

Opening Words

Writing the Future is Reading the Past

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The year 1995 now lies behind us, and in less than four years we will have reached the end of the 20th century, and the end of the second millennium, at least for those using a “Western” cultural reference frame. Let me note that this is by far no longer the majority of the inhabitants of this planet, so that the notion of “end of an era”, is completely artificial.

Indeed, in building for the future we should always take the long view to make sure that decisions we consider urgent today have no unforeseen negative side-effects a few years from now. Knuth, when he decided to develop a system that would allow him to typeset — in a completely digital way — the second edition of “*The Art of Computer Programming*” — thought it was going to take him a “short” sabbatical year. In the end he needed seven (the magic number?) years to create T_EX and META-FONT plus the Computer Modern fonts. Today many enthusiasts think they can improve in no time upon this or that aspect of digital typography, be it better-looking fonts, optimized multi-column algorithms, perfect float placement, etc. By now detailed studies by the NTS (New Typesetting System) and L^AT_EX3 initiatives, respectively evolutionary successors to T_EX and L^AT_EX, have shown that it is far from trivial to come up with efficient general algorithms for vastly improving today’s T_EX/L^AT_EX paradigms, and that several man-years of work will still be needed in these areas before Mr. Joe User will be able to profit from them directly.

Therefore, it came as a relief to me that just over two years ago the L^AT_EX3 team decided to develop L^AT_EX 2_ε, whose prime aim was to bring together all variant flavours of L^AT_EX into one format, and to provide often-requested simple extensions to L^AT_EX’s original functionality (as defined by Lamport in the middle eighties). And, it can be said, we owe the L^AT_EX 2_ε team a lot of gratitude for their foresight and thorough work.

Also in the field of the typesetting engine itself, the official release of Ω took place in March of this year, and a consolidated version 1.2 appeared in December 1995. The Ω system extends T_EX’s functionality mainly in the area of multi-language typesetting by extending all data-types to 16 bits,

and using Unicode as internal encoding. Some applications based upon Ω are already available (see the articles of Plaice and Haralambous in recent *TUGboats*).

In the summer, version 1 of ε-T_EX was announced. This successor to T_EX is, like Ω, based upon the original T_EX code, and provides extensions in the areas of additional control over expansions, rescanning tokens, environmental enquiries, additional marks and debugging facilities, bi-directional typesetting, and a few supplementary primitives.

I want to stress once more that both the Ω and ε-T_EX developments are clearly evolutionary, paying a lot of attention to backward compatibility, and tackle one or two precise problem areas at a time. This ensures that users are presented with a well-known and trusted upgrade path, so that the transition between present and augmented versions of T_EX will be a natural process. I am therefore sure that ε-T_EX and Ω will both have a brilliant future.

I am equally confident that L^AT_EX 2_ε will, with each half-yearly release, become more robust and provide a clear reference frame to act as the definitive markup system, which can be used by all those who want to benefit from the advantages of generic markup and interchange of documents.

After the efforts of the CTAN pioneers a few years ago to build a reliable T_EX Internet archive structure, you will find in this issue of *TUGboat* the conclusions of the “TDS” (T_EX Directory Structure) Technical Working Group. This initiative’s aim is to define a “plug-and-play” run-time directory structure for T_EX files that can be used by all present-day operating systems and is ISO 9660-compliant.

In the field of fonts, an optimized version of the DC fonts has just appeared, and it is foreseen that the long-awaited European (or Extended) Computer Modern (EC) family will be available by the end of 1996. At the same time work is going on to define a “Text Companion” (TC) font to allow a clearer separation between real math and more general symbols (for currencies, trademarks, some arrows, musical notes, etc.). At present they are mixed in the CM math fonts, and it would be more logical and practical to make all general characters uniformly available to T_EX users by grouping them in their own font. At the same time the L^AT_EX3 team has published some ideas on possible layouts for 256-character math fonts,¹ so that it is hoped that also in this area a consolidation effort can take place in the not-too-distant future.

