

## Letters

### Truth in Indexing

Jonathan Fine reports in *TUGboat* 13 #4, page 495, under the heading “Too Many Errors”, that Knuth is in error when he uses the index-reminder scheme described on pages 424–425 of *The T<sub>E</sub>Xbook*. Padding the page numbers is irrelevant; check Knuth’s original version in the lower display on page 424, where you will surely notice the `\noexpand` to which Fine objects. As a matter of fact, Knuth himself produced just the “error” Fine describes when preparing the index for *Concrete Mathematics*, at least in the first impression of that volume. Look up Christian Goldbach in the index for the first printing; the page number given there is 583 but Goldbach is only mentioned in the first line of page 584.

I wonder if Fine has overlooked the paragraph divided between pages 424 and 425 of *The T<sub>E</sub>Xbook*, in which Knuth describes his philosophy regarding index construction. He may also have overlooked several references in the tutorials in volumes 10, 11, and 12 of *TUGboat*, to my belief that automation can sometimes be carried to excess. Indeed, the effort required to avoid the necessity for proof reading one’s document by automating all of its components that might be subject to automation will often be significantly greater than the effort needed to accomplish the task with reasonable restraint in this regard. Wherever we concentrate our efforts, we are still required to pay close attention to the results generated by them.

The only printings of *Concrete Mathematics* that I have seen, so far, are the first and sixth. Studying the differences between them can be both entertaining and informative, even in connection with the bibliography and the index. Between these two printings, two additional items were interpolated before the entry that originally appeared at the top of page 584 of the bibliography, hence the problem with which Fine was so concerned vanished as a result of natural causes. There are at least two possibilities: One’s book is so popular that it must be reprinted frequently and in the process trivial errors that do not vanish automatically are easily fixed; if the book doesn’t require reprinting, it may be that it has few readers or none, in which case the distinction between gross errors and trivial errors simply evaporates.

Let me propose, for further discussion in this context, what I would like to call the Occam-Ludd

Razor: *Entities should not be multiplied beyond necessity, and automation should be encouraged when it simplifies things and avoided when it does not.*

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## Macros

### Letter-Spacing in T<sub>E</sub>X

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One of the joys of looking at a page of T<sub>E</sub>Xset material, particularly when compared to the majority of today’s magazines, is the uniform grayness of the page. Whereas many of today’s top-end DTP packages frequently achieve justification through the use of letter-spacing, T<sub>E</sub>X prefers to distribute any spare white space between words rather than between letters. Indeed, there *are* no intrinsic facilities within T<sub>E</sub>X which would permit the use of letter-spacing, even were it desired.

And yet, there *are* times when letter-spacing is effective: in running heads, for example, or for mast-heads or titles. In some languages, letter-spacing (then more properly termed *Sperrsatz*) is used for stress or emphasis, much as we use italicisation in English. For these purposes, then, rather than as a general letter-spacing tool, I have developed the following code, which allows at most a single line of text to be letter-spaced. It is worth pointing out straight away that there are some restrictions on the text, although considerably fewer than in earlier releases: it should not, for example, contain unprotected `\accents`, (neither explicit, using the `\accent` primitive, nor implicit, through the use of control symbols as `\’`), although either form may be used provided that the accent and its accompanying letter are concealed within a brace-delimited group; control-sequences without arguments may occur in the text to be typeset, but if they expand to text, that text will not be letter-spaced, and thus it is difficult, although not impossible, to typeset THE JOY OF LETTER-SPACED T<sub>E</sub>X! (And, of course, it should contain no lower-case text: “A man who would letter-space lower-case