GUTenberg cahiers series, ISSN 1140-9304.

pricing policy (prices range form for free to TUG's prices),
teachers (most teachers are local, and not of advanced level, there is no need for TUG teachers for the low-level/introductory courses),
courseware (provide standard exercise sets, courseware's function is to support or to take from, self-teaching aids are useful, module contents can best be prescribed via keywords, example teaching, impress people by power of TeX, be aware of language problems, courseware preferably in the native language, math atlas of templates is needed, provide knowledge of typography),
TUG courses (advanced are useful, more time for lab work, workshops to show solutions of frequently occurring problems),
homogenity of groups (wishful, user level typists and scientists),
announcements (make teacher known),
self-teaching (misconceptions are the danger, time-intensive).

Not discussed were teaching issues related to the Document Preparation Workbench: (La)TeX intelligent editors, easy file/font handling, wysiwyg user environments, nor pedagogical aspects.

No general conclusions were arrived at, but the discussion has been (re)started, and will continue, hopefully.

6 Q&A's (Phil Taylor, Raymond Seroul)

Once again most of it disappeared into thin air. A pity.
Theo raised the problem how to fill-out every line with dots, as is the habit with legal documents.
Another problem was how to flow text around figures. (Solutions published elsewhere.)
A problem resulted from fonts and Postscript usage: ex is not the height of the lower case letter. The solution is to measure the lower case letter, calculate ratio, load extra font at required size.
Phil challenged the audience —and offering a drink for the correct answer— by the question how TeX would react upon an empty `\if\else\fi`? A theoretical problem, though, with a non-trivial answer, dependent upon the context.

Dictionary: e-mail translates into courier électronique.

The TUG91 Annual Meeting

July 15–18, 1991, Dedham

Kees van der Laan

Abstract

- **Education:**
  David Salomon is a great teacher: insights! He has donated his notes to TUG for inclusion in the TEXniques series.
- **Publishing houses:**
  THE publishing houses accept (La)TEX copy. AMS leads with their total production formatted via TEX: 90K pages per year.
- **Interchange format:**
  DVI and Encapsulated PostScript!
- **Workshops:**
  Modifying manmac was great!
  The ways of encapsulating Postscript are put together by Anita Hoover. (see elsewhere in MAPS)
- **Products:**
  LAMS-TEX goes public.
  Arbortext has extended and improved their products.
  ETP, of Mimi Lafrenz, did steal the show.

1 Preliminary

In the sequel attention will be paid to David Salomon's course, discussion of most papers presented at the conference, some rumours about the LATEX 3 project, and the vendor boots.
In the corridors I enjoyed meeting Mimi Lafrenz, of ETP. I also shaked hands with David Fuchs, yes THE. I also met Gillian Murray and Diana Berezowski, nice Canadian ladies from Carleton University (CU). The result of that was that my paper Math into BLUes, part I and II, has been presented at CU, after the meeting. It was extremely pleasant to refresh earlier made acquaintances, David Salomon, Don Hosek, Yannis Haralamboulis, Jackie Damrau, Lynne Price, to name but a few people who I vaguely new. It was really nice to pass time with friends at dinner. In 'Casa Portugal' I enjoyed sitting next to Mimi Bourbank, one of the anonymous editors of the proceedings, and opposite to David Salomon.. She, together with Christina Thiele, really improved my paper, and arranged that a real version of it will be included in the proceedings, despite its length.
I could not attend all presentations due to BoD committee work. For the Long-Range Planning Committee the roadblocks for effective working via email were removed, and the Publications committee agreed on the issues to be worked out later.
I flew by NorthWestern and enjoyed lodging at Amy's place; the weekend after I was the guest of Christina Thiele (and her Mike) at Ottawa. A pleasant time, if not for the really overloading work during the conference: Conference, BoD meetings, and committee meetings; then the pleasant talking to all those new faces, with the difficulty of remembering what they are up to next to their names: several Mimi's, even more Davids, some Dianas, Michaels, Peters, Chris', just one John —THE John Radel, and those interested in a copy of my paper: Harumi, Derick Wood, and Michael Wester. And believe it or not there are still people I have not met yet.