Readers of *TUGboat* will, without doubt, have

¹ See TTN 4 #2, pp. 17–18.

remarked the prominence given to hypertext developments this year, with articles on HTML/SGML, PDF and Acrobat, T.V. Raman's Aster, translators to and from L^AT_EX, etc. It is probably true to say that these new tools will become ever more important in the future and provide an ideal bridge to link excellent typography based on L^AT_EX with instantaneous availability of information worldwide. The same well-structured generically marked-up SGML or L^AT_EX document can form the basis of preparing the various views of the information, and this aspect of re-use is a sure winner for these systems in the rapidly changing world of electronic publishing.

By skimming through your four issues of *TUGboat* of 1995 you certainly will find other areas which you consider important or interesting. I would only like to mention the many articles on the non-English use of T_EX (encodings, hyphenation patterns, fonts) and the revival of METAFONT as an intelligent high-level font-generation and drawing tool.

As you go through this final issue of 1995, you will also notice the use of Russian alongside English in two articles, and the TUG 1996 conference announcement. These articles, and the fact that Dubna in Russia was chosen to host TUG'96 show that T_EX is now truly global, and it is therefore time that the TUG adapts to that situation by taking into account the wishes and needs of every T_EX user in the world by acting as a central knowledge repository of T_EX-related developments. TUG, as an organization, realizes that it is impossible to serve a particular user base better than local T_EX User Groups, where they exist. Yet, it is important to provide a forum for discussing all T_EX-related activities in a coherent framework, where all important information is kept in a unique place. TUG and *TUGboat* must even more than in the past be the voice and up-to-date road-map of the T_EX community. And that is why we want to open up *TUGboat* to all T_EX users and user organizations in the world.

Already in St. Petersburg Beach in Florida at TUG'95 last August, I explained that TUG was not in a rosy financial situation. With respect to last year the number of our members has decreased by about 20%, while printing and postal charges have increased. We therefore expect a shortfall of about \$30,000 for 1995, and unless drastic actions are taken TUG will have great difficulties surviving.

One of our problems last in 1994/95 was the irregularity of *TUGboat*, TUG's flagship publication. For various reasons it had become impossible to keep to the three-monthly schedule of *TUGboat* and we think that quite a few of our readers did not renew their 1995 membership just for that reason.

Therefore, since August, a Production Team² has worked very hard to publish these last five issues of *TUGboat*, and I think we have succeeded in the area of catching up with the backlog. Some compromises and trade-offs had to be taken, but we are now quite confident that this team-based production scheme will make it possible to have *TUGboat* appear regularly in the future. But at the same time we must tackle the financial problem, and, therefore, the TUG's Board of Directors has unanimously decided to discontinue the publication of *T_EX and TUG News* as a separate item, and to merge it with *TUGboat*, with immediate effect. That is, there will be no further issues of TTN after 4,3. This has the advantage of publishing all T_EX-related information in one place, and at the same time saves up to \$10,000 in printing and postal costs. We hope to be able in the future to redirect part of those savings to improve the free services that we offer the T_EX community.

TUG regularly renews part of its Board of Directors. Therefore, on page 441 you can find a nomination form for the 1996 elections, which are to take place this spring. All 1996 TUG members can stand for election and I sincerely hope that many of you will take this opportunity to show your support for TUG by running for the Board. This is without doubt one of the best ways to actively participate in the life of the T_EX community and contribute in shaping its future.

Knuth promised at TUG's 10th Annual meeting in Stanford in 1989 that he would attend henceforth all TUG Conferences that would be a power of 2. And as this year's Conference in St. Petersburg Beach was TUG's 16 = 2²th Annual Meeting, Don Knuth honored us with his presence. I am sure that all those who attended TUG'95 and profited from his stimulating questions, interesting suggestions, and gentle remarks will already look forward to meet Don again at TUG's 32nd meeting in ... 2011. The venue? Well, that's the only unknown, isn't it, because I am confident that T_EX will still be alive and well!

Let me finish by wishing you and your families all the best for the new year, with a lot of fun, motivating work, and, above all, health and happiness. And, I sincerely hope to see you all in 1996, in Dubna at TUG'96, or anywhere else in the world where our (T_EX or non-T_EX) roads might cross.

² This team, under the leadership of *TUGboat*-editor Barbara Beeton, consists of Mimi Burbank, Wietse Dol, Robin Fairbairns, Sebastian Rahtz, Christina Thiele, and myself. Malcolm Clark helped us as editor of *TUGboat* 16(2).