how difficult (LA)TEX is to use, and what a dreadful typeface Computer Modern is. It used to be the English who had a reputation for under-statement and self-deprecation. (LA)TEXies have easily overtaken them. Why should this be?

Somewhere in this hyperbole serious questions are lurking. To what extent should TUG be pursuing the 'future' of TEX? And which future? If we examine the TUG Bylaws, we will note that TUG was set up to 'identify, develop, operate, fund, support, promote and encourage charitable, educational and scientific programs and projects which will stimulate those who have an interest in systems for typesetting technical text and font design'. The german-speaking group, DANTE, addressed the topic of a future TEX at their Hamburg conference (reported in this issue of *TUGboat* by Phil Taylor), and Rainer Schöpf has since set up an electronic discussion list. There is a paradox here of course: those who do want to change TEX are more likely to participate than those who don't. It will be useful and instructive to see what shakes out of these discussions. There has already been a wide range of opinions expressed, from creeping featurism through to the adoption of new paradigms.

Of course, the choices are not simple, or exclusive. Improvements will take place in the user interface; at the same time, some brave souls will modify the underlying code. If changes are not generally available, and are restricted for proprietary or platform reasons, they are unlikely to be adopted by the present user base: if there is insufficient upwards compatibility, the inertial mass of existing documents may also discourage adoption; the prospect of change is ambiguous — it excites some and depresses others. Consider two examples of the diffusion of changes in the TEX world: the change from Almost Modern to the Computer Modern typeface took an age, perhaps because the changes did not seem noticeable (so much for quality!); the change to TEX3 appears to have been very swift — the lure of 8-bit input and the enthusiasm of the non-English speaking users seems to have been a major driving force here. Interesting times.

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## Editorial Comments

Barbara Beeton

Another honor for Donald Knuth

During a ceremony held in the Stockholm City Hall on November 15th 1991, Donald Knuth was appointed Honorary Doctor of Technology by the School of Computer Science and Engineering, KTH, Stockholm. The appointment was accompanied by this citation.

> Professor Donald Knuth is very well known to us, not only in Computer Science, but also in the fields of Mathematics and Typography. He has through his creative research and his monumental work *The Art of Computer Programming* made major contributions to the modern research area of mathematical analysis of algorithms and their complexity (performance), as well as given the virgin computer science a firm mathematical structure of great importance to undergraduate and graduate studies.

Roswitha Graham, head of the Nordic TEX User Group, has provided the following report.

"Professor Knuth has for a long time had close contacts with researchers within the School of Computer Science and Engineering at KTH, and he is also present daily through his advanced computer tool TEX for production of technical and
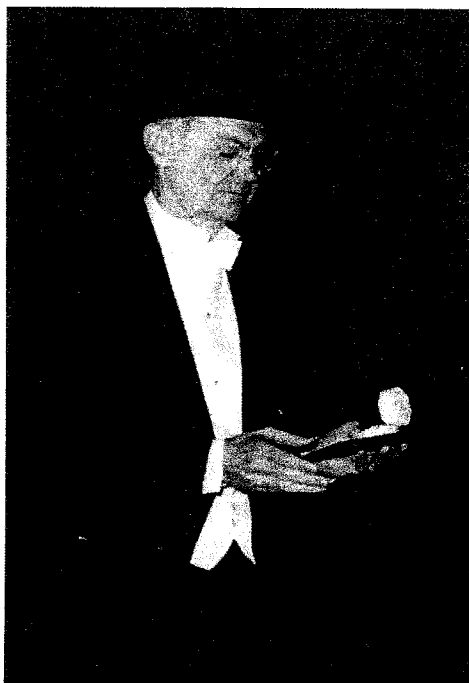
Donald Knuth receiving his KTH degree

mathematical reports with high quality typography, used by many students and researchers at KTH. The Nordic TEX User Group annual meeting 1991, was held on the 18th of November at KTH, with Professor Donald Knuth invited as guest of Honour and participants from four of the Nordic countries.

"The programme focused on needs and solutions for TEX quality typesetting of European languages as well as the LATEX user interface. Specially invited guest speakers were Frank Mittelbach, Germany, and Yannis Haralambous, France, who together with Jan Michael Rynning, KTH, Sweden (Swedish hyphenation for TEX), gave background to problems and pointed to solutions. Other speakers were Leif Andersson (A POSTSCRIPT font family for TEX), Niels Mortensen (Math and natural science typesetting — a LATEX report format), Peter Busk Laursen (XLATEX — extensions to LATEX and TEX at UNI.C while we wait for LATEX 3.0) and Steen Larsen (Tailored database publishing with TEX)."

