

`\hyphenation{data-base Birkh-h\"auser}`

I often wish that  $\TeX$  could do tricks like this, but alas!

These errors will be removed in a second, revised edition I assume (if enough people buy the book), and then I can say in all truth that *Math into  $\TeX$*  is a welcome addition to the growing collection of books about  $\TeX$  and related topics.

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### Book review: *$\TeX$ in Practice*

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Stephan von Bechtolsheim,  *$\TeX$  in Practice*. Springer-Verlag, New York, 1993. Four volumes: ISBN 0-387-97595-0, 0-387-97596-9, 0-387-97597-7, 0-387-97598-5. Price: Four-volume set is \$169, individual volumes \$49 each. Source for the *TIP* macros is available for downloading.

My first encounter with  *$\TeX$  in Practice* was more than five years ago when I purchased a preliminary draft. Although it was far from complete—many sections were “to be completed”—*TIP* seemed to promise a complete introduction to  $\TeX$ . Although I found *TIP* unusable at the time, I assumed its shortcomings were due to its preliminary status.

My second encounter with *TIP* occurred more than a year ago when I received a copy from von Bechtolsheim. With just a few “minor” changes, this was to be the camera-ready copy that his publisher, Springer-Verlag, would receive. I found the copy extremely difficult to handle since about 1,000 of the pages were printed one to an 8.5×11 sheet. Still, I scanned through the material and again came away with the impression that *TIP* was going to play a significant role in making  $\TeX$  more accessible. Although I was less enthused than the first time, I again assumed that my discomfort with *TIP* would go away when I could look at the published result.

My third encounter with  *$\TeX$  in Practice* occurred this past Fall, when I received a copy directly from Springer-Verlag. *TIP* is published as an 1800+ page, four volume set: Volume I: Basics; Volume II:

Paragraphs, Math, and Fonts; Volume III: Tokens, Macros; and Volume IV: Output Routines, Tables.

### A word from the publisher

Now that I have seen the final product, my impression of *TIP* has changed drastically, but before explaining why, let me share with you the following comp.text.tex post from Dave Rogers that appeared on 27 Oct 1993:

As some of you have perhaps noted, I am the Editor of the *Monographs in Visual Communication Series* for Springer-Verlag which includes  *$\TeX$  in Practice* by Stephan von Bechtolsheim. The forward [*sic*] in the volume is **not** what I wrote. It was modified by Stephan without my concurrence. The unmodified version is given below. I think the second paragraph is particularly interesting as I have noticed a significant dichotomy in the way different people approach  $\TeX$ .

Further, I take **no** responsibility for the quality of the typesetting of the book nor for the quality of the English or the proofreading. I consider the book a prime example of a very poor design and typesetting job. The English is atrocious and the proofreading is nearly non-existent. Both the editorial and production departments at Springer-Verlag and I tried to get these defects corrected but with little success.

Having said that why did we publish the book? Basically because it contains very valuable information about the use of  $\TeX$ . Information that the  $\TeX$  community very much needs. After all, the fundamental purpose of a book is to convey information. So the decision was made to ignore the defects and publish it anyway.

I trust that you can ignore the presentation defects in the book and concentrate on the information.

Dave Rogers

### Blame the publisher!

Although I agree with Dave Rogers' criticism of *TIP*, I think von Bechtolsheim is less to blame in this than Springer-Verlag. Rogers' writes, “After all, the fundamental purpose of a book is to convey information. So the decision was made to ignore the defects and publish it anyway.” While this is true, Springer-Verlag already has a means of publishing such material in its lecture notes series such as *Lecture Notes in Computer Science*. With that series readers know they are purchasing books that

may lack polish but are willing to accept that in exchange for timely access to material. That is the premise that the lecture notes series is based on.

With regard to *TIP*, Springer-Verlag should have insisted on proofreading the material, told von Bechtolsheim what changes needed to be made, making it clear that *TIP* would not be published unless these changes were made. By not doing so, Springer-Verlag has embarrassed itself. Springer-Verlag should also be embarrassed to have allowed such poor quality design and typesetting to be associated with any book it publishes.

Without doubt, von Bechtolsheim made fundamental and significant mistakes in preparing this series, but a publisher owes it to the author and the author's readers to ensure that such mistakes do not occur. Springer-Verlag failed to do this and is thus ultimately responsible for the poor quality of *TIP*.

One of  $\TeX$ 's virtues is that an author can produce a high-quality manuscript, produce camera-ready copy, and then deliver it to a publisher. *TIP* shows just how badly this process breaks down if the publisher shirks its responsibility.

### Who is this book for?

Here is the second paragraph Rogers mentioned in his comp.text.tex post and which von Bechtolsheim removed from the foreword.

$\TeX$  itself can be considered from at least two significant and quite different viewpoints. The first is as a typesetting *system* in which the typesetter has precise control of the placement of characters and white space, the design and make-up of lines, equations, paragraphs, and pages. The second is as a macro-extensible *programming* language. Fundamentally, *TeX in Practice* addresses  $\TeX$  from the latter viewpoint.

I agree with these remarks.

When I looked at the second draft of *TIP* I assumed that typesetting was covered but that I just couldn't find it in the 1000+ sheets of that draft, especially since this version of *TIP* did not yet have an index. It seemed reasonable to make this assumption since the name of the set is *TeX in Practice*—a better name would be *TeX Macros in Practice*.

Without doubt, *TIP* is for someone who wants to learn how to write  $\TeX$  macros. Beyond that it is unclear who should read *TIP*.

The preface and the first 10 pages or so explain what  $\TeX$  is, why you need a good text editor, the files that  $\TeX$  uses, and assorted other introductory information. They give the impression that *TIP* is an introduction to  $\TeX$ . To the contrary, anyone

using *TIP* as an introduction would be scared away from  $\TeX$  forever!

