TEX and Friends

TEX is the most elegant and powerful system for computing typsetting; it is intended for the creation of beautiful books—especially for books that contain a lot of mathematics. By preparing a manuscript in TEX you will be able to tell your computer *exactly* how your text is to be transformed into fine quality pages.

The Name of the Game

English words like 'technology' stem from a Greek root beginning with the letters $\tau\epsilon\chi\ldots$; this same Greek word means *both* art and technology. Hence the name TEX, which is an uppercase form of $\tau\epsilon\chi$.

Insiders pronounce the χ of TEX as a Greek chi, not as an 'x', so that TEX rhymes with the word blecchhh. It's the 'ch' sound in Scottish words like *loch*, Spanish words like *Rioja* and Scouse words like *Birkenhead*. When you say it correctly to your computer, the VDU may become slightly moist.

Fine Control

Notice that within 'TEX' the 'E' is out of kilter. This effect was achieved by using a macro:

```
\def\TeX{T\kern-.1667em \lower.5ex\hbox{E}\kern-.125em X}
```

Mathematics

$$\frac{\mathrm{d}y}{\mathrm{d}x} = \left\{ g(x) + \frac{y}{y+13} \right\} \int_0^\infty \frac{\lambda}{y+1} f(x)(x+1)\,\mathrm{d}x$$

TEXproduces beautiful mathematics. Notice that the 'd's within the calculus symbols are not in (mathematical) italics and that there is a small extra horizontal space before the 'dx' at the right-hand-side.

TeX's Friends

TeX, or more accurately, Plain TeX, has many friends. These include LaTeX, AMS-TeX, HyperTeX and PDFTeX:

- LaTeX is a set of predefined macro packages which make use of Plain TeX easier;
- AMS-TeX adds yet more power to (Plain) TeX's mathematical power;
- BiBTeX helps in the compilation of a bibliography—you can: cite references in the text of a paper and have them automatically and correctly cross-referenced, include references in your paper, and obtain them from one or more bibliographic databases;
- HyperTeX extends TeX and LaTeX so that hypertext links are supported—HyperTeX makes use of HyperPS;
- and PDFTeX yields a document in Adobe's Portable Document Format, extending "ordinary" TeX with hyperlinks, text clips (notes), movies, sound fragments. . .

. . . and there is even METAFONT which allows you to design and build your own fonts.

Fun

Question: How do MS Word users organise a firing squad?

Answer: First they get in a circle, . . .

And finally, for more information visit the TeX Users' Group web site:

`http://www.tug.org/`

but be warned, your life will never be the same again.