
Almost 30 years of using T_EX

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Abstract

It's not just T_EX that's gotten older and more seasoned . . . Reflections on changes in T_EX and friends as used in a small typesetting company: software and hardware, of course, but also procedures and skills, resources that went from zero to virtually infinite, all of it interwoven with life and personal change. It's not earth-shaking news, but we've come far enough that looking back yields some interesting comparisons.

1 How it all began

I first came across T_EX at Carleton University in Ottawa in 1983. I had returned to the university the year before, to undertake graduate work in linguistics, with a monthly \$300 (CDN) grant, which didn't even cover rent. So, a job was needed and here was one that just fell into my lap: working for Bill Cowan, one of the department professors and his new editorial project, the *Canadian Journal of Linguistics*.

Since 1975, Bill Cowan had been editor of the long-standing *Papers of the Algonquian Conference*, and in fact remained its editor until 1993 (the 25th conference). His colleague, Jean-Pierre Paillet, a specialist in Inuktitut, was keen on computers and had convinced Bill that a really great program had just been installed at Carleton, and they were looking for a suitable project to use it on. So, Bill took the plunge, reassured that J-P would be around whenever we had problems.¹

The first publication to give T_EX and the AM fonts a trial run before committing the *Canadian Journal of Linguistics* to its use was the 1983 edition of the 14th *Papers*.² With this book of over 400 pages behind us, we were ready to tackle *CJL* the following year.³

Editor's note: From a presentation at TUG2012.

¹ Much of this is described in a memorial piece I wrote after Bill's death (Thiele 2001). Where the stories diverge, I would be inclined to go with the 2001 text, as it was closer to the events.

² Bill Cowan was editor of the *Papers* from 1975 till 1993; vols. 14 through 25 were done with T_EX, and then L^AT_EX, at Carleton. Before T_EX, these annual proceedings had been typescripts on 8.5 × 11 paper, which were then photo-reduced to the final trim size of 6 × 9.

³ As with the *Papers*, *CJL* was also prepared with T_EX, then L^AT_EX. The 1984 volume had only two issues, with roughly 230 pages. The next year, with the same budget, *CJL* became a quarterly, averaging well over 400 pages a year until 2006, when it changed to three yearly issues still averaging some 400 pages. Through four changes in editors, I continue to typeset *CJL* to this day.

CJL's pages are, in fact, a record of T_EX's own evolution, from the Almost Modern AM fonts and in-house phonetic bitmaps, proofing to paper in the absence of screen previewers, mainframes and balky text editors, (snail-)mailing proofs and then camera copy, to today's plethora of fonts, emailing of PDF files, and CTAN as the motherlode of macros for almost anything conceivable.

2 Hardware/software journeys

Our overall plan was to get dot-matrix proofs out to authors early in the year, so that editorial work could progress in parallel with development of the T_EX elements: macros and a phonetic font. By the time the editorial/proofing cycle was done, we would have a functioning T_EX process, access to a 240 dpi laser printer, and have copies in time for the October annual meeting. Figure 1 shows the same page, from both processes.

2.1 Gutenberg-to-T_EX, on a Peach

In 1983, T_EX was just at v0.93 on the Carleton mainframe (a Honeywell, running CP-6).⁴ We used a locally made Apple clone (called a 'Peach'!⁵) to do the data entry; authors in the humanities weren't using computers much—and it never occurred to us that those who did might send us a disc. So everything was input from scratch.

We used a software program written by a fellow down in Kingston, Ont., called Gutenberg (I kid you not!).⁶ And Gutenberg's great feature was that it used tags rather than function keys to format text—just like T_EX! Another great feature was that you could design additional characters—so that took care of all our phonetic symbols.

We'd print those files on a dot matrix printer as proofs for authors, and input the changes into the same file (sub-figure 1a). Still no sign of T_EX code at this point. Once the editorial work was done, it was time to prepare the files for transfer to the mainframe, where they'd be run through T_EX. Our trusty J-P wrote up a conversion program (in LISP, I think it was) which did a pretty good job of translating Gutenberg's codes into basic T_EX commands. Then I'd upload the files via modem and a program

⁴ I've not been able to locate a .log file from that 'era'; however, I did find a printout of one from 1988, on CP-6: This is TeX, DPS8/CP-6 Version 2.0 (preloaded format=lplain 87.6.25).

⁵ Wikipedia has a list of Apple [] clones, and many are indeed 'fruity': Citron II, Golden, Orange, Pearcom, Pineapple 6502, . . .

⁶ I did a google search on this and, incredibly, came up with a review from 1983 (Glenn 1983), which included the name of the program's author: John Wagner.

“THE MOHAWKS ARE COMING!” ELIJAH KELLOGG’S
OBSERVATION

Vincent Erickson
University of New Brunswick

→The Passamaquoddies have oral traditions about battles or imminent battles with the Mohawks, as do the other Wabanaki groups. In this paper, I would like to examine a number of these accounts, discuss Hadlock’s (1946) explanation of these battles, look at Elijah Kellogg’s account of Passamaquoddy fears in 1826 of an imminent Mohawk attack, and examine Kellogg’s observations in terms of the social context of historical events which occurred among the Passamaquoddies in the spring and early summer of 1826. With this background, I would like to put forward another explanation as to why the belief in an imminent Mohawk attack survived at this late date. I suggest that it served as an outlet through which the Passamaquoddies could receive respite from the consequences of intratribal factionalism.

The Passamaquoddies have at least two major variants in their oral traditions of imminent Mohawk attack. I call one theme the “disputing children”, and the other the “reflecting medallion”.

In the April 7, 1892 issue of the *St. Croix Courier*,¹ Vroom (1892) wrote that W. Wallace Brown, then agent to the Passamaquoddies, provided the following account which had been told to him by an old Passamaquoddy woman named Mollie LaCoot. Considerably abridging the long story and taking some literary freedom in paraphrasing it, I present the events as follows:

At Kwonuskwamkuk, now St. Andrews, New Brunswick, a Mohawk chief named Akamapis,² together

¹The *St. Croix Courier* was a newspaper published at St. Stephen, New Brunswick. “Glimpses of the Past” was a weekly series on the history of the Indian, French and Loyalist populations around Passamaquoddy Bay. The series continued over the two-year period 1892-1894.

²Dr. Peter L. Paul of Woodstock, New Brunswick, has interpreted *akamapis* to mean ‘snowshoe strap’ in Malecite-Passamaquoddy.

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At Kwonuskwamkuk, now St. Andrews, New Brunswick, a Mohawk chief named Akamapis,² together with his son, came to visit the Passamaquoddies. Since this was a period of peace between the two groups, the Mohawks were received cordially. One day while hunting together, the son of the Mohawk chief and the son of the Passamaquoddy chief killed a white sable. Since this was a rare animal and great honour

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(a) Gutenberg + dot-matrix printer

(b) T_EX + laser printer (reduced from 120%)

Figure 1: Comparison of outputs from Erickson (1983)

called Kermit. Transfer rate was 300 baud, from my apartment — one article would take about one supper (from prep to washing up) to complete.

Once on the mainframe, I’d run the file through T_EX, ignoring all the screen-displayed log info, forcing T_EX to eat through to the end of the file or, more commonly, until T_EX threw up its hands and cried, “T_EX capacity exceeded”.

Editing on CP-6 was a bit of a trick. The EDIT program was a line editor with a maximum of 255 characters per line (Figure 2). Deleting text on a line was no problem but adding material (changes to the text or additional T_EX code) meant that a line would easily reach its maximum capacity. So you had to insert a new line number (up to 999 ‘lines’ between any two whole-numbered lines; in the sample shown, l. 1.010), then keyboard the new material. Copying

the file over itself would re-write the line numbers.

We worked like this for several years (until 1991, when I got my very own UNIX box!). All in all, very labour-intensive, quite unsophisticated at times, and compared with today’s workflow (the term didn’t even exist in those days!), extremely inefficient. But we managed, like most everyone else who was trying hard to use T_EX, especially to do more than just math and science.