The session with Don was recorded, as was a later, less formal conversation between him and Roswitha. Among the topics discussed were Don's goals for his own work (which are centered around *The Art of Computer Programming* and do *not* include more work on TEX) and his impressions of the current contributors to TEX development. We hope to have excerpts from these sessions ready for publication in the fall issue.

Journals accepting TEX input

A topic that keeps appearing in the electronic TEX discussion lists is, "What journals accept manuscripts prepared in TEX?" My attention to this topic has been sharpened recently with the appearance of two items from unrelated sources.

The first item is a new journal that will be prepared with TEX: the *Journal of Computer Security*, published by IOS Press in Amsterdam. The director of the Press, Dr. Einar H. Fredriksson, sent me a copy for information, with the following comment:

> As publisher I feel the TEX developments and potential have reached a point where we may have to re-evaluate the journal publishing system — and make all authors part of your Group.

This hardly sounds like an organization reluctant to embrace a new technology. A statement in the journal acknowledges the use of TEX and states that in general, the author's TEX files will be able to be used for articles accepted for publication; "[i]f possible, the authors are requested to use the

publisher's macros for the journal." (This is a legitimate request, as by so doing, authors will assure that their submissions conform to the production requirements of the journal, and thereby reduce the length of time between acceptance and publication by decreasing the technical demands on the journal staff.) TUG members interested in the research area covered by this new journal can find out more about the journal from one of the editors-in-chief: Prof. Sushil Jajodia of George Mason University (jajodia@gmuvax2.gmu.edu) or Dr. Jonathan Millen of the MITRE Corporation (jkm@mbunix.mitre.org); anyone without net access who requires a postal address can obtain this information from the TUG office.

The second item that caught my attention was a letter in the weekly *Science News* from the editor/publisher of *Solstice: An Electronic Journal of Geography and Mathematics*, Sandra Lach Arlinghaus, Director of the Institute of Mathematical Geography, Ann Arbor, Michigan. This letter states, in part,

> *Solstice* is typeset using TEX, and it is the TEX file that is transmitted, complete with typeset tables as well as complicated mathematical notation. Indeed, *Solstice* has even run (in addition to scientific tables) an occasional crossword or word search puzzle simply to suggest this perhaps unexpected capability. It also transmits some figures — any that can be set using TEX. *Solstice* does claim to disseminate scientific results in an electronic form, and not only does it claim to do so, it does so.[1]

The core of this item stresses a fact that has been obvious for years to TEX users: that TEX is not only a tool for communicating on paper, but can also be a means of structuring information for an electronic audience.

An incomplete list of journals, paper and electronic, that accept submissions in TEX form is given in the file texjourn.bib; this file and otherTEX-related bibliographic information can be found at the archive math.utah.edu in the directory /pub/tex/bib. The contents of two of the files in that area — texbook1.bib and texbook2.bib — were published in the 1991 TUG Resource Directory; many additions have been made since then. Further additions to this bibliography are solicited (please check the current listings first); send them, preferably in BIBTEX form, to Nelson Beebe (beebe@math.utah.edu).

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[1] Reprinted with the permission of the author.

The new membership list

Accompanying this issue of *TUGboat* is this year's membership list. You may notice that some information that was present last year isn't there in this edition, namely information about the hardware each member is using and the separate listings of members by computer and output device. The reason for this is the reduction of the staff in the TUG office, reported in *TEX and TUG News* earlier this year.

All address information has been posted in full, and appears in the same form as before. Regardless of staff availability, address updates must be kept current if TUG is to avoid delivery problems, and thus additional postage costs, on account of out-of-date information.

Hardware information is particularly susceptible to variation, and the time required to normalize and enter it into the database proved to be more than the reduced TUG office staff could handle. Actually, it has not been clear for some time how useful publication of this information is to the "average" member — a page and a half of names under the heading "IBM PC" doesn't seem to represent the same value as the same number of pages of a listing by geographical location. But your opinion is what counts. If you feel this information is essential, and especially if you have suggestions on how to streamline the process and make the presentation more useful, please send your suggestions to the TUG office, marked for the attention of the Membership Committee.

TUGboat production notes

The production of a publication such as this one is somewhat more complex than I believe most readers are aware. Some idea of the technical complexity can be gained by reading the production notes that appear in each issue. There are other facets to this as well, that I don't usually make a fuss about, but feel it's important to let the readers know why it takes so long to put each issue together.

