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⋄ Frank Mittelbach
  EDS, Electronic Data Systems
    (Deutschland) GmbH
  Eisenstraße 56 (N15)
  D-6090 Rüsselsheim
  Federal Republic of Germany
  Internet:
        mittelbach@
            mzdmza.zdv.uni-mainz.de

⋄ Chris Rowley
  Open University
  Walton Hall
  Milton Keynes MK7 6AA
  United Kingdom
  Internet:
        c.a.rowley@vax.acs.open.ac.uk

Les Cahiers GUTenberg
Contents of Recent Issues

Numéro 9 - July 1991

J. ANDRÉ, Éditorial : un nouveau style pour les *Cahiers GUTenberg*; pp. 1–2

The editor of the *Cahiers* introduces its new, smaller format. Formerly set in two columns for printing on A4 paper, beginning with this issue the *Cahiers* will be set book-style in a single, shorter column.

[Editor's note: The final size is 18cm×24.5cm.]

Alain COUSQUER and Éric PICHERAL, Polices, TeX et Cie; pp. 3–31

The purpose of this paper is to introduce the principles of handling fonts in TeX together with their usage, and the font model, which is more straightforward than in PostScript. The authors also explain complex selection mechanisms which do not appear in everyday usage, and finish with a presentation of virtual fonts as well as various files used with TeX. [This article was originally the topic of a presentation at GUTenberg's "Font day" in December 1990.]

Philippe LOUARN, Lucida, une fonte complète pour LaTeX, et son installation; pp. 32–40

This paper presents an experiment in using the font Lucida, and its math extension, in LaTeX documents. The author explains his choice, and shows benefits, and also disadvantages, of this choice. The last part of the paper is a brief summary of the installation procedure.

Olivier NICOLE, *The Economist* polit ses polices; pp. 41–48

In its issue dated May 25th 1991, *The Economist* devotes a full spread to the reasons behind its change of type-face. The British economic weekly magazine's effort at giving full information on a "face lift" that may go unnoticed by most readers illustrates a trend which is about to revolutionize the publishing trade.

Vincent QUINT, Irène VATTON, Jacques ANDRÉ and Hélène RICHY, Grif et l'edition de documents structurés : nouveaux développements; pp. 49–65

Grif is an interactive system for producing and referencing structured documents. It allows manipulation of documents containing math formulas, tables, diagrams, etc., placing the emphasis on the logical document organization. This article presents the principal characteristics of the system as it now exists and discusses future developments.

Henry THOMAS, Typographie du jeu d'échecs; pp. 66–73

This article presents different existing solutions for typesetting chess, either in LaTeX, PostScript or with a Macintosh.

Announcement of the First European Summer School in Digital Typography, EPFL, Lausanne, September 23–29, 1991; p. 74

André HECK, Star-TeX; pp. 75–78

TeX and LaTeX have been used from the beginning and are still extensively used by astronomers and space scientists around the world for their mail, for writing papers, for putting together newsletters, proceedings, reports, books, and so on. Some publishers have also set up their own sets of macros for journals and/or book series. It seems however that the tendency is presently to pull out of TeX and go towards more user-friendly and performant systems. A meeting on Desktop Publishing in Astronomy and Space Sciences will take place at Strasbourg Astronomical Observatory (France) in October 1991.

Yannis HARALAMBOUS, Quand TeX rencontre Mozart...; pp. 79–81

This is a report on the 10th annual meeting of DANTE, the association of German-speaking TeX users, which took place in Vienna, 20–22 February, in this Mozart anniversary year.

Announcement for *Premiers pas de LaTeX*, a French adaptation by Éric Cornelis of a manual by Michael URBAN; p. 82

Bernard GAULLE, L'association ... fait la force; pp. 83–85

The recent events in the (LA)TeX world, like the work on fonts with 256 characters or the first book published by GUTenberg or lastly the preparation of the 6th European TeX Conference, readily demonstrate the usefulness and benefit of the association of people working as a team. This article ends with a call for new volunteers.