There was no screen-preview at the time so we proofed to paper — which cost us 10 cents per sheet. We had *many* defective pages of output, which we kept in a growing stack by the filing cabinet because they were the source of replacement letters and words for last-minute discoveries in what we thought was our perfect printed camera copy: the necessary ‘repair’ letters or words would be carefully

```

! EDIT
CP6 EDIT B00 HERE
* TY
1.000 The first publication to give \TeX\
2.000 before committing the
3.000 \textit{Canadian Journal of
4.000 Linguistics} to its use was the 1983
5.000 edition of the 14th \textit{Papers}.

* IN 1.010
1.010 and the \acro{AM} fonts a trial run
1.020 <return>

*TY
1.000 The first publication to give \TeX\
1.010 and the \acro{AM} fonts a trial run
2.000 before committing the
3.000 \textit{Canadian Journal of
4.000 Linguistics} to its use was the 1983
5.000 edition of the 14th \textit{Papers}.

```

Figure 2: EDIT session on CP-6

excised with an Exacto knife and glued over the offending error on the camera copy (Figure 3; see also Thiele n.d., 2007).

Originally, all output was produced at 120%, then photo-reduced to the desired text size, to yield a crisper image (sub-figure 1b).⁷ When the CM fonts arrived, we changed that, producing the journal text at the final design size—no more photo-reducing. Saved a step at the printers’, which meant it also saved us a bit of money.

When we had tree diagrams, we worked out a two-stage process. I had figured out that a table structure was a good way to set the nodes and labels. Then Bill would carefully apply LetraLine in solid, dashed, or dotted versions, to the final paper copy to finish off the trees. The irony of using a tried-and-true traditional solution on pages produced with the very latest and hottest typesetting program around was not apparent to us for quite some time . . .

Following the 1986 TUG meeting in Seattle, Dean Guenther introduced me to Janene Winter—and so began my involvement with developing the WSUIPA suite of fonts. At about the same time, a terrific phonetics book by Pullum and Ladusaw (1986) had been published, which was all about how to properly draw IPA symbols . . . and each one was shown with horizontal rules for baselines, ascender and descender lines, and best of all, the equivalent of the x-height. Perfect descriptions to feed into Metafont, which she did—tirelessly, endlessly, repeatedly . . . I proposed we borrow the names already in use in the Pullum and Ladusaw for macro names, and other

⁷ I believe subsequent testing showed there wasn’t all that much of a gain but it was a working rule of thumb at the time.

Figure 3: ‘. . . and we become pragmatic T_EX users . . . The true delights of such a page only become apparent when you print on the back . . . and half a word drops through the hole . . .’

than a hasty renaming of `\stop` to `\glotstop`, those remain in effect. From 1988 until 2005, the WSUIPA fonts were used. By then, Fukui Rei’s TIPA/XIPA fonts had been in distribution for a few years, and I finally switched everything over to his, and they have become, I believe, the standard choice for most people doing linguistics with T_EX.⁸

2.2 Building up the programs

2.2.1 manmac into cjlmac

J-P modified `manmac` to gradually arrive at *CJL*’s style and a psychology student (Mike Dunleavy) began to write documentation,⁹ as J-P kept devising more macros to do what Bill wanted. As with all programming, initially the macros did only what Jean-Pierre’s code told them to, with results that occasionally could be likened to a Venn diagram: there was an intersection area where what we wanted was what we got, but there seemed an awful lot of ‘what we wanted’ which was not ‘what we got’ outside of that area (Figure 4).¹⁰

2.2.2 Creating fonts

At the same time that `manmac` was being reshaped

⁸ I also ran across some mail and files from Johannes Braams, where he’d sent me a sample of a phonetic font he’d devised (also from 2005) but I don’t know how widespread its use became before TIPA.

⁹ Actually, Mike began writing macros as well, and was the designer of the original `\diatop` macro, for multiple diacritics on a single character.

¹⁰ This reminds me of something from the back cover of a book by Sebastian Rahtz (1987) and credited to Brian Kernighan: WYSIAYG, ‘What You See Is All You Get’ . . . although perhaps one could adjust this one to WYCIAYG, ‘What You Code Is All You Get’ . . .

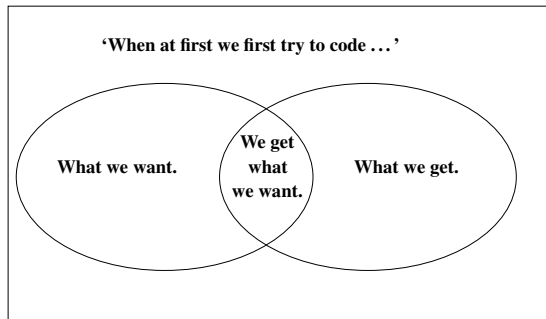


Figure 4: ‘But that’s not what I wanted!’

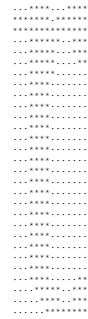


Figure 5: Verbatim copy of bitmap for \rtail

stress, with an acute accent indicating what appeared to me to be the stressed syllable.

The three Wampanoag sections of the tape, described above, are as follows:

- A. nín ka nún nŋcəkət kətinatəmič kəwisəwəŋk kə? kənən təmúwək nún
 ɔ nínəni kŋsəkət ka ókɪd kókəsi səkóki pətəkwanəŋ əkwa əkname əʔmɪč
 nŋč nóhə pəsəŋ núnə məjtkəhənən kə əkuség kəmpəŋ nín nún kwətəwənɪ
 pəkwa wətí məčtəd
- B.1) nín ka nún...nín ka núnən kŋsəkəd kətinatə mič kəwisəwəŋk
 ‘we appeal to the Great Spirit of the forest and the four winds to protect
 us’
- 2) kə?kənən təmúwəŋ nínəni kŋsəkəd
 ‘we depend upon the Great Spirit to lead and guide us always’
- 3) kəkəsi səkóki pətəkwanəŋ
 ‘the forest and the rivers you have given us’
- 4) nə məčəsi ɔŋənənəs ni wətənín nəwə
 ‘the flowers and the forest are in prayer’
- 5) pəkwa wətí məčtəd
 ‘we are thankful for the gifts of the forest’
- C.1) nín nitəmp məčtəd nəpútəmət pəmátimu
 ‘I am your friend until death’
- 2) nín nómɪsu əwi?əmétin
 ‘my beloved brother’

Figure 6: Sample with ph10 and ph7 bitmapped fonts (Source: Aubin 1983, pp. 240–241)

into *cjlmac*, the design of a phonetic font — an IPA font — was also progressing, in bitmap form (Figure 5). J-P worked best at night; Bill best in the morning — almost every day began with newsprint fanfold printouts, one shape per sheet;¹¹ Bill would mark them for reworking, leave them for J-P, and new versions would appear the next morning. And so it went. We had ph10 for regular text and ph7 for the small text in footnotes, quotes, and the bibliography (Figure 6) — but neither had a matching italics.¹² So the upshot was that we tried to avoid

¹¹ Dean Guenther’s article from the 1990 Cork meeting includes one of these, on p. 156. A complete chart of ph10 can be found on p. 155 of Dean’s article, as well as in Thiele (1987, p. 8).

¹² Normally, not an issue, as phonetic transcriptions are usually only in roman; on the other hand, if they’re in an

14) nún nŋnəmkənŋpi
 ‘you’re entirely welcome’

Comments

Although a complete analysis of the pre scope of the present paper, I would like to On the phonetic level, the phone [ç] in English, but it is usually not postulated Southern or Central New England. The which, however, may simply indicate he speaker. In B.4, the sequence [ɔŋ] follow ble in English normally occurs only when : the nasal. The phone [f] in C.5 is not usual Algonquian sound, but, like [ø], may be d tion, an impression which is reinforced by [ə] and [ʔ]. In C.10, the phone [č], if not mis addition to these phonetic observations, I the following forms appear in two variants: (B.1); [nín ɔ nínəni] (A.1) : [nínəni] (B.2); (B.5); and [kəwisəwəŋk] (A.1) : [kəwisəwəŋ

It should also be noted that the Engli are clearly incorrect and fanciful. The tra should be something like: ‘I and our fatl

having IPA symbols in titles. And of course, once the final pages were photo-reduced, the ‘small’ ph7 font was painfully tiny, as shown in Figures 1 (footnotes) and 6 (examples with IPA).

2.3 Leaving our low-tech, low-TeX cocoon

We eventually left the Apple clone and Gutenberg, and moved on to the university’s in-house DOS computer, called a Raven, where I learned to use this ASCII-based editor called Emacs. I have never changed — and brief bouts with WordPerfect and Word have never convinced me I was wrong. By then, our macros had been settled upon, we had

italicised title . . . — and it so happened that the *CJL* titleblock style put the title into italics. But that didn’t much matter, as we didn’t have a ‘ph17’ bitmapped phonetic font anyways! (At least, I don’t remember that we did.)

our documentation, and we were inserting \TeX into author files directly, leaving our crutches (Gutenberg, with J-P's conversion programs) behind.