1.1 Course advanced TEX

Partly as BoD observer and partly as participant I attended Salomon's 5-days Advanced TEX course. Only 5 students were present. The lab made use of Macintoshes. That is an easy-going TEXnigma: easy file handling, fast compilation, handy correction of TEX input, all supported by windows and icons. Amazing simple was the font selection. A powerful previewer and a suitable printing facility completed the 'desk'. David's course can be characterized as: he provides insight to the topics spread all over the TEXbook. His coursenotes have been submitted to the TEXniques series as a donation to TUG. The notes reflect his broad knowledge of what has appeared in TUGboat. During the lab I reworked Leban's Towers of Hanoi via TEX, TUGboat, 1985, 6, 151–154.

2 Conference

2.1 Organizational aspects

The conference was held in the Dedham Hilton, 10 miles south of Boston. The temperature was in the upper 90-ties. Roughly 250 persons attended, with 50 or so one-day participants on the first day. The theme was well-chosen: Inroads into publishing, and quite a number of publishing houses participated. Along with the presentation of papers, workshops, panels and BoFs were held. A few networking lunches were organized, so that between the mouthfulls no silence was to be heard. (In my opinion a good try to get people with the same interests together, but it did not work. I joined the SGML table but found no real openness, nor willingness to address issues different from pushing SGML. Too bad.) As always there were vendor booths, exhibiting new TEX products and consultants making themselves known. Amy has got quite a reputation already.
The day after the meeting was devoted to a LATEX hearing, which required some extra $'s for participation, devoted to the new LATEX 3 project fund. Before and after the meeting courses were planned. Some were cancelled because of insufficient number of participants. The conference dinner was a Clambake banket: lobster which will wet your neighbours when improperly handled. (The secret is to let the water out before cracking.)

There was no price for the best paper, or the big show, but certainly the British deserved it, in making clear why an on-line help service is needed, as a warming up to Peter Flynn's paper. (Malcolm Clark as an innocent user was pissed-off from pigeon hole to pigeon hole. Doug and Allen did a great performance as respectively a real hacker and a maffia salesman.)

At another occasion, Malcolm imprinted the concept 'TUG a Member'. I felt at speaker's corner. A nice hand-out supported his act. (When you TUG a member a bonus T-shirt awaits you.)

2.2 Monday, July 15

The conference traditionally started with the 'Introduction to TeX' lecture, done by Alan Hoenig. (A nice survey to be taken over as part of our info package.)[1]

Nico as keynote speaker! (See elsewhere inn this MAPS for his paper.) The first day was scheduled with Publishing houses in mind: how do they work and what is the status of TEX in their processes.

Comparing TEX and traditional typesetting for the composition of a textbook. (Petrycki) This A-W-paper set the pace. I can't better summarize the talk by providing the abstract and conclusion.
Abstract
Producing a textbook with TEX, as opposed to a traditional typesetting system, requires different procedures to achiev a similar final result. The publisher's production staff takes on a much different role and enters the publishing process at an earlier stage when a book is produced with TEX. The most significant issue A-W faces when a book is typeset with TEX is the availability of typesetting houses who can produce the book at the level of typographic and page make-up quality we require. When we use a traditional typesetter we may pay a higher price, but we can count on meeting our publishing standards. The most significant advantage of producing a book with TEX is the accuracy of mathematical material, which then does not have to be rekeyboarded, and with which we can easily produce a subsequent edition or spinoffs.
Conclusion.
In my experience, traditionally produced books are more predictable and easier to work on than those produced with TEX. However, TEX does have its place in the technical publishing house. For some authors, using TEX is the most viable option when they want to preserve the accuracy of their mathematical equations. We will continue to support these authors by providing macro packages and working with TEX typesetters to provide the same kind of services we expect from more experienced traditional typesetters. Producing a book with TEX is a process that can proceed as smoothly as traditional typesetting as long as we have done the proper upfront planning and have evaluated the tradeoffs.

Contra-LATEX, or what really works in the publishing world. (Bartlett) Bartlett considers LATEX inferior to TEX because of:

1. LATEX files will be 10% or more larger than an identical plain TEX file.
2. It takes longer to run LATEX.
3. Inputting corrections becomes more difficult.
4. Implementing the publications style is much more difficult to do on top of of LATEX than on plain TEX.

His advice to a novice TEX user in order to produce perfectly acceptable files is:

1. Avoid using TEX primitives, especially those that control spacing, but always call them from macros. (`\kern`, `\v/hskip`, etc. The only place authors should use plain or primitive control sequences is in math mode.)

[1] A reprint is provided elsewhere in this MAPS91.2.

