

# Working Group 1: Education

## Review: Michael Doob's A Gentle . . .

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### Compliments

To start with I like it, it is easy reading. We redistribute it! It is at `TeX-nl@hearn` among others, and reprinted in RUG Report 25. As always with introductions the challenge is not to lie too much, when telling the incomplete story. So my review will have the structure of enumerating, with annotations, what is treated in the self-study manual and what I missed. Of course the latter is a matter of taste.

My comments and suggestions are about the September 89 draft. Michael Doob's reactions to that are supplied in footnotes starting with 'MD:'. An easy observation is that *this* manual does not treat  $\TeX$  version  $\pi$ . Does this mean that the manual is outdated? In my opinion not, but it is certainly incomplete with language specific issues.<sup>1</sup> Furthermore, the manual is restricted to references to pages in the  $\TeX$ book; no references to other work has been made. This is understandable from the viewpoint of an introduction.<sup>2</sup>

### 1 Getting started

Essentially it is told how to get text processed via  $\TeX$  by the system you are working with.

Strong points at the end of the section are the discussion of weak areas of  $\TeX$ , although a lot of attention has been paid to those issues since then. (Encapsulated PostScript and Hoenig's work with respect to text with curved baselines.)

#### 1.1 What I missed

I missed the whole concept of Document Preparation Workbench, with among others spelling (style) checker,  $\TeX$  intelligent editor, and previewing tools.<sup>3</sup>

<sup>1</sup>MD: Actually, there is not much that has been outdated by later versions of  $\TeX$ . This is because most of the material covered is so elementary that it isn't complicated enough to require the use of  $\TeX$  3.xx.

<sup>2</sup>MD: But you do indicate later that a reference to Swanson and/or Cheswick. actually, since you brought it up, it probably would have been better to mention Swanson.

<sup>3</sup>MD: But these are UNIX-type tools. I went to some effort to make the intro machine independent. I could have created the table of contents by generating an aux file, but that code wouldn't have worked on all machines. I think my source code runs on *any* machine.

<sup>4</sup>The accents issue was one of the reasons why virtual fonts were introduced in  $\TeX$  3.0.

<sup>5</sup>MD: Of course you are right that  $\TeX$  has problems with foreign languages, and maybe even at this level this should be pointed out. But do remember The audience at which this document is aimed.

<sup>6</sup>MD: This is also more important with the 3.xx versions of  $\TeX$ . Multiple languages are possible for one document. Nonetheless, for this audience minimal introduction is probably enough.

### 2 All characters great and small

This is all about inputting the characters and what you can obtain finally in print: the variety of characters and sizes. Also punctuation and how to handle accents is treated. For Latin languages this might be sufficient, for other classes of languages it is not.<sup>4</sup> I would suggest to complicate ex 2.9, the Dutch sentence, into

```
.,M'\{\i}\'\{j}n idee\"en worden niet
be\"{\i}nvloed'', zei hij.
```

The difficulties here are (lower) opening quotes, which should not influence line distance and should be similar to the closing quotes. About the 'ij', see the contribution of David van Leeuwen, elsewhere in this MAPS91.2. What I typed verbatim is not nice, neither is kerning. A hidden difficulty is that with hyphenation after 'be-' the separator " on invloed on the next line has to disappear and the normal i has to be used.<sup>5</sup>

#### 2.1 Fonts names

I would like to see the essential groups named and the generally available other sizes mentioned.

#### 2.2 What I missed

The whole concept of hyphenation and the need of hyphenation tables is missing here, although the explicit use of the hyphenation command is given on p 28.<sup>6</sup>

### 3 The shapes of things to come

This is essentially about the page shape and the document structure. How to obtain various paragraph shapes with open space to include other elements is nicely treated. The left-, right- and centerline are also explained. The parameters to control the page appearance are given. They range from the offset to interline distance and the like.

#### 3.1 What I missed

I missed in the *text* how to put elements in the margin.<sup>7</sup> In relation to headlines and footlines I would like to see an example of more than one line in the headline. By use of `\vbox to 0pt`, or `\vtop`, with `\vss`. Perhaps it should be mentioned here as a wish and referred to the section on boxes, where it could be treated as an example.

On the one hand we have the structure entities: chapter, section etc. and on the other hand we have the page elements: headline, text on the page and footline. These issues should have been separated. Page make-up and descriptive mark-up can better be treated separately.