Éric PICHERAL, Distribution MlTeX v.3.1.4 pour Sun; pp. 86–87

An announcement and description of the distribution, adapted for French use on Sun 3 and Sun 4, of MlTeX, related software, and fonts.

Announcement of EP92 : Electronic Publishing 92, EPFL, Lausanne, 7–10 April 1992; p. 87

6ème conférence TeX européenne/GUTenberg'91; pp. 88–90

An announcement of these two meetings to be held in Paris, 23–26 September 1991.

Numéro 10–11 - September 1991
Proceedings of the 6th European TeX Conference and GUTenberg'91

The 6th European TeX Conference took place in Paris on 23–25 September 1991, followed by GUTenberg'91 on 26 September. Papers in these Proceedings were presented at the TeX conference unless otherwise noted. In the case of multiple authors, the presenter of a paper is indicated by an asterisk.

Basil MALYSHEV, Alexander SAMARIN*, and Dimitri VULIS, Russian TeX; pp. 1–6

This article presents the TeX extension for processing russian texts. Russian TeX is based on version 3.0 and virtual fonts. Different coding schemes for russian characters are allowed.

Theo JURRIENS, TeXniques in Siberia; pp. 7–13

This article summarizes the problems of giving a LaTeX course in Siberia. It concludes with an overview concerning the future of TeX inside the USSR.

Announcement for *Premiers pas de LaTeX*, a French adaptation by Éric Cornelis of a manual by Michael URBAN; p. 14

Jörg KNAPPEN, TeX and Africa; pp. 15–24

At the present time, TeX is not usable for typesetting many african languages. They use special letters which don't occur in the standard fonts (and aren't included in the ec-scheme). The letters used in the major languages of Africa can be put into *one* font. A font encoding scheme (fc) and some METAFONT code have been prepared. There is work in progress on hausa TeX (by Gos Ekhaguere, Ibadan).

Oussama BOUGHABA*, Seifeddine BOUTALBI et Michel FANTON*, Vers une version arabisée de TeX; pp. 25–44

This paper presents the state of development of an arabicized version of TeX for DOS.

Basil MALYSHEV and Alexander SAMARIN*, TeX Integrated Shell for IBM PC; pp. 45–55

This article presents the TeX Integrated Shell (TIS) — a special environment for TeX on the IBM PC to conceal some problems from an ordinary user. TIS contains the screen interface for different actions during TeXing. It can be configured to satisfy a user's requirements and hardware & software conditions. It downloads only the files to be used, in particular, pixel font files which are required for a given .dvi file.

Infothèque — la librairie de l'informatique (advertisement); p. 56

Jiří ZLATUŠKA, Automatic generation of virtual fonts with accented letters for TEX; pp. 57–68

This paper presents an approach towards deriving fonts with accented letters for European languages using virtual fonts as an alternative to the development of genuine new fonts with META-FONT. The ACCENTS processor is presented as a tool for mechanization of the process by enabling automatic generation of accented font layout and the virtual font definition from the TFM file of the source font in the TEX text encoding, and from an auxiliary input containing corrections of accent placement for specific characters.

Yannis HARALAMBOUS, ScholarTEX; pp. 69–70 (abstract only)

ScholarTEX is a software package consisting of fonts, TEX macros, executables (for the Macintosh), and a detailed manual with examples and exercises. ScholarTEX allows easy and efficient use of TEX for typesetting in many languages.

[Editor's note: For technical reasons, the text of this article could not be published in the Proceedings, and will appear in a later issue of the *Cahiers*.]

Johannes BRAAMS, Babel, a multilingual style-option system; pp. 71–72 (abstract only)

The babel system of style-option files adapts LATEX (and plain TEX) to a multi-lingual environment. This paper presents a summary of the ways in which 'hardwired' use of the english language has been 'repaired'. Language-dependent typographical conventions are examined using examples from the publications of the European Community. Some of the problems arising in processing documents using more than one language (for example, more than one set of hyphenation patterns) are discussed.