2. Use a macro for every typographical or logical entity in your work. (`\section`, `\example`, `\theorem`, etc.)
3. Use simple automatic numbering and cross-referencing macros. (Print characters as the label in the margin on the proof copies.)

My experiences are similar to Bartlett's, although I use TeX, and LaTeX, whenever convenient. For macros I use TeX, such that the codes can be used within LaTeX as well. In my opinion his criticisms and advice should be incorporated in courseware.
It is hoped that publishing houses will continue to provide style files, so that the disadvantages of LaTeX are less severe. Hopefully, LaTeX 3 will address the mentioned disadvantages as well.
A real hands-on paper, with in an appendix criticisms on published, TeX formatted books. It is full of insights.

User: a typist or typesetter? (Anita Hoover)
This was all about experience from the user support service.
For theses publication it is advised

- to start from supplied (and documented; examples of use) macros
- to have support available
- to provide inputting support tools (matching verifiers, de-TeXers, spell checking).

Hidden costs are: advisory service, increased user inputting time.

DVI and EPS: the ideal Author-to-Publisher interface. (Horn) DVI files specifying text and document format, along with Encapsulated PostScript (EPS) filter for including figures, are rapidly becoming the de facto standard for interchange of machine readable manuscripts in technical publishing.
DVI-files are extremely standardized, portable and compact.
The advantage of dvi-files over raw TeX-files is that there is no need to bring up the special version of TeX used;
the advantage of dvi-files over Postscript files is that dvi-files are resolution independent.
All that is needed now is a simple standard for figure insertion using `\special`, as is to consider resolution independent Postscript.

Panel: TeX in publishing. The general trend was that publishing houses accept (La)TeX compuscripts, especially for mathematical/technical copy. A major issue was the communication between publisher and autor (Yes, trivial, but experience has it that it is so much underestimated!) Another advice was that authors should refrain from visual lay-out as much as possible: don't design! Not surprising that AMS leads: their complete production is now formatted by TeX, and they provide very good user guidelines along with their PD packages (Macros and fonts)! My general impression of this first day is that the promise[2] did not come through completely, but that TeX has earned its place, especially when typesetting math. In that area it has succeeded with respect to the creative needs of authors and the money-making needs of publishing houses and typesetters. Roughly 20% of scientific book production is done with the aid of TeX. A-W, Prentice-Hall, Springer-Verlag and Elsevier Science Publishers accept mainly LaTeX compuscripts. I have not seen detailed guidelines for authors, similar to those of AMS of yet. AMS accepts compuscripts in $\mathcal{AMS}$-TeX, and AMS–LaTeX (The AMS extension of LaTeX.)[3] Not treated was the issue of self-publishing.[4] It is taken for granted that authors should not. With electronic dissemination in sight, and TeX and Postscript universally available, it is not that obvious. It is done in practice, at a small scale, however.

Workshop: Modifying Manmac. This lab on Macintoshes, by Daniel Olson, was extremely well-done. It showed that it was not that difficult to understand and modify Knuth's macros used for producing the TeXbook.

2.3 Tuesday, July 16

This day was mainly devoted to the SGML-TeX relation. The introduction by McGaffney, did not bring new issues, it even compared SGML and TeX, while they perform different roles! He did not mention competitors, nor refer to other work on the interrelation. No mentioning of problems in using TeX as back-end to SGML.
Sperberg-McQueen elaborated on the SGML tag set created by the Text Encoding Initiative project.[5]
From the abstract: 'This paper focuses on the ways LaTeX and the TEI identify and classify the structural and other components of text; discusses the models of text underlying the two systems and the methods of text

[2] For 10 years or more, TeX has promised authors full control of the typographical appearance of their books and publishers a way to turn out high-quality books at much lower costs.
[3] Note: Spivak's L$\mathcal{AMS}$-TeX is an extension of TeX reflecting LaTeX features, and some more, especially commutative diagram tools.
[4] See for instance: Meadows, A.J. (1978): Should researchers also act as publishers? Universiteit en Hogeschool, 24, 6, 354–361.
[5] Sperberg-McQueen, C.M. and Lou Burnard (eds.) Guidelines for the Encoding and Interchange of Machine-readable texts. Text Encoding Initiative, Chicago, Oxford, draft version 1.1. edition, 1990.

definition and validation they make possible; describes a number of specific issues that arise; considers some systematic differences; and describes one possible way in which they might coexist.'
Note: remind however that no mentioning of tables, math nor graphics was made.