*TIP* requires more than a passing knowledge of  $\TeX$  since it freely uses  $\TeX$  concepts without first explaining them. Sometimes von Bechtolsheim attempts to get around this by giving a cross-reference to the volume and section where the concept is defined. Sometimes he doesn't.

For example, von Bechtolsheim starts using `\catcode` fairly early in *TIP* so that he can use `@` as a letter in the macro examples. However, no discussion of `\catcode`—not even a cross-reference—appears until volume III.

On the subject of cross-references, in the first 100 pages I had to constantly refer to volume III. Of course, these cross references lead to others, and so on. In the length of time I spent going through the first 100 pages, I should have gotten through the entire first volume.

As for the macro examples, they also rely on cross-references to macros described in later volumes. In some cases the examples uses macros that are not described in the book—I had to look at the actual macro files on at least one occasion.

For example, the following appears on page 73 of Volume I:

```
\NameDef{@TheC-#1}{%
  \expandafter\expandafter\expandafter#2%
  \expandafter{\csname @C-#1\endcsname}%
}
```

Up to this point no explanation is given as to why `@` can be used as a letter. The control sequences `\expandafter`, `\csname` and `\endcsname` have not been described up to this point either, nor is their use in the example explained.

`\NameDef` is a *TIP* macro that is not defined until volume III. `\NameDef{X,\Y}` creates a macro `\@TheC-X`, that expands to the current value of the counter `\X`, formatted using macro `\Y`. It is certainly a useful macro, but even its use is not explained.

The choice of macro examples is hard to understand. It almost seems to be based on the approach "Why use a simple example to make things clear when a complex, poorly and incompletely explained, heavily cross-referenced example, whose true usefulness won't be explained until a later volume, will confuse and frustrate the reader."

### Summing up

The lack of style, polish, and proofreading, combined with von Bechtolsheim's difficulties with the English language, make for brutal reading. It is not a book for casual reading, nor is it a book for novice

TeX users. Only TeX users who know how to program (in a programming language or in TeX macros) should attempt to read this book, and then such users should already be familiar with most of TeX's advanced features.

However, to be fair, *TIP* covers just about every aspect of writing TeX macros you will ever need to know. Most of the *TIP* macros can be used with LaTeX as well as plain TeX and the macros do provide substantial capabilities.

Perhaps the best way to look at *TIP* is as an outstanding collection of macros that happen to come with four volumes of documentation.

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**Book review: *Il TeX – Introduzione al linguaggio e complementi avanzati***

Claudio Beccari

Gianni Gilardi, *Il TeX – Introduzione al linguaggio e complementi avanzati*. Zanichelli/Decibel, Bologna 1993, 226 pages, hardbound. ISBN 88-08-10860-0, 36 000 Lit  $\approx$  21 US\$.

Another book on TeX was published in 1993 in Italy; the publisher Zanichelli is one of the leading scientific publishers in this country and in addition to the many valuable university books (remember: the University of Bologna was founded in 1088 AD) is also publishing a series on typography, book design, desktop publishing, etc.; Zanichelli is one of the few publishers that accepts (La)TeX manuscripts from authors.

With the cooperation of the publishing company Decibel Editrice of Padua, this book on TeX is perfectly set with TeX in 12pt (with a tight baseline skip of 13pt as is customary in Italy) and done with a high resolution phototypesetter so that the traditional cm fonts have a marvelous look and excellent readability.

The page design looks like the work of a book designer, although no explicit information is given in this regard on the colophon page; both headers show the section title filled with an `\hrulefill` so as to be aligned with the external margin, while the left foot shows the chapter ordinal and the right foot the chapter title; both footers have the page number

aligned with the external margin and the copyright notice and the ISBN number aligned with the internal margin. Many other design details are properly chosen but this is not the place to discuss such fine points. The quality of paper and the hard cover complete the book in such a way that one has the impression of a lasting work; the price is fully affordable and lower than one might expect for such a high quality technical product.

The book is divided in four large chapters: 1) TeX and the world of text, 2) TeX and the world of mathematics, 3) TeX further on, 4) TeX beyond survival. The first two chapters are at a beginner's level and describe in a very simple way how to set text or math. There are plenty of examples and the various control sequences that get involved are chosen so as to follow an increasing level of difficulty.

I particularly appreciated the math examples that consist of complete sections of sample math articles or books, where a whole subject is dealt with, so that theorems, lemmas, in-line math expressions, displayed labeled and unlabeled equations, simultaneous equations, combinatorial diagrams, ... are shown together with the code for producing them by means of the traditional plain TeX macros. The fact that the author is a professor of Mathematical Analysis (at the University of Pavia) explains why the math examples are so well chosen.

The third chapter deals with less elementary topics, such as macros without parameters and tabular alignments and tables with both vertical and horizontal rules. Again, a multitude of examples helps in understanding the intricacies of certain TeX constructs that are necessary with the `\halign` command. For the first time in a book on TeX I see an example of `\valign` that is not trivial.

The author considers the level of chapter 3 the "survival level"; this is why the title of chapter 4 is "beyond survival". The last chapter in facts deals with the more sophisticated macros containing parameters, conditionals, delayed expansions, and the like. The only important topic that is not dealt with in the whole book is the set of commands and macros for producing the dvi output, that is the output routine. This is a precise choice of the author — he did not want to write a handbook on TeX, but a book on TeX that could help beginners to become ever more confident with the language and reach good levels of programming skills so as to be able, if necessary, to deepen their knowledge of certain topics directly from the TeXbook; the latter, as everybody admits, is not a book for beginners (although most of us had to begin with the TeXbook).

Gianni Gilardi achieved another important goal: that of writing the book in an informal way, so