We had also begun to receive submissions on disc (Thiele 1987, p. 24), and I would often wrestle with files, trying to get them up to the mainframe, hopefully losing all their hidden word processing codes, and then downloading essentially an ASCII file, which we'd code from scratch. But we were capturing author keystrokes, and on balance, came out ahead, in terms of accuracy and turn-around times. So that was good.

As well, I'd begun to finally read the `.log` info on-screen to try and catch obvious typos (`\itme` and `\exmaple` were two of my better ones), `hboxes` that were overfull by 213pt at times — and the more challenging searches for missing braces. At no time did we really consider moving to PCs, even though $\mu\text{\TeX}$, PCTeX , and TurboTeX , to mention a few, had been coming out. We were on the mainframe from 1983 until 1991, in fact.

At some point, we decided we needed to have a laser printer of our own, in our building — did I mention that the dime-a-page charge was the prize/price we paid after hiking over to the other side of campus, to the computing services department on the 4th floor of the administration building?! A group of journal editors bought a 240 dpi Imagen printer by Ahearn and Soper (I'm amazed I can come up with that name so quickly!), with a driver devised by Rick Mallett, who also happened to be the TUG site coordinator for CP-6 (Mallett 1974).

3 There are journals everywhere . . . !

Other journal editors were becoming interested in how *CJL* was being produced. However, the queries would quickly lead to 'And you'll do the typesetting, right?', as opposed to 'And you can teach me how to do this?'. In the end, we actually did both.

As our work became known around campus, another editor (Toni Miller) and I realised there was an awful lot of scholarly editing going on, mainly but not exclusively in the humanities. We approached the library and asked if we could put together a display of scholarly journals. We devised a questionnaire, I typeset the results, and we mounted each journal and its description on large panels. In all, we had found over 50 publications whose editorial work was being done on campus. It was that display in early 1987 which also brought home the potential for typesetting on a much larger scale than we'd been planning.

Around 1988, with the urging of senior staff in the Computing Services division, I submitted a proposal to the university, suggesting that a centralised



Figure 7: The Secret Life of an Editor (drawn by George Chouchani)

production centre would be a good way to consolidate the many disparate typesetting jobs (books and journals) which were humming along in relative obscurity across campus. Maybe make some money, raise the university's publishing/publications profile, as well as support its academic staff's initiatives.

3.1 The Journal Production Centre

The Journal Production Centre (JPC) existed from 1988 till 1991, and at times I had two employees, who mainly worked on keyboarding, coding, and initial processing, while I did debugging and final production runs. There were probably 6–8 journals which we worked on regularly, as well as a number of annual publications and one-off books.

We produced a lot of journal issues and books, but weren't making money to cover our expenses because I had no idea how to properly charge for our services. We were asking \$3 and \$4 per typeset page and it should have been more like \$10 or \$12, given the hours we were putting into them. Quite inefficient — and eventually the university grafted us onto Carleton University Press. That lasted about a year or so and we produced at least half a dozen books for them; eventually, though, we were cut loose

Table 1: The home network

Year	Machine	Speed	OS	Memory	Drive(s)
1991	IPC*	12.5 MHz	SunOS 4.1.3	8 MB	105 MB SCSI
2002	Sparc10*	2 × 40 MHz	Solaris 8	2 × 128 MB	105 MB SCSI
	Ultra1	170 MHz	Solaris 9	448 MB	4 GB SCSI
	Ultra10	440 MHz	Solaris 9	512 MB	9 GB SCSI
2008	Sunblade 1000	2 × 900 MHz	Solaris 10	4 GB	2 × 73 GB Fiber Channel
2009	Sunblade 2000	2 × 1.2 GHz	Solaris 10	4 GB	2 × 73 GB Fiber Channel
2012	Intel architecture†	2 × 3 GHz	Solaris 10	8 GB	2 × 80 GB SATA

* The IPCs and Sparc10 were 32-bit machines; all the rest have been 64-bit.

† The latest upgrade makes it possible to create virtual PCs running Windows 7. A cheap way to get a PC that can be rolled back to the last snapshot taken—which means not re-installing software all over again. As well, the underlying system is still UNIX and thus my sysadmin is still in complete control—and can fix what goes wrong. Not the case at all were we to go to real PCs.

- Back-ups have followed a similar ramping up over the years:
 - 5 MB tapes—until there was more data than any individual tape could hold
 - 5 GB Exabyte tapes
 - DTL tapes (10 and 20 GB)
 - currently: disc-to-disc back-up

When my own work was in high production mode, back-ups were done every week, and a year’s worth of back-ups were stored. Now it’s more of an on-demand basis: when proofs and final production PDFs have been generated, I usually ask that one be done. However, with ZFS snapshots as backups, I have access to old versions of files back to Jan. 2008.

and I became a sole proprietorship, as they call it. A home-based business with one employee, in short. On April 1st, 1991, I filed the paperwork for my company, the Carleton Production Centre (CPC).

4 Freelancer at last— the JPC becomes my CPC

My fledgling office was marvellous! Large window, an enormous table surface, and all the comforts of home. Clients came to the house, or I cycled in to their university offices. Almost idyllic!

4.1 The home network

The inevitable shift away from mainframes to workstations in the late 1980s/early 90s on campus also had repercussions at home: we wired the house for UNIX workstations, and the home network was born (see Table 1). I had to learn, in order to do my work; and my husband Mike (not Dunleavy!) used the network to do beta-testing for the university.

The first machines were two Sun IPCs, at \$5000 each (the educational discount at the time). Along with Sunblade 1000s, bought perhaps a decade later, these were the only machines we actually bought new; everything else has been on the trailing edge in hardware for us (EBay, re-sellers, university cast-offs), all repurposed for the home network.

We’ve gone through several machines since then, with changes in operating systems, hardware, back-up procedures (my husband swears by ZFS, for those who’re interested)—but on only three occasions, upgrades to \TeX .

Then there are the monitors—the change has been physically enormous. The usual tiny PC monitors had been replaced by the enormous cathode-tube monsters that came with workstations, as deep as they were wide, always taking up too much room. Flat-screen panels suspended on arms have made a huge change in the battle for real estate on the desk. But now the skirmish to move sideways with two such flat screens side-by-side is looming. I’m resisting . . . so far.

As for printers, my LaserJet 4M, bought in 1991 for about \$2,500 finally died last year (2011). It’s been replaced by a Lexmark X543d: it prints colour, it scans paper into .pdf files, it inhales toner of all colours. The LJ4 never did any of that—but it did give me 20 years of solid reliable service. I somehow don’t see the Lexmark hanging on for that long.

4.2 Ahhh! This is much better!

The change from mainframe to workstation yielded a number of improvements right away:

- No longer hampered by finite disc storage space.
- Files were edited with Emacs and run through \TeX *on the same machine!* Until the switch, files had been edited on a PC with Emacs, then uploaded to the mainframe, where they were processed by \TeX .
- Saving old projects became feasible — all the work on the mainframe had to be deleted as each issue/book was published; there was no archiving possible (unless we wanted to pay for taped back-ups). Now I had — at that time — infinite storage ... and ‘infinite’ seems to keep getting bigger, as the years go by.
- Printing was done on-site, in the same room as the computers.
- The monitor screen was enormous, compared with those used on either the PCs or the ones accessing the mainframe.
- Previewing — actually seeing the typeset results on-screen and not proof-to-paper — was a huge advance. Saved loads of trees, I’m sure!

4.3 Moving (slowly) through \TeX versions

Well, in the beginning there was plain \TeX and then I moved gingerly over to \LaTeX around 1995.¹³ Now, of course, it’s $\LaTeX 2_{\epsilon}$ (Table 2). I don’t use \pdfTeX or $\pdf\LaTeX$ since I’m totally dependent on \pstricks — still one of the great tools from the early days.

Until recently, I had three \TeX versions available: ‘oldtex’, ‘newtex’, and ‘newtex’ (‘really new \TeX ’!) were command-line switches on my machine. When the second \TeX Live was installed, I made Mike keep the older one around, as that’s what all the archival files from before 1999 ran on and I’ve been very nervous that old plain files won’t run the same; I’m even more nervous about the old \LaTeX 2.09 files, mainly because their macros were already rather hybridised versions of the original plain macros. I actually had to use the ‘oldtex’ set-up a few years back, in order to generate $\.pdf$ files from very old $\.tex$ and $\.dvi$ files. And I’ll be doing the same with even older files from *CJL*’s backlist, for the journal’s 60th anniversary in three years’ time.