### 4 {Groups, {Groups, {and More Groups}}}

Here the narrowing of a paragraph is treated as example. Also the problem of matching braces has been paid attention to. The usefulness of the empty group is also mentioned. A bit misplaced seems to me the handling of 'iff' sometimes used in math for if and only if.<sup>8</sup>

A mistake is

'. . . when a control word like  
`\centerline` acts on text following it  
in, that *text is implicitly in a group*.'

Not true!<sup>9</sup>

#### 4.1 What I missed

If matching braces is felt difficult to adhere to, it would have served the purpose to mention special tools for verifying that, for example as part of a T<sub>E</sub>X-intelligent editor, for example Nelson Beebe's tailored EMACS for L<sup>A</sup>T<sub>E</sub>X.

<sup>7</sup>MD: This is actually in the macros at the beginning of the source. I wrote that section to help the newer user to see what can be done with relatively simple macros.

<sup>8</sup>The more so when it is not used as such on p 46, where no `\quad` is used either.

<sup>9</sup>With this command it is accidentally the case because it contains a box.

MD: You're right, of course. I considered this a little fib, but Anne Brüggemann-Klein convinced me that I had overstepped the bounds of literary license. I changed that section.

<sup>10</sup>See my Math into BLUES paper, for more T<sub>E</sub>Xfalls.

### 5 No math anxiety here!

This chapter consists of examples how to mark up various math constructs. Also the spacing in math mode is detailed with.

#### 5.1 What I missed

The concept of formula classes is missing. Not in the least the empty formula of class 0. Also pitfalls such as a relational ':' takes a different command than the interpunctual ':,' are missing. The relational : is also lacking in the table with relations. A reference to the complete tables in the T<sub>E</sub>Xbook should have been made, especially when the tables given are incomplete. How to mark up the various O's in math should have been treated.<sup>10</sup> I also missed the use of `\l(r)angle` for meta-linguistic variables. That displays will yield centered results is fine with me, but it should have been mentioned that it depends upon the format used. In general how to treat long formulas —hyphenation of math— is neglected, as is automatic numbering and symbolic referencing. Agreed symbolic referencing is not part of plain, but needed in practice nevertheless. Furthermore, attention should have been paid to math typesetting tradition, independently of T<sub>E</sub>X. For example the use of `\quads`. A reference to Swanson's work is the least that could have been done.

### 6 All in a row

The typewriter tabbing is dealt with. So are simple tables and lined tables. The centering of the tables is done in a curious way, see p 52; Not by the D<sub>E</sub>K method of putting a `\vbox` around the table and use this within a math display.

#### 6.1 What I missed

The warning that this treatment is very elementary is needed. Furthermore, the SGML like structuring approach: header rows and contents rows, could have been incorporated.

I would also like to see an example with a cell element restricted to a certain 'hsize', via a `\vbox{\hsize=... etc.}`.

I would welcome an example of a table with a note. These notes can be attached easily to the table as last rows, eventually separated by a (blank) row. I would also like to see how similar tables in subsequent sections can be forced to have the same shape. I mean

putting hboxes in the template lines. This is useful when reporting financial matters and having a section with income matter treated and another with expenses.

## 7 Rolling your own

This section deals with elementary macro writing.

## 8 To err is human

Treated are errors due to: omitting `bye`, various misspelled command and font names, mismatched math (omitting `$`'s), mismatched braces.

## 9 Digging a little deeper

Treated are how to split up large documents, and incorporation of large macro packages as format. Along with the latter  $\text{\LaTeX}$ , and  $\text{\AMS-TeX}$  are mentioned. Then a curious treatment of `hrule`, `vrule` and the building of boxes, with the creation of a magic square as an example. Also `\hrulefill` and `\dotfill` are touched upon, in relation to table of contents creation.

## 10 Control word list

A reference to Cheswick's permuted index for  $\text{\TeX}$  and  $\text{\LaTeX}$  would have been appropriate, prior to the enumeration of the control symbols and commands treated in the syllabus. The formatting in rows is unusual but avoids the balancing of columns problem.

## 11 I get by with a little help

The answers to most—not all—of the exercises are given. The answers are not numbered, nor are the groups (of section of occurrence) clearly separated.<sup>11</sup> It occurred to me that it was intended to serve as stand-alone examples as well.

### 11.1 What I missed

The magic square could have been handled more robust by the lined table approach given at p 53; the given solution does not easily extend to magic squares of higher order.

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<sup>11</sup>I would consider it good practice to use `\answer` from the the `manmac` collection. All at hand at the right moment.