What is TeX?

TeX is a program I use to make my living typesetting books and journals. TeX is software that I'm fortunately not required to install (I have a husband who does that). Me, I'm an end-user. Note that when I say 'TeX', I mean the program which is at the heart of 'plain TeX' and 'LaTeX' and all the other variants out there (e.g., ConTeXt, pdfTeX); it's a bit confusing to have a program name being used this way, and then find out that what I'm really mainly talking about is 'LaTeX', whereas 'TeX' for someone else means they're using the 'ConTeXt' variant. When speaking in generalities, 'TeX' is sufficient.

TeX, just like MS Word, is only part of the ever-expanding context in which text, and documents, are being handled these days. It is not an archival or ancient program confined to math and science typesetting on paper; it can be integrated into the world of PDF, HTML, XML, and so on, because of the efforts of users around the globe, who believe, some quite fiercely, in high-quality output being available to everyone. Yes, it does require a computer, and these days, access to the Internet, so one can argue that it's not really a tool for the entire planet. But once you get the infrastructure, you can make beautiful text appear on paper. You can typeset the textbooks and literary materials that your clients — or your people — need. Beholden to no-one's pockets, or equipment, or fonts. Sounds almost subversive, doesn't it ;-)

TeX is also the only program I've ever heard of where files coded up in 1983 can still be run. So it's made it possible for me to be rather stunningly lazy — I haven't had to learn much about any other software for almost the past quarter century (you figure it: 1983 till 2005). Well, other than all those TeX add-on packages ;-) And in almost all cases, they've made things easier, not harder, so the upgrade experience has been very pleasant indeed.

TeX is the entry to a community of awfully kind, awfully clever people who, when they see a need, write add-on packages that expand TeX's capability and make the add-ons publicly available. Sometimes we meet at conferences — often we meet via e-mail — where I try to thank them once I begin to use their offerings. These add-ons sometimes address specific, narrow needs (such as 'soul', which makes spacing out words, letterspacing, underlining, and striking out easier to do) and sometimes major, general enhancements, such the graphics packages ('graphics' and 'graphicx').

TeX is of course frustrating at times — very definitely a program which does exactly what you

tell it, as opposed to what you'd *like* it to do. But it's also very gratifying in what it does to ASCII characters on a piece of paper (or on-screen). The defaults are pretty damn'd good; with perseverance and good packages, the results are sometimes spectacularly rewarding.

TeX is not only for math or science or the technical fields — it's for all typeset material, be it on paper or on screen (granted, it may be overkill for letters, if that's all you do; but if you want to have letters that seem to stand out because of how the characters sit on paper, then it's a neat thing to do).

TeX is not confined to English (but sometimes it seems to be constrained by it). I periodically require something like a string of Hebrew or Cyrillic or Greek or, most recently, Polish — and it's all there for me. Granted, it's much easier because I have good reference tools.

Books on TeX, once few and far between, are now available in good variety, either general or very focussed — and not just in English ;-) I find the revised *LaTeX Companion* one of my mainstays, along with its first version. Kopka and Daly's *Guide to LaTeX* book is also necessary — where one explanation doesn't get through to me, the other often does. So resource books and printouts of many free on-line guides are a necessary component to learning and using TeX to do what you want (as opposed to that 'what you tell it to do' thing, mentioned above).

And then there are the internet lists — the usual crew of (c.t.t.) and texhax, ling-tex, typo-l. But trolling via Google also leads you to a massive number of hits that quickly tells you that this is a program with depth — years and years of experience exist out there, and lots of it within all kinds of organisations and associations, institutions beyond the universities, and of course, many well outside the math/science domains which TeX is so often mistakenly relegated to.

TeX isn't word processing, where content and form (two favourite aspects in the linguistics world) are so intermingled and entwined, it's sometimes very difficult to pull them apart and understand the distinction. But that distinction is one of the main aspects to TeX which newcomers are often not (made) aware of. TeX is the second half of the equation — the manipulation of the characters on-screen, the saving of the files, these are all done by a separate program, your text editor.

TeX is something you learn, and appreciate, in layers. If you want to do your thesis in it, start using it for your first outline! Then use it for your reminder notes and letters. Approach equations or

tables or complex layouts in layers — get the sub-sets right first, then build the fraction, or the square root; do the column headings and the first row of the table and make them look right first before adding the 10 or 20 rows of data. Same thing for a book. It's seat-time that counts, so pull your chair over to the keyboard, fire up the editor and process the first bits to see what you get. Don't be a perfection-ist and spend hours trying to move some element in the equation over a squidge, just to make it look right — leave the futzing for later. Same for tables. Write and do minimal coding while you're writing, to keep the distractions of TeX to a minimum. If it processes, be happy — and then write some more!

And if it's someone else's splendid work which you have to put into TeX, it's pretty much the same thing: layers. Process a paragraph or equation at a time, to keep on top of mistakes. It's extremely de-pressing to process a file only after the whole thing's been coded up, untested, and then find that you've made a silly or perfectly honest blunder for 53 equa-tions and 12 tables. Not to mention all those taunt-ing "Undefined control sequence" messages due to typos — often uncannily consistent. These are not cautions which anyone passed on to me — this is di-rect experience talking.

So, to repeat myself: What is TeX? For me TeX is the software that has allowed me to earn my living typesetting books and journals, since 1983. That's 22 years of TeX — and counting.

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