Typesetting SGML documents using TEX. (Dobrowolski) Again Andrew provided an innovative contribution. He concentrated on typesetting SGML documents with TEX as formatter, guided by the Formatted Output Specification Instance (FOSI).
Abstract:
Since its publication as an international standard in 1986, the Standard Generalized Markup Language (SGML) has become a preferred document-markup standard within many industries. Many users have developed their own document type definitions (DTDs) that define the elements (tag sets) for their documents. However, if SGML is to become a universally accepted standard of document interchange, then a standard way of specifying formatted output and a means of producing that output will be needed. The U.S. government's Computer-aided Acquisition and Logistic Support (CALS) initiative selected SGML as the standard for text interchange. The output specification section of the CALS standards proposed the Formatting Output Specification Instance (FOSI) as the means of formatted output specification interchange. TEX can be used as the formatting engine to implement FOSI-based formatting. But without extending TEX, not every FOSI formatting request can be fulfilled. Conversely, certain TEX capabilities cannot be formulated in terms of FOSI characteristics. However, a FOSI/TEX-based formatting system would be a major advance towards fulfilling the document interchange needs of a growing community of SGML users.

Chiwriter into TEX files. (Horstman) It is argued that WYSIWYG input and correcting is easier than inputting TEX. The author, alias vendor, claims that the converter is quite able to scan math formulae in the picturial representation and to translate them in the logical structure required by TEX. The transformation process is illustrated by various examples. As to be expected the transformation of math is severely limited with erroneous converting of multi-line equations, let alone for the numbering. Commands like `\TeX` have to be treated artifically (via so-called shadow font). For tables and matrices it is again claimed that they are easier to input in Chiwriter than in TEX[6] and correctly translated.
Reviewer's comment.
It is a pity that no report with real math documents as copy nor with a canonical test set has been provided. The idea of style files, which govern the lay-out, and logical mark-up are completely bypassed. At best the Chiwriter 'editor' can be seen as a keyboarder for typing in the copy, relieved from the task to provide a (La)TEX correct compuscript.[7]

Panel: SGML and TEX. From this panel no news came across. No survey of available tools, nor where it is used in practice.

Workshop: Getting Postscript into TEX. This workshop done by Anita Hoover 'picked' the brains of those present. See for the report elsewhere.

Other workshops were: Interpreting TEX error messages, and interpreting LATEX error messages.

2.4 Wednesday, July 17

Dialogue between TEX and the user. (Downes) The primitive commands `\message`, `\read`, and `\write` are explained, and some examples of use with respect to communication to the user are given. A form of communicating to the user is the number of automatically determined columns of a table (As in Cowan's tables.sty). Another is checking for the page-break without having to proof the publication: Just TEX and from the messages/flags inserted the page break can be distilled. I like that because I myself proof more or less in the blind.

The main application is how to provide a menu-choice mechanism with a default, while running TEX. The macro for this is supplied and explained. Use is made of puzzling hacks. An example is given below for converting the string contents of a def `\ans@` into uppercase, without using auxiliary macros.

```
\xdef\ans@{\uppercase{%
   \def\noexpand\ans@{\ans@}}}%
\ans@
```

Authors new to TEX publish a TEXbook with a publisher new to TEX. (Rhoads) A report is given about publishing a Programming-in-Pascal book. It demonstrates reinventing the wheel: no already available macros for formatting Pascal syntax diagrams were used, nor macros for formatting programs.
Reviewer's comment. It might be the case that macro packages are not easily found c.q. the right one selected, or that the packages are too complex and repelling for novice users. We are still a long way from a formatting macro library similar to numerical program libraries.

[6] Simple matrices and tables are easy to input in TEX as well, in my opinion.
[7] Experience within NTG, voiced via TEX-nl@hearn, is not in favour of this converter. It might save you some work, but that is insignificant compared to the increased complexity.

Simultaneous electronic and paper publication. (Lavagnino) It is argued that SGML is the best language to choose for 'multiform' texts, that is texts to be used in several forms, for example in print and electronic form. In their 'Thomas Middleton's complete work' project the problem was faced of how to integrate output information from the formatter (line numbers) in the descriptive mark up source. Interesting!

Refining a process. (Williams) The various changes in the type of user of TEX is profiled. The suggestions made for future structure and encouragement in the use of TEX come down to the following.
TEXnically speaking. The future of TEX depends on its ability to meet the varying and continuously growing needs for typesetting of technical documentation.
Non-TEXnically speaking. The basic idea is to establish TEX's uses and users and to support them.