[Editor's note: Only an extended abstract appears in the Proceedings; for further information, readers should refer to "Babel, a multilingual style-option system for use with LATEX's standard document styles" in *Nederlandstalige TEX Gebruikersgroep*, Verlag 6e bijeenkomst, 91.1 (1991), pp. 75–83.]

Michel FANTON, TEX : les limites du multilinguisme; pp. 73–79

This paper describes the specific features of arabic typesetting and gives an account of the price to pay in developing an arabicized version of TEX.

IBM RISC System/6000 (advertisement); p. 80

Joachim SCHROD, An International Version of *MakeIndex*; pp. 81–90

MakeIndex is a powerful, portable index processor which may be used with several formatters. But it is only usable for English texts; non-English texts — especially with non-Latin alphabets, like Russian, Arabic, or Chinese — may not easily be worked on. The tagging of index entries is often tedious and error prone: If a markup is used within the index key, an explicit sort key must be given. A new version of *MakeIndex* is presented which allows the automatic creation of sort keys from index keys by user-specified mappings. This new version does support documents in non-Latin alphabets. Furthermore it needs less main memory than the former one, and may now be used for large indexes even on small computers.

Paul BACSICH, Ethel HEYES, Paul LAFRERE and Geoff YARWOOD, Conversion of Microsoft Word into LATEX; p. 91 (abstract only)

We describe a program which converts Microsoft Rich Text Format files (as produced by several word processing packages) into standard LATEX. This program converts character glyphs, character attributes, style information, fonts, lists and tables to their "equivalents" (if any) in LATEX.

Conversion of character, font and attribute information is hardwired in, to a set of tables in the program, which can be changed (by a programmer).

Conversion of style information is controlled by a Conversion Control File which can be amended by the user. This file assigns LATEX constructs to Word style tags.

The latest version of the program converts mathematical mark-up in Word Formula Mode to the LATEX equivalents. There are many difficulties with this approach and the paper will cover the main ones including the basic difficulty of recognizing in a word processor file what is mathematics and what is not.

The program has been used to convert a complete textbook, *Introduction to Information Technology*, by Dr P. Zorkoczy (Pitman, 1990), from Word into LATEX for use in a hypermedia system.

[Editor's note: The authors were unable to attend, and this paper was not presented.]

Trois vérités sur TEX (advertisement, Northlake Software); p. 92

Michel LAVAUD, A^{S}TEX: an integrated and customizable multiwindow environment for scientific research; pp. 93–116

A^{S}TEX is a program that runs on a PC under the control of Framework 3, and transforms it into an integrated and customizable multiwindow environment for scientific reasearch, as comfortable to use as the one of a workstation. It has been devised as a help to create scientific books and, more generally, as a help for everyday scientific work. It includes a hypertext-like file manager which allows to classify and archive all the files related to the current document by means of a hierarchy of explicit titles, and to retrieve any of them very easily, whetever its physical location. It allows also to display the structure of a LATEX document of any length, and to modify and restructure it in a completely interactive manner. It offers an interface with a local or distant Fortran compiler, which allows to perform numerical compilations from a LATEX document. It has also an interface with the computer algebra program Maple, to perform formal computations interactively from a text, a worksheet or a database, when the PC is connected to a Unix station through a LAN or through a modem.

A set of PCs equipped with A^{S}TEX and connected by a LAN to a workstation can provide a low-cost alternative to a network of workstations, for laboratories and educational institutions already equipped with PCs, and that cannot afford or do not want to equip each researcher or student with a workstation.

Steen LARSEN* and Arne Flemming JENSEN, Tailored database publishing with TEX; pp. 117–134

TEX is well suited to produce inventories such as bibliographies or dictionaries. Such publications are characterized by a large number of entries, a high uniformity of structure, typographical variation, and high demands to line and page breaking. Furthermore, sorting of entries and compiling of indexes will often be necessary. In the necessary TEX input files there will be a large percentage of control sequences.

Producing inventories based on text editors presents numerous difficulties as regards, for example, TEX syntax control, data validation, and sorting. Producing them via a standard database system gives better data control, but forces the user to accept the limitations of the system's user interface.