My current \TeX is from the 2003 \TeX Live CD — ‘newtex’. Once it was available, the previous ‘newtex’ became redundant, and was retired. And it’s that old 2003 CD version which finally gave me

¹³ It was Mimi Burbank who convinced me that I didn’t need to rewrite/have someone rewrite all the plain macros into \LaTeX structures; that there were only a few lines to change near the top and that would be it. And she was right! Once that worry was laid to rest, I was very happy to move over to \LaTeX , because that finally allowed me to access the ever-increasing number of packages coming on-line via CTAN.

Table 2: \TeX versions I’ve gone through

original \TeX on my UNIX box:

This is TeX, C Version 2.93 (preloaded
format=plain 90.2.15) 15 JUN 1993 17:53

oldtex

This is TeX, Version 3.1415 (C version 6.0)
(format=lplain 94.1.31) 8 MAR 2000 13:55
... LaTeX Version 2.09 <25 March 1992>

newtex

This is TeX, Version 3.14159 (Web2C 7.2)
(format=latex 1998.3.25) 18 NOV 2003
... LaTeX2e <1997/12/01> patch level 1

newtex

This is e-TeX, Version 3.141592-2.1 (Web2C
7.5.2) (format=latex 2004.3.11) 10 JUL 2012
14:51 .. LaTeX2e <2001/06/01>

... and coming soon ...

An x86 implementation \TeX ... perhaps by
Christmas 2012.

access to $\LaTeX 2_{\epsilon}$. However, all of these run on the one remaining piece of old hardware we have; all the other machines have been replaced with faster and more energy-efficient ones. The upgrade from Sparc to x86 has also made it possible to provide a platform for me to install $\text{PC}\TeX$ for client work.

After this conference, the testing begins, to ensure that old files using \TeX from an old machine will still run on the new architecture, with a more current \TeX implementation.

5 My favourites

5.1 Macros

My all-time favourite macros are \llap and \rlap (‘print but don’t measure’) and \phantom (‘measure but don’t print’). They’re everyday tools for dealing with things that won’t fit: in tree diagrams, tables, faking decimal alignments, overwide column entries. These are invaluable to me. I learned them early, doing linguistic tree diagrams within tabular .

Early on in typesetting linguistics material, we needed super- and subscripts in text rather than math mode, where the vertical displacement (up or down) was preset. So we did a lot of \raisebox and \lowerbox of \hbox s. The flexibility of assigning any value (we used ex as our unit of measure) was applied to everything from individual characters to whole words. And as this was \TeX , one could then combine the up/down of the \hbox with the left/right shifting that the ‘lap’ commands afforded, to give a roughly centred combination of characters.¹⁴

¹⁴ I know that \kerning achieves much the same effect but never got the hang of it.

These are followed closely by negative `\hskip` and `\vskip` (and eventually their L^AT_EX counterparts `\hspace` and `\vspace`). As a non-mathematician, the idea of going up by using a negative value for going ‘down’ was quite arresting at the time. Same for having text pull to the left via negative horizontal values.

Nothing sophisticated about these — they just work without fail.

Ever since he wrote them up for *TTN*, I’ve been a firm devotee of Claudio Beccari’s `\T` and `\B` (Beccari 1993), to insert struts into tables (usually above or below horizontal rules) — although now there’s the `bigstrut` package, which has some advantages.

Several years ago, Paul Mailhot of PreT_EX introduced me to the `\includeonly` approach for working from a single run-file to control an entire journal issue.¹⁵ I just love it! I’ve expanded the contents now to include article-specific macros and parameters, so that just about everything is controlled via the run-file, and the `.tex` source files focus on the contents; it’s now about 800 lines. A few extracts appear in Figure 8. I suppose I could move all the titleblock material into the run-file as well — it’s only just now crossed my mind that perhaps that could be done. But then my source files would be devoid of any useful identifying content at the top ... no, I think it’s better this way. The headers/footers are in the run-file, but the actual title, author, affiliation info is still in the source file. One of those ‘just-’cause-I-can-doesn’t-mean-I-should’ decisions.

And finally ... although not a single macro: all the symbols in math mode! Ever since I learned to define a specific font (in the ‘old’ way, granted), in order to access a specific character, I’ve plundered the math fonts and many others, for unique and useful characters. These have been as varied as the `\widetilde` used here as a separator, and special symbols used in linguistics optimality theory tableaux: ☞ X ☠ :

```
%% a. pointing hand:
\font\speciala=pzdr at 12pt
\newcommand{\Hand}{\speciala\char'053}
\newcommand{\notgood}{\speciala\char'067}

%% b. skull-and-crossbones:
%%   single-char font:
%%       Henrik Christian Grove
%%       grove@math.ku.dk
%%       [2002/01/23 v0.1]
\font\specialb=skull at 10pt
\newcommand{\death}{\specialb\char'101}
```

¹⁵ The basic idea is described in Mittelbach and Goossens (2004, pp. 18–20).

5.2 Utility programs

Let’s start with `xdvi` — it goes without saying much more than that! Next — I could not function without `dvips` and `ps2pdf`!

To my mind, these three are the solid workhorses that have made it possible to stay with T_EX for typesetting documents, and then smoothly interface with the wider world of authors, editors, printers (both human and mechanical), and publishers. They have gradually let go of being worried that something done in T_EX will smell of CM fonts, and indeed have gradually let go caring about what’s used before they receive `.pdf` files for their proofs, prefinals, and production runs. Which is as it should be — how I achieve the necessary end-product is not really something they need to know much about. One publisher did get very exercised about T_EX being behind the `.pdf` files until we finally got him to understand that he wasn’t going to be getting any `.tex` files to work on (that was my job) and no-one was expecting him to install and use T_EX at any point — he was only doing the printing. And in the end, his production manager wrote to say the output, in Times Roman, did indeed look a lot better than any Times Roman they were able to generate. A nice, if small, victory for the T_EX side.

In terms of utility programs, Emma Pease’s package `tree-dvips`, which depends on `pstricks`, was an early winner, allowing me to typeset complete tree diagrams, using L^AT_EX’s `tabular` environment for node placement and `pstricks` to draw in lines, and something that had never been possible via Letra-Line — curves! Lines and curves with arrows, in solid, dashed, and dotted lines! Marvellous stuff. For now, this means that `pdfTEX`/`pdfLATEX` are out of bounds, but I can still get to PDF via `dvips + ps2pdf`.

I encountered `rtf2latex2e` in the mid-2000s and used it extensively. But before even `rtf2latex2e`, I would regularly save all files in ASCII, getting rid of all coding in the files, to leave a clean playing field for the T_EX — and then L^AT_EX — codes. It was a chance reference to `rtf2latex2e` that led me to poke around the web and then convince my husband/sysadmin to install it. Compared with coding from scratch, it was like heaven! Life was good, work was easy!

Then about a year ago, an upgrade to StarOffice came with an ‘Export to L^AT_EX₂e’ option, and now life’s even better, work’s even easier.