Panel: TEX in publishing—Authors as compositors. The views ranged from following guidelines for authors to submitting Postscript files with all the formatting and inclusion of graphics done. Every possibility in the spectrum has it advantages and disadvantages, as always. A general item is to agree with the publisher on whatever you are intending to do, and to keep in touch.

Form letters with 3-across labels capability. (Damrau & Wester) The motivation for this work is that creating multiple letters that follow similar format by the general methods will yield problems. A general approach is to set up a form with changeable parameters, such as name and address, specified by macros. The form can then be input a fixed number of times, each time preceeded by redefinition of the parameters. The problems of this approach are:
1. Modifying the list of addresses or adding new parameters to the form can be cumbersome.
2. Serious REformatting may be required to use the individual pieces of information (such as the names and addresses) in other contexts.
The difficulties are overcome by the TEX address program which requires as input three files: preamble, list of addresss, and template. The list of addresses use implicit positional tagging, no SGML-like descriptive tagging! The article concentrates on a template file with 3-across labels capability. Macros provided are among others: to separate a first symbol from a string (seen in many applications and are basic in Lisp), and to test whether a line is a blank line. The address program is powerful especially in handling implicitly tagged addresses, as data. The typing of addresses is efficient because no explicit tags have to be provided. No rework, detagging for example, is needed when the same data are to be used by other programs.
Reviewer's note. In my opinion it should be the other way round: an application independent database of addresses, with 'filters' towards particular applications.

Typesetting forms with LATEX. (Roth) A fundamental talk because it tackles the question of how to deal with fill-in forms in the electronic decennium and beyond. Roughly there are two approaches:
1. Provide a template and fill-in (read replace) the 'dotfills', and
2. A two-step process: user interface and LATEX formatting.
The first approach requires knowledge of LATEX, and the layout of the form is not guaranteed fixed. Because of these drawbacks the latter approach has been worked on and reported about in the article. For the user interface the Vitamin C graphics window library of C functions was used. As formatter a *stripped* version of LATEX was used, especially the picture environment was needed. Nine forms are in production. Difficulties encountered were:
1. Getting approval for the project.
2. The variety of computers caused portability problems.
3. Greater printer area than usual provided by laser printers was needed.
4. Complete LATEX did take too much memory, so it had to be stripped.
An interesting detail is the attention paid to the automatic use of smaller fonts when the information does not fit in the left open space.

TEX and those other languages. (Haralambous)
It is an account of the power of TEX and Metafont to handle a variety of non-latin languages, such as Arabic, Syriac, Hebrew, Greek(Epigraphical), Armenian, Saxon, Old german. First a combined use of Metafont and a Postscript font creation program is described. Next the TEXnical problems (and their solutions) in relation to each language are presented. Finally some new ideas for further development and application of TEX in non-latin alphabet transmissions through electronic communication medias are given.
Problem areas: lack of space in font tables, lack of typographic tradition, alternating text direction and character shape at each line, kerning.
An overwhelming demonstration of the use of various non-latin languages with TEX. The creation of the new fonts (via Metafont) showed a sound approach and an enormous amount of work done.
Reviewers note. Puzzling is that the author does not speak those languages well. So what is the quality of it all?

Developing a Pop-Up facility for TEX on PCs. (Flynn) A very interesting contribution with respect to on-line help for using (La)TEX. First some existing systems are reviewed. Second criteria which should be obeyed are enumerated. And third a publicly available product is discussed. The product contains data (50KB, in English) and makes use of Qhelp, a publicly available help system.) The result of a query can be printed as well. The system is available among others at the Heidelberg server as file texhelp.zip.

Math into BLUes. (Kees van der Laan) That the subject is appropriate was demonstrated by ET-P's humorous mission statement as formula: it looked like math to a non-mathematician, but suffered from TEXfalls.

2.5 Thursday, July 18

Graphics and halftones with BM2FONT. (Sowa) From the abstract.
The program BM2font converts different kinds of bitmap files to TEX fonts and writes an input file for integration of those graphics into documents. It is the link between a lot of graphic systems and TEX. The main part of BM2font is the conversion colored pictures to halftone output. This paper describes the method of graphics integration done by BM2font and the most important aspects of the program.
Note reviewer. It is questionable whether considering graphics as text (fonts) is the long-term way. Incidental graphics, like institutional seals, are handled effectively that way, however.