This paper presents an approach chosen when establishing a tailored TEX-based database publishing system for the bibliography Nordic Archaeological Abstracts. The solution was implemented by combining three different systems: an interface management system, a database management system, and TEX. The system is described and compared to the previous editor-based production, and future possibilities are briefly sketched.

Bernard LEGUY, Drawing tree structures with GWEZ; pp. 135–146

GWEZ is a set of macros able to build tree structures and to draw them; these macros are written with TEX; they use only plain TEX commands and fonts and can as well be used with LATEX.

Kees VAN DER LAAN, Math into BLUes: sing your song; pp. 147–170

TEXing mathscripts is not simply typing. Math has to be translated into TEX commands. First the motivation for this work is given. Next traditional math page make-up is summarized along with the macroscopic math TEX commands. After answering 'Why TEXing mathscripts is difficult?' an anthology of TEX falls and their antidotes is discussed. At the end, suggestions are given in order to lessen the difficulties.

[Editor's note: The first part of this paper was published in *TUGboat* 12, no. 3, Proceedings of the TUG 1991 annual meeting. With the author's agreement, only the second part of the full paper appears in the Proceedings of the European TEX Conference. The first part, called *Mourning*, can also be found in *Nederlandstalige TEX Gebruikersgroep*, Verlag 6^e bijeenkomst, 91.1 (1991), pp. 57–74.]

Angelika BINDING, Organizing a large collection of stylefiles; pp. 171–184

Springer Verlag has to maintain a large collection of macro packages for different layouts, for which there are versions both for plain TEX and LATEX and for different sets of fonts. We therefore designed a concept of modularising these packages and have implemented mechanisms to create formatfiles loading our individual set of fonts without changing the standard formatfiles `plain` and `lplain`.

Andrew E. DOBROWOLSKI, Typesetting SGML documents using TEX; pp. 185–196

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) which 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 to specify 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 of text interchange. The output specification section of the CALS standards proposed the Formatted 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.

[Editor's note: This paper was first published in TUGboat 12, no. 3, Proceedings of the TUG 1991 annual meeting.]

Christophe CÉRIN, Vers la construction de macros de mise en couleur pour TeX; pp. 197–206, plus one color plate

This article presents a step-by-step approach to putting colour in TeX documents.

Bernd SCHMID, WYSIWYG-TeX-editors on the basis of object-oriented system technology; p. 207 (abstract only)

After a short introduction into object-oriented programming introducing the terms object, object attributes and methods, and after showing the motivation to realize a TeX-editor on the basis of object-oriented technology, the objective of the development of a WYSIWYG-editor and its range concerning TeX which is implemented is described.

The general strategy of realization will then be explained. For this the scanner-/parser implementation as well as the box concept and the box attributes will be described. This tends to demonstrate the easy, efficient interactive treatment of documents using WYSIWYG-suitable editing of TeX-terms and the reduction of mistakes by syntax-/semantics-checks using graphic methods

of visualization. An outlook on further developments on the basis of this object-oriented concept of realization will be given.

Finally, the application of a WYSIWYG-editor is evaluated in the project "COMPINDAS-GUT" of Fachinformationszentrum Karlsruhe. This will include a depiction of the demands of this application and the extent of the project, a classification of the users as well as the evaluation of first experiences with the use of a WYSIWYG-editor concerning efficiency, user acceptance, and error reduction in comparison to current TeX editing tools.

Philippe LOUARN, Lucida, une fonte complète pour LaTeX, et son installation; p. 208 (abstract only)

[Editor's note: This article was published in Les Cahiers GUTenberg, numéro 9, July 1991, pp. 32–40; see above for abstract.]

Maurice LAUGIER, Composition des formules chimiques en TeX; pp. 209–221

Formatting chemical formulae with TeX needs some special macros to describe links and ramifications. The authors describe their macros and present some illustrations.

[Editor's note: This paper was presented at GUTenberg'91.]