5.3 cjlmac spawns new packages

In the beginning, I didn’t input T_EX code at all. The basic formatting codes were inserted during the transfer of Gutenberg-encoded files up to the mainframe. I just ran the file and hoped it would get


```

%% 22 MAR 07: began using a new approach to putting an issue
%%           together -- a master run-file, using \includeonly and
%%           \include -- based on a model provided by Paul Mailhot
%%           of PreTeX Inc. Copied cjal-run-file.tex from
%%           cjal/vol-10-1/ and customised for CJL (Ch.)
[...]
\documentclass[twoside]{article}
[...]
\usepackage{cjlmac-13}           %% 20 MAY 09: dimens changed:
                                %% \textwidth = 27 --> 28pc
                                %% \textheight = 43 --> 45pc
[...]
\usepackage{slashbox}          %% 24 JUL 09: for AKINLABI tables (in 54,2)
                                %% for FILE-MURIEL (in 55,1)
[...]
%
art-baker-vinokurova, %% PROOFS sent: 31 MAY 12 %% CORR input: 14 JUN 12
art-heycock,          %% PROOFS sent: 25 MAY 12 %% CORR input: 13 JUN 12
art-massam,           %% PROOFS sent:  2 MAY 12 %% CORR input: 12 JUN 12
art-mcconnell-ginet, %% PROOFS sent: 18 APR 12 %% CORR input:  5 JUN 12
art-nickel,           %% PROOFS sent: 13 APR 12 %% CORR input:  5 JUN 12
art-gil,              %% PROOFS sent: 14 MAY 12 %% CORR input: 12 JUN 12
%
[...]
%%%%%%%%%%
%% NOTES:
%% a. for blank versos, use \watermark
%%
%% b. FOR MUSE version of .pdf, they don't want the watermark,
%%    so uncomment next line and reprocess the run-file:
%%
%%    \let\watermark=\blankverso
[...]
%% ARTICLES:

\pagenumbering{arabic}

%% For final camera run:
%% a. uncomment all \crop[cam] lines
%% b. uncomment next line, to set final pagestyle:
\pagestyle{cjlmac}
[...]
%% BAKER-VINOKUROVA:
\bgroup
  %% \selectlanguage{english}
  %% \pagestyle{proofs}
  %% \pagestyle{secondproofs}
  %% \pagestyle{prefinalproofs}
  %% \setcounter{page}{1001}
  \pagerange{177--207}
%
  \def\DUP{\textsc{dup}\spacefactor = 1000 }
  \def\FACT{\textsc{fact}\spacefactor = 1000 }
  \def\NEUT{\textsc{n}\spacefactor = 1000 }
  \def\NSF{\textsc{nsf}\spacefactor = 1000 }
  \def\PUNC{\textsc{punc}\spacefactor = 1000 }
  \def\STAT{\textsc{stat}\spacefactor = 1000 }
  \def\TIME{\textsc{t}\spacefactor = 1000 }
%
  \markboth{\Leftheaderr{}}
             {BAKER and VINOKUROVA}
%% \crop[cam]
\include{art-baker-vinokurova}
\watermark %% = p.208
\egroup
[...]

```

Figure 8: Extracts from cjl-57-2-runfile.tex

Table 3: Macro packages galore!

algmac.sty	edmac.sty ¹⁷	musicmac.sty
algmac-l.sty	escmac.sty	quemac.sty
burmac.sty	escmac-l.sty	revmac.sty
calsmac.sty	escmac-l2.sty	richemac.sty
campbell-l.sty	flormac.sty	rightmac.sty
cilob-l.sty	flormac-l.sty	ronimac.sty
cjal-l.sty	fosmac.sty	rsmac.sty
cjlmac.sty	gaumac.sty	rsmac-spanish.tex
cjlmac-l.sty	gilmac.sty	scamac.sty
cjlmac-l2.sty	kormac.sty	shortmac.sty
cjlmac-l3.sty	lathesis-newmacs.sty	tolleymac.sty
crispmac.sty	leftmac.sty	wademac.sty
critmac.sty	ling-atl-l.sty	walkmac.sty
demonmac.sty	lukas-l.sty	weber-l.sty

- The ones with -1 are for L^AT_EX use—some old, some new.
- Many are simply cjlmac clones, with the much-mentioned 20–30 formatting revisions, to address layout differences between journals.

to the end. After several months, I began learning how to add T_EX code, to address changes from the editor. The macros began proliferating, so we had documentation written up (I still have the binder), until we were inputting T_EX codes into ASCII files from scratch.

And just as gradually, I began looking at those macros, leafing through *The T_EXbook*, and making my first forays into tinkering with the definitions.

As other projects (first journals, then books) came along, I would modify cjlmac, renaming it something suitable: *escmac* for *English Studies in Canada*, *burmac* for an enormous book on 12th-century Spanish accounts,¹⁶ and so on.

The proliferation of such *mac files (Table 3), where almost 95% of the contents were identical, even-

¹⁶ Part of ‘Projecto Burriel’. Originally keyboarded with *Nota Bene*, auto-converted into T_EX, with macros written by Andrew Dobrowolski.

¹⁷ This is *not* the same package first designed by John Lavagnino and Dominik Wujastyk. For my first critical edition (1988–1993), I had heard of this package, which was still in beta form; I hired Andrew Dobrowolski to build on its base, to address all the needs of such a format for John Donne’s *Pseudo-Martyr* (Raspa 1993). These were then extended even further to deal with a very large Spanish-language project (Hernandez, 1993). It was keyboarded in *Nota Bene*, which first required Andrew to write a conversion utility into T_EX. After that opus, our *edmac* and ancillary files continued to be used in several series of Renaissance plays I typeset for Dovehouse Press, Ottawa, until 2005.

My failure to rename the file was inexperience—and also not knowing whether Dominik and John’s package was ever going to go beyond beta. It eventually did, and so our home-grown package has remained in-house, to avoid confusion. And my impression is that the ‘real’ *edmac* has gone far beyond what ours had, so I don’t think ours is a loss to the T_EX community. But it is a bit of an object lesson in the need to adhere to the tenet that variations on an existing package, even if it’s only in beta, *must* be renamed, even if you don’t think the original will continue.

```
%% %% %% Production log:
%% 10 SEP 12: began file clean-up and encoding
%%           (to p.3) (Ch.)
%% 11 SEP 12: continued clean-up and coding (to p.24)
%%           NOTE: all former exx nos. are those found on
%%           the .pdf I printed as reference (Ch.)
%% 12 SEP 12: continued clean-up and coding (to
%%           p.34) (Ch.)
%% 13 SEP 12: finished coding file (Ch.)
%% 14 SEP 12: screen-proofed file; generated
%%           proofs (Ch.)
%% [...]
```

Figure 9: Sample of comments in .tex file

tually led to a more sophisticated solution: Macro packages would load cjlmac first, and then simply overwrite the 20 to 30 commands which were the significant differences from the linguistics journal’s layout.¹⁸ Much more streamlined, took up much less space, and the essential differences were all that the new macro package contained. Each subsequent variant was simply a modified version of the previous, with new macros being either additional reworked macros from cjlmac or entirely new ones I was gradually able to write.¹⁹

With the advent of L^AT_EX 2_ε, things changed again. Instead of cjlmac being the base file, it was *article* which did the job. Macros from previous packages were brought into the new version, adjusted where necessary, or simply replaced with publicly available packages and their special options or modifications; for example, *titling*, *fancyhdr*, *titlesec*, *caption*, . . .

And finally, once I began using `\includeonly` syntax, with a run-file for the entire publication, the journal-specific macro file became just another add-in to the run-file; the master file for everything.

One thing I have done from very early on is document my work, with a running commentary on what I’m doing. In my .tex files, I keep a dated log of work done (Figure 9).²⁰ In my macro files, in addition to the same style of entries at the top, I also make notes within the package on any changes,

¹⁸ I’ve often claimed there are no more than 20–30 journal-specific layouts that affect the main look of a document: headers and footers, titleblocks and opening page footers, lists, citation blocks, footnotes or endnotes, superscripts, bibliographies, contents page, font size, assigned font usage, text width and height, headings (from 2 to 5 levels), float parameters, indentions, and a few others. Some elements may take several macros to define (e.g., titleblock usually has title, author, affiliation, maybe also email) but for the most part, that’s it.

¹⁹ However, much of my macro-writing ‘expertise’ remains confined to modifying existing macros, copying them from others I’ve found via the web, asking for assistance on the *ling-tex* list, or as most often now happens, finding a new package on CTAN! I’m no Amy Hendrickson or Karl Berry!

²⁰ My log entries are always at the top of the file, so they’re the first thing I see when I open it.

including which of my previous packages I've copied or modified a macro from. I think I realised that, as the only one working on a file, especially macros, there was no-one else to ask, and there were so many files, it was necessary to keep a record of such things.

5.4 Resources

Again, there are constant and true resources, without which I could not have done \TeX typesetting for 30 years: these are the \TeX community, email and the Internet, and courier services (!).

But more than any of these, the most important resource I have had has been my sysadmin husband, Mike McFaul. He's done all the computer work that allows me to just sit at my keyboard, and get on with my job. He doesn't use \TeX , doesn't much like installing it (requires him to know stuff he doesn't, and I can't help as I don't know the stuff he needs). But he provides the entire infrastructure of a company's IT staff. From hardware/software upgrades to back-ups, from giving me the UNIX commands I need to do certain tasks to fixing files that go wonky, from email service to Internet connectivity, it's all there.

I am very fortunate.