Beginning with volume 12, no. 2, every article published in a regular issue has been subjected to a technical review by a volunteer referee, and the same is being done with this year's annual meeting proceedings. This review is not as intense as those for, say, the *Transactions of the AMS* or *The New England Journal of Medicine*, but it has resulted in numerous changes, and I think has improved the quality of the individual articles. The intent is not to decrease the number of articles published, but to make the articles that *are* published as accurate and informative as possible. This review takes time,

as does the interaction between editorial board and authors, to make sure the suggested changes are understood and properly installed. I would like to take this opportunity to thank the referees, who shall continue to remain nameless. There is more work than there are referees at present, and if you wish to perform a useful service (and see some interesting material prior to publication), you are invited to send your name in to the TUG office, care of the Editor, or via e-mail to `tugboat@math.ams.com`; please include a reliable address (e-mail if possible) and a description of your particular strengths and interests as well as identification of areas you wish *not* to cover.

The number of items is an important factor in determining how much time it takes to produce an issue. Most items are represented by two files — one for the publishable item, and one containing various auxiliary information concerning its receipt, review, and progress from submission to publication. But some items are much more complicated, requiring additional files of macros, examples, figures, and the like. For example, the archive for issue 13 no. 1 contains 197 files for 34 items listed in the contents. Ignoring the files of correspondence and other administrivia, that still comes to more than a hundred files. However worthy an idea, electronic distribution of tugboat is a concept whose time has not yet come, at least under the present staffing limitations.

A technical complication is the variety of forms in which articles may be submitted. There are essentially no restrictions, and submissions have been received on paper, on DOS or Mac diskettes, as coded (usually by `uuencode` or `atob`, but we haven't had much success with the latter) or unencoded files with or without compression, by e-mail or placed in directories for ftp access, as source (sometimes without TEX markup, but mostly using the *TUGboat* plain or LATEX macros, or, less often, some other scheme that must be translated to *TUGboat* style) or `.dvi` files. Usually, an article or two per issue requires font work — if the author agrees, we will generate fonts for one of the available typesetters (so that the quality of the camera copy is uniform) as well as for the local laser printers that are used to generate proof output. A growing number of submissions incorporate POSTSCRIPT inclusions, and the behavior of the (encapsulated) POSTSCRIPT code depends highly on the output device driver being used. Even files received in standard `.dvi` form aren't immune from problems; one such article in this year's first issue "broke" three typesetter drivers before we succeeded in finding one that would actually print it (three different

laser printer drivers and two previewers had produced satisfactory output, and the sudden failure at typesetter stage was a big surprise); the situation was dicey for a while, and we weren't sure that we wouldn't have to publish from laser output, but finally an acceptable combination was found and we got our typsetter output. By such little disasters we continue to learn and improve. But all this takes time, and attention from someone with substantial experience. Not a job for beginners.

Another facet of the scheduling problem is my own availability. Since 1986 I have been a member of national and international standards working groups developing a font standard for the International Organization for Standardization (ISO). These working groups meet at least 7 times per year, for a week or sometimes two at a time. Several times in the past few years these meetings have coincided with critical points in the *TUGboat* production schedule. Also, since the beginning of 1991, I have had no production assistance. This affects only regular issues, as proceedings issues are edited by other volunteers, with production in the TUG office. All these complications are magnified by the fact that editing *TUGboat* is a "hobby"; the job that pays the bills is in the Technical Support Group at the American Mathematical Society. What this means is that there is quite frequently nobody home to carry on the necessary correspondence, and delays result. This problem is being worked on, and I am hoping that assistance will once again become a reality later in the year. During this difficult period, thanks for your understanding.

I wouldn't like to leave the impression that the *TUGboat* experience is typical for publishers accepting articles or books in TeX. By its nature, *TUGboat* is expected to contain items that stretch the boundaries of what is possible with TeX. Most "ordinary" publishers don't want, don't expect, and aren't prepared to deal with such complications. They have, by and large, adopted TeX because of pressure from authors. But they still have a bottom line to look out for, and this doesn't allow much experimentation. So the successful publishers create macros that will help an author produce exactly what they are looking for, and instructions in using those macros. And smart authors follow the instructions.

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TUG Seeks Executive Director

The individual selected for this position will oversee the business and information dissemination activities of TUG; direct the promotional program to develop membership and TUG activities; develop a program of volunteer efforts for TUG activities; manage a small office staff with clerical, technical, and bookkeeping functions; and interact with TUG members and others in fields of interest to TUG. The Executive Director will report to TUG Board of Directors.

The following criteria will be considered as applicants are evaluated:

- experience in managing a business;
- skill in managing the retrieval, organization and dissemination of information;
- experience with the program TeX and related programs;
- computer experience and capability of understanding technical questions regarding TeX and related programs;
- good writing and speaking skills;
- good interpersonal skills;
- knowledge of considerations in managing a professional, non-profit association.

Applicants for this position should send indication of their interest and copies of their *curricula vitae* to:

Search Committee
TeX Users Group
P. O. Box 9506
Providence, RI 02940 USA

The TeX Users Group is an Equal Opportunity Employer.