A text-processing language should first be a programming language. (Semenzato & Wing)
To the reviewer's opinion the authors have built a preprocessor for TEX. It is unclear what functionality has been added. Complexity is increased and it is difficult to read because terminology has been borrowed from various fields in computer science.

Should TEX be extended? (Vulis) The paper discusses the hot potatoes: Graphics inclusion, font rotation and font selection, with emphasis on the author's VTEX.
Bitmap graphics inclusion. The two methods in use are described as:

- TEX allocates space for a graphics box, sets the reference point and passes the name of a graphis file via `\special`.
- Graphics are converted into .tfm/.pk pairs (for example via Metafont) and TEX treats them as characters.

The author states that only `\sizegraph` needs to be implemented. VTEX's extension is discussed, especially the implementation to measure the sizes of graphs, via `\exec`.
Font rotation. Hoenig's approach is elaborated, although VTEX and Postscript drivers are mentioned to provide already the facility.
Automatic index generation. The only drawback mentioned with respect to TEX is the lack of sorting possibilities. The use of the separate IDXSRT program together with TEX is explained.
Font selection. The problem is the lack of compact and portable definition of `\large`, `\small`, etc. that will support all TEX fonts.
Reviewer's note. It is felt that the author's believe 'Software systems that remain unchanged are destined for oblivion' is somewhat unshaded, or better misplaced, with respect to extendible and flexible systems, to which class TEX belongs. The paper does not convince this reader that modifications to the kernel of TEX have to be made. It is a believe of this reviewer that Knuth had the right feeling what could best be done by a system like TEX and what could best be done by other tools.

7 Bits good, 8 Bits bad or The eight-bit blight. (Clark, BHK, Kempson) The article focusses on the need for a universal encoding scheme to accomodate the many different kinds of files and file organizations that need to be supported by archives. Specs are given and a new encoding scheme —VVcode— was needed. The article concludes with the enumeration of the archives which will support VVcode: Aston, Heidelberg, Sam Houston State University, TUGlib.

Panel: Future of TEX. Apart from the discussions Spivak had handed out 'A contrarian view on TEX extensions.' The problem is that it is not clear yet and generally agreed upon what is needed. Another aspect of that is that there is still so much other work to do, that better gains are obtained by paying attention to the neglected areas instead of paying so much attention to the extensions. A general mistrust in committee work was felt and the general believe was in the air that the extensions will come from individuals who simply will provide them. Nelson Beebe challenged the audience to make their wishes explicit in writing, with Frank's E-TEX as example to start with.

Typesetting along arbitrary curves with TEX and metafont. (Hoenig) Abstract. It is possible to ask TEX to successfully typeset text on arbitrarily curved paths provided one enables TEX and metafont to communicate with one another in an appropriate manner. In this paper, we describe one method for setting text on convex paths. One possible application of this work may be toward setting text along circular rims of institutional seals so that TEX can include such images in letterheads. We discuss the particular example in some depth.
Reviewer's note. Really impressive but still cumbersome to do, and not competitive towards other techniques from the old-days. But if paste up has to be done

by electronic means there is not much choice. And redoing costs less energy than inventing.

Historic round table. Very amusing to hear the people talk about their experiences from the pioneer's days: the anarchy model was explictly chosen, then.

2.6 LaTeX 3 forum: 19–20 July.

I did not participate in the workshop. From 'the corridors' the following was felt.
Again a workshop on the LaTeX 3 project. What is to be desired is well underway, but implementation lags behind, because of too many people willing to coordinate the project and not that much people are willing to implement other people's ideas. The admission fee will be used for the LaTeX3 fund.
Note: Two years since Stanford have been passed by, and no product of yet, not even dates are available when what version will appear.

3 Vendor booths

THE contribution was from Mimi Lafrenz, ETP services. Also noteworthy is Spivak releasing LAMS-TeX into the public domain. Arbortext has further improved The Publisher.
The vendors: AMS, ArborText, Blue Skye research, Electronic Technical Publishing, Micropress Incorporated, Personal TeX incorporated, Quixote Digital Typography, TCI Software Research, TeXnology Inc. and Y&Y. What they are up to is summarized in the program and will be available for inspection on the next NTG meeting.
It is just a pity that I had not the right frame of mind to visit the Micropress booth with VTeX.

Also enumerated in the program brochure is a list of TeX consultants and production offices, with a summary of their services.