There are many other great resources I've been able to tap and count on. To name a few:

1. Mining down into the \TeX community itself, probably a good 20–30 percent of everyone at the conference has helped me in some way or another. Being an active member of TUG since 1986 helped build up those connections, opened doors in a few cases to typesetting contracts, and by osmosis (especially during the years spent editing conference proceedings) I learned and was taught a great many things that no classroom could have ever provided.

Becoming further involved in that community, I started up the `ling-tex` list in 1994, which was a self-serving event at first. But it is still going, still viable, and many many people have asked far more questions than I! So I'm very pleased it's continued for almost 20 years.

2. Email, to stay connected with that community, and the Internet. Without these, no work in \TeX could really be done, in my opinion.
3. CTAN's huge collection of all those wonderful contributions from people around the globe. The CTAN-ANN list has been a great way to keep up, and eventually remember that something came through a while back that might be what I need.²¹

²¹ The CTAN-ANN notices also appear on TUG's home page, www.tug.org.

4. Courier services were becoming more pervasive, targetting home businesses in particular. It was easier to get a 24-hour turnaround in documents (when a printed hardcopy was what printers wanted) using those courier services than any inter-departmental mail service or even personal delivery by car. Couriers made it possible to totally ignore where I was, and where my client was: we were both within 24 hours of one another for physical materials, and almost instantaneous contact via email and phone.

6 How things have changed

6.1 Exchanging and processing submissions

At the start, there were no author submissions on disc—everything was input from scratch. The *CJL* editor would edit the hardcopy ms., and I would input both the text and the edits. Everything was done on our Apple][clone, formatted with Gutenberg software, to generate proofs that were already roughly in the final layout (as described above).

Once author submissions began coming in on floppy, the files were converted to ASCII, for use with Emacs. We had both a PC and a basic Mac in the office and some conversion tools to bring the files into an un-encoded state, ready for inputting both edits and formatting codes.

By the late 1980s, author submissions increasingly came on disc (both PC and Mac) using a variety of software: Word, WordPerfect, Nota Bene, WordStar are the main ones that come to mind. The editors would send edited hardcopy and matching disc, and I'd input those edits.

Even after moving from the mainframe to the UNIX box, the same procedures were followed. When I had employees, they used WordPerfect for inputting edits and \TeX code, avoided any of the WP function keys, and saved the files in 'Text only' format. The files were then saved in ASCII, I checked them in Emacs, and then ran them through \TeX .

By the mid- to late 1990s, submissions seemed to converge on Word's `.doc` format, the PC and Mac versions having pretty much aligned.

By the early 2000s, editors were taking care of editorial changes themselves, sending only edited `.doc` files and a matching hardcopy by mail/courier. This was as much a cost-cutting choice as a practical one—editors were themselves becoming skilled users of the software, for their own academic work, and were transferring that skill to their journal editing.

This convergence on the `.doc` format made it possible to take advantage of RTF as a bridging mechanism: use StarOffice to save the file in `.rtf` and run that through the utility `rtf2latex2e` to yield

a fairly accurate \TeX -encoded file. Not only did this save time but it also ensured that all the care and time authors had taken, especially with their special characters and font changes, would be preserved.

In most cases, the cleaning out of extraneous \TeX code was still more efficient than inputting it all from scratch. However, on occasion, a file would have a great number of special characters that failed to be picked up by the half-way step through RTF. The only way to deal with that — to make sure that all the original and unique keystrokes were retained — was to go into the `.doc` file and replace each one with a unique ‘dummy code’, some alphanumeric sequence that would pass through the conversion untouched.

As mentioned elsewhere, `rtf2latex2e` has now been replaced by StarOffice’s own export utility into \LaTeX , which has been an even bigger time-saver.

At present, the only technical hiccup is with `.docx` submissions. Fortunately, editors have been most accommodating in resaving in the older format.

Somewhere in here, our Mac became obsolete: no Mac floppy had been seen in ages. And its removal cleared up desk space! Indeed, there were no discs from anyone — emailing files had become much easier and there were no more costs incurred either buying discs or shipping them along with their hardcopy mss. More cost savings for everyone. And I could get rid of some equipment from my work space.

The PC was still needed — its Acrobat Reader was better at viewing/printing `.pdf` files than the UNIX version, especially if font substitution was happening.

By the mid-2000s, I began sending `.pdf` proofs to editors, but still courier’d the marked-up mss, which had all my queries and comments marked.

Editors then began using the `.pdf` format to replace the hardcopy and both it and the `.doc` file would arrive via email. No more courier costs at either end.

However — I still work entirely from paper. I’m a firm believer in the paper trail. The manuscript `.pdf` is printed,²² to get hardcopy for my queries and comments.

Corrections come back as scanned `.pdf` pages (which I then also print, to make sure everything’s been taken care of). Some authors are sending back the proof `.pdf`, with annotations. Unfortunately, I can’t print these pages, so those annotations often have to be written onto a hardcopy of the page needing correction.

Something I’ve been doing lately is printing the

`.pdf` manuscript files in landscape, two pages per sheet — saves paper at my end. And when I scan the marked-up manuscript into a `.pdf`, it’s fewer sheets for the recipient. Anything that’s not quite clear can be zoomed in on via the Reader.

Now, everything is done in PDF. Even the author’s marked-up manuscript is scanned into a `.pdf` and sent via email or left on an ftp server (file sizes are expanding, like the universe!). Mailing and courier costs have been reduced to almost nothing.

The physical paperwork that does remain at the end is then returned to the editors (by regular mail now, rather than courier). Where once I would go through a box of paper (5,000 sheets) every half year or so, a box now lasts me a couple of years at least. Yet another cost savings.

Hardcopy camera copy on high-contrast laser printer paper has similarly given way to production `.pdf` files for printers. And here, the cost of moving physical material around has been removed entirely.

Some printers (companies, I mean) were initially leery of my `.pdf` files, until it was clear that no font substitutions, even of the Base14, were happening. I had poked around the web, looking for `ps2pdf` commands in submission instructions for various publishers and publications and finally found the right syntax (all on one line):

```
ps2pdf -dPDFSETTINGS=/printer
-dCompatibilityLevel=1.3
-dMaxSubsetPct=100 -dSubsetFonts=true
-dEmbedAllFonts=true
```

As a very small operation, I feel that I have to be as good as the ‘big guys’, and make sure no objections can be found for rejecting my files — and thus losing a client to someone using more widely-used — known software familiar to the printers. But soon there was a more concrete reason to have found this solution.

Publishers of books and journals now often require a matching `.pdf` file for web-based distribution of the publication. I am eternally grateful to the people who devised `ps2pdf` and the switches that fully embed all the fonts, include the current Base14 (used to be Base35, remember?). I have solid robust `.pdf` files — at least, I’ve never heard anything to the contrary.

The next step after `.pdf` files for the web has been the need (so far, only one journal) to have live links. So, back to CTAN for the solution — which is, of course, `hyperref`. As with a number of these utilities, I come to need them years after they’ve been developed, which means that most of the bugs and such wrinkles as cross-package interference issues have been found and usually resolved. Being behind

²² The exception is files where so much font substitution has happened that it’s more accurate to print the `.doc` file!

the curve has its advantages at times!

Graphics, illustrations — anything I can't create with \TeX or xFig. In the beginning, `.tex` output had blank spaces where hardcopy provided by the authors would be cut-and-pasted into position. In those days, there were very few illustrations in *CJL*; most were for the *Algonquian Papers*.

It wasn't till the early 2000s that authors began offering up figures in various formats, often of a quality far inferior to their text. As I had none of the half-dozen or so popular software packages around at the time, any edits or changes needed had to be done by the author — and this didn't always work out.

A couple of years of this and I finally decided I had to find someone who could handle graphics files — I simply was not skilled enough, and it bothered me that great-looking text (which had been properly edited) was being accompanied by shabby figures (which often weren't consistent with that text). I think a small-time typesetting business like mine does have to weigh the costs (time and money and expertise) of doing it all, or paying better people to do things you're not so good at. Again, advances in technology kept making this more cost-effective: email renders geographic location irrelevant, attachments and ftp simplify file transfers both to and from the graphics person, payments made via PayPal (what a marvellous invention that's been, eh?!).

6.2 \TeX nical enhancements over time

As mentioned earlier (Table 2), we've only upgraded \TeX three times, none of them smooth ('Why can't this install like a normal UNIX program?!' is often heard around here). Based on what people were telling me at this summer's Boston meeting, things are quite different now, so I'm almost looking forward to having the new \TeX Live DVD installed.

So, leaving aside such major upgrades, the progression of enhancements to \TeX and company have been significant and noticeable, and the output of the past 30 years visibly reflects those changes:

- AM fonts to CM fonts for text: this is purely an appearance thing.
- The in-house bitmapped `ph10` and `ph7` were replaced by the Metafont suite of WSUIPA fonts from Washington State University, which at last made italic phonetic characters possible. The WSUIPA fonts were in turn replaced by Fukui Rei's TIPA/XIPA. This upgrade path is about more than just appearance.

The TIPA fonts, under \LaTeX , make the phonetics font as fully flexible as the regular text fonts. The greatly expanded repertoire of avail-

able characters, as well as the tools to build even more complex combinations, is a tremendous change. On the more mundane side of things, the coding intricacies have been greatly reduced. For example, looking at diacritics for these non-CM fonts, one can appreciate the simplicity which TIPA now affords:

<code>ph10</code>	<code>\v{\normalphn\char'162}</code>	n/a
<code>WSUIPA</code>	<code>\v\tailr</code>	\tilde{r}
	<code>\v{\ipa\char'106}</code>	\tilde{r}
<code>TIPA</code>	<code>\v\textrtailr</code>	\tilde{r}

- plain \TeX eventually gave way to \LaTeX 2.09, and now to \LaTeX 2 ϵ .
- In-house macros based on `manmac` gradually hybridized into a combination of newer \LaTeX -based syntax working alongside existing plain \TeX definitions, supplemented with task-specific packages from CTAN: `caption`, `tree-dvips`, `multirow`, and so on.
- Every new layout or character in authors' `.doc` files has found a response in CTAN's ever-expanding collection of packages: that is, as authors' writings become more complex, there is often a package that already addresses that need. In the old days, a new layout was usually greeted with 'Why?' and 'Is there a significant difference in meaning by not doing this the old way?'. Now, it's usually just a matter of either finding an appropriate package or asking for assistance via the `ling-tex` list!
- Documentation on using \TeX has gone from one, sometimes inscrutable source, *The \TeX book*, to an explosion of information, both printed and on-line, for all user levels and for far more than 'just math and science'.

7 ... and some things hardly change at all

In no particular order ...

- I work from paper — `.pdfs` with sticky notes are quite simply annoying: I can't print them to have hardcopy proof of what the author's corrections are, I can't cut-and-paste anything out of those sticky notes, and I can't compare pages easily. So I have no use for 'em. And of course, with the basic Acrobat Reader, I can't generate them either! So I'm a paper-based editor and typesetter and that's just the way it is — it's faster and more accurate for me to write notes by hand than to mess around with teeny tiny notes that wink out whenever my cursor goes out of the yellow box or into the yellow box or some place in between. Yuck.

- Annotations at the top of a file, showing its work history. I noticed this the first time I edited papers for the 1986 proceedings for the Montreal meeting. As I was exchanging files with the authors, it became a habit. Many prefer having such log files at the bottom, out of the way, but I prefer opening the file and seeing right away what's been worked on last, whether it was me or someone else, the commented history has been a terrific crutch, when there's just too much to keep track of or simply as memory fades . . .
- Pens—I depend on Pilot Hi-Techpoint V5 pens in extra fine turquoise to mark *all* my edits, notes, comments, queries on hardcopy. Early on, Bill and I used non-reproducing light-blue pencils (or markers): their marks wouldn't be noticed by photocopiers and, for the most part, by printers (at that time). So we were safe in making small annotations on final copy (instructions to the printer), or using a ruler to mark tree diagram lines on camera copy for placement of LetraLine.

We had our pen colour assignments: blue was mine, his was green, and authors could have anything else (!). None of that happens anymore, and yet, I still use those turquoise markers, which are actually rather difficult to find these days. I suppose I could change but . . . These days too, I like corrections made in red as it's so much easier to spot than the ever-so-diplomatic lead pencil or black pen—useless when the eyesight starts to go!

- For tree diagrams, I still use `tabular` and `tree-dvips` rather than front ends such as `qtree`; I like to think I have more control over the appearance. And at this stage of the game, I'm too lazy to learn more than I have to (!).
- Daily tracking of hours per project—this has always been to the quarter-hour, marked on slips of paper. Then manually transferred to each project's production chart, tallied once a job's done, and then (eventually) an invoice is done up. Not efficient at all. But I don't see it changing at this point!
- Rates—I've increased these perhaps twice. Initially, it was per hour, then per typeset page, now a combination: typeset pages + per/hour when the hours exceed the norm. Eventually this builds up a track record of how much time a project (journal issue or book) ought to take, compared with what it actually took. Then I see how things look, on balance, over the long term.
- Production charts and account books—also done manually, but at least here I do the en-

tries as invoices are sent and payments received. Needless to say, the forms are typeset in \TeX .

- I still print on both sides of the page—in the days when proofs were on paper, my stack of recycle paper was much higher.
- Fonts—my knowledge of how to set up and access the many hundreds of fonts available these days continues to be hampered by being an end-user on the UNIX box, unable to explain exactly what goes where, when it comes to all the font files. I understand that there are good installation tools/scripts these days but . . . well, everyone's got a black box they sort of dread having to open, and this one's mine. I really and truly have had no feel for this subject, and it's been a real barrier.

The one time I did need something special was Baskerville, for a collaborative project (Beecher and Ciavolella, 2010) where the main work had been done using Y&Y \TeX , which I already had on my laptop (running Win98). In fact, the PC was networked to my workstation, with the big monitor, so I did all the editing in Emacs and then would turn to the laptop (and its tiny screen) to process the file. I found the program was really nice to use, but the fact that both the laptop's OS and the \TeX implementation were ancient made it unrealistic to undertake new projects. But I have to say that the ease of use for installing fonts was a real treat. I just wish it were that easy with UNIX!

8 Passing \TeX along

8.1 Within the university environment

Along with this student job working on the *Algonquian Papers* and *CJL*, I was also working on my master's—and of course, it was going to be typeset using \TeX !²³

By 1985, along with the fellow who'd written the user guide for the *CJL* macros (Mike Dunleavy), I was asked by the university's Computing Services dept. to help write *The Local Guide to \LaTeX* —how many of you have done the same thing at some point?!²⁴ By virtue of our working on *CJL*'s \TeX

²³ Using `cjlmac` and plain \TeX and AM fonts.

²⁴ For those who don't know this bit of history . . . Both editions of Lamport's book *\LaTeX : A Document Preparation System* tell the reader (on p. 2) that “how you actually run \LaTeX depends upon the computer system . . . For each computer system, there is a short companion to this book, titled something like *Local Guide to \LaTeX for the Kludge-499 Computer* (the 2nd ed. calls it the *McKludge PC*). After the initial confusion about the existence of such a document, people finally figured out that it meant the creation of a “local guide” had just been passed along to *them*!

macros and documentation — and apparently a fear that our expertise might lead us to leave the university — caused various administrators to find a way to keep us around; Computing Services got the mission.

While we wrote up this local guide, several other elements began to coalesce and converge on L^AT_EX:

- The idea of using L^AT_EX for thesis production was taking shape. I was just finishing mine, using plain T_EX, for linguistics, so surely L^AT_EX would not only be easier but would also help move T_EX out of the math/science sphere into the larger (and T_EXnically less demanding) humanities faculties.²⁵
- An institutional membership in TUG was taken out by the university, with copies (seven, I believe) being distributed across campus to likely hubs of interest (Math Dept., Engineering, Computing Services, *CJL*, and so on).
- The math department was pushing to have its secretarial staff work on faculty members' papers, notes, and so on, using T_EX, so there was training that needed to take place.
- Various engineering departments were looking to do the same as well, and while some had a few secretaries already working with T_EX, more formal courses were being sought.

The net result of all these threads was a series of mini-courses on using L^AT_EX for various purposes, a *Local Guide*, a macro package called *lathesis*, and the Journal Production Centre (JPC; see Section 3).

8.2 Beyond the university ... someone knows someone who ...

You never know when someone who knows what you do will act on that knowledge and pass your name on for potential work. I've never done any concerted advertising about what I do and yet, by word-of-mouth, many jobs have come my way. I think this is the way with many T_EX users who either dabble as consultants or do it full-time. Our community is as much about recommending its fellows as it is about helping them solve problems.

A poster session at a 1993 SSP (Society for Scholarly Publishing) conference,²⁶ which focussed on

²⁵ I'm sure the associated 'discussions' on how to bend, adjust, or simply silently circumvent some of the university's typewriter-based requirements are familiar to many who've done the same thing. I smiled when I saw that two presentations at this conference (Flynn, Veytsman) would be about using L^AT_EX for thesis preparation. I suspect there are many of us out there who've been down a similar path.

²⁶ This is one organisation (sspnet.org) I would strongly encourage joining; they are a year or so older than TUG, and represent a very broad range of fields related to publishing. The exposure to potential clients is one not to ignore.

T_EX's suitability in a large-scale production environment, especially one with journals and/or series, made quite an impression. One interested fellow was from the NRC (see below) and even at that early date, thought the idea most applicable to the Research Press, although nothing came of it at the time.

On the other hand, it was about 18 months later when someone from the U.S.-based Oxford University Press office contacted me, saying they'd spent a long time trying to find me (how much of an ego-boost do you think that was!). They had a difficult text, done for the most part in T_EX, which needed to be set in the house style. I worked for a very exacting but patient person, and eventually the book was done. A second followed — and that was it. Nevertheless, it a very good learning experience with a "professional" publisher and had come about by happenstance.

Similarly, one of the secretaries in the math department mini-course I'd taught moved on to a job at the NRC (National Research Council, Canada) in the Research Press around 1998. It was she who had them contact me to teach them how to use T_EX for their journals. This became my first consulting job — with Robin Fairbairns doing all the heavy lifting, in terms of writing up macros to suit their one- and two-column journal formats. T_EX was replaced by XML-focussed software around 2004; however, late in 2011 they decided to call us back in and move their physics journal back into T_EX: it was just too hard to make physics fit into the XML mould.

Being rather specialised in linguistics (as is the current TUG president, Steve Peter, by the way) means it's easier for people to remember you, and contact you. Several years ago, the TUG office itself passed my name on to an American publisher, and again, it was a T_EX-encoded project which needed to be adapted to their specifications. Curiously, something very similar came my way a couple of years ago (files which had been worked on since the early 1990s!) and that 1245-page volume is now in print, the last in its series.

It's always a challenge taking T_EX-encoded files that have been worked on for a long time, because they show the evolution of the author's skills over time — as well as availability of packages that may or may not have undergone changes and/or upgrades.

The long and short of it is — as expertise increases, and the client base expands, opportunities arise from unexpected quarters.

8.3 Joining the T_EX community

While my work using T_EX and my involvement with TUG were deeply intertwined on a daily basis, lengthy reminiscences about the latter should wait for an-

other time, another article. Some highlights might, nevertheless, be pertinent at this point.

Only a few years after I began working with TEX , I joined TUG (1984), and then became active on the board, from 1987 till 1995, serving on many committees and in several positions, culminating in president. I'm still a member — just a lot less active. Almost everything I know today about meeting procedures and about collaborating with very different people (TEX expertise, languages, academic backgrounds) stems from my years on TUG's board and continues to serve me well.

I attending the annual meetings for TUG for many years, as well as a few hosted by various European user groups. Often the committee and board work limited the time spent listening to presentations but there was always lots of time spent talking and listening outside of the formal schedule — useful and indeed invaluable, especially in the period from 1986 till 1993, when one's fellow attendees were the main source of information, support, and teaching.²⁷

As well, for many years, I edited our conference proceedings, from 1988 and 1989 alone and was grateful when others joined, as of 1990. Building on this, it eventually lead to the creation of the *TUGboat* production team.

For a time I was a member of the original production team, along with Barbara Beeton, Mimi Burbank, Robin Fairbairns, Sebastian Rahtz, and Michel Goossens. Being part of that group gave me exposure to a different level of production values, definitely a very different level of TEX programming and skill levels, and models of how to make collaboration over long distance (and time zones) work smoothly and productively. That education, along with all the time spent on TUG's board, has come back repeatedly in all my subsequent activities. So I am extremely grateful for having had these opportunities, very rarely conducted in person, to expand and extend my own abilities.

From 1991 till 1995, I was involved in getting TUG's first small-scale newsletter, *TTN* (*TEX and TUG News*); Peter Flynn carried on with *TTN* for several years after that, until *TTN*'s contents were folded back into both *TUGboat* and Lance Carnes' on-line *Prac TEX Journal*.

While I think I'm still listed as the contact for a Technical Working Group in linguistics, it's the

²⁷ Unlike today's annual meetings, this was when vendors were showing their newest software for PCs and Macs, improving the user interface, selling books that were a precious source of information ... the web hadn't yet really turned up so all we had was *The TEX book*, our *TUGboat* issues, and one another.

ling-tex list 1994 which has been the more successful mechanism for the community using TEX for linguistic material.

I started the *ling-tex* list in 1994, and it's still going strong. It's just about the best resource for me and my linguistics typesetting — and it seems to serve that same purpose for a great many other people. I have to admit that I'm quite proud of the list, that it continues to function, providing users of all skill levels the help and encouragement they need. Since 1995 or so, it's been generously housed at the University of Oslo and is still being maintained by Dag Langmyhr.²⁸

From around 2000 till 2003, I was part of a technical support group for users of Y&Y TEX , along with Mimi Burbank and Robin Fairbairns. As often as not, I found myself learning a lot about PCs and how TEX ran on them. We wrote documentation, and did an awful lot of testing. Eventually that came to an end, but the collaborative atmosphere was a very positive and productive one.

The details of all the above can be found in the pages of TUG publications and its website.

Much of this activity has now ceased — except for *ling-tex*. And it's been 13 years since I last came to a TUG meeting. But perhaps because so much communication has been done via email that it never seems that long. Friendships and acquaintances, never really gone, are picked up again with an email query; familiar faces are seen again, if a little older — and, of course, so much wiser :-).

9 Life and personal change

9.1 Then ...

I was single when this whole adventure began. In time, my thesis was completed, so I no longer had to split my time between earning money and doing research. I could stay late any night of the week, working in my office, dawdling about with paperwork for the journal or single-mindedly plugging away at coding or debugging. I'd be there most Friday nights till late,²⁹ order pizza, and be happy as a clam. I had a computer in my apartment as well, and would do the same there.

Eventually, I had a boyfriend, and work was confined more to regular hours and more to the

²⁸ However, I want to point out that the list was first hosted by George Greenwade at Sam Houston State University (SHSU); I'm grateful to George for that generosity in taking an idea and making it reality.

²⁹ Not something one probably needs to do these days, given the portability of devices as well as the current system of connectivity everywhere.

office. In 1991, we had rented a house, and it became possible to consider moving my work place from the university to home, as an independent business.

First thing — Mike wired the house to network our brand-new IPC computers (wires strung through the walls or just lying along the baseboards). I had an upstairs bedroom for the office, which clients reached by coming up quite steep and narrow stairs. I got a new LaserJet 4M printer, which put out 600 dpi as opposed to the old one’s jagged 240 dpi. I looked like a pro!

Next was finding ways to getting paperwork to and from my clients still at the university — increasingly I depended on couriers, rather than cycling in (not so good in an Ottawa winter!). It soon became clear that the courier services took away one last hurdle — what happens when a journal editorship moves away from Carleton and Ottawa? It was virtually a seamless shift, given the 24-hour turnaround that most companies were offering. A seemingly trivial point — but with almost 8 years of being on campus, sneaker-netting between client offices and my own, the client possibilities beyond the university suddenly became very real.

The downside to this was, of course, a significant decrease in cycling to university, as a car was so much easier . . . and clients so much further (the NRC, for example, were on the other side of the city!) and the gradual decline in my level of fitness . . . !

We married in 1998 and added our lovely daughter in 2000. I stopped working till 2002, starting up again when Anna went to home care, just across the backyard. Productivity jumped right back up there and remained fairly steady as school became a full-day routine.

Journals in Canada are usually funded partly by memberships in associations, partly by government grants. As money became tighter in the late 2000s, some of my client journals left, either to be produced only in on-line versions (usually via Word) or they simply faded away. Table 4 shows the ebb and flow in pages and projects over time.

Some of the small publishers whose books I had typeset for years also ceased operations: one sold his backlist to a larger publisher, another finally retired. I got a few not-quite-finished projects, where I had to find my way through someone else’s T_EX code — like doing historical research! There have been various editing jobs, with or without the subsequent typesetting, and several very long-term book projects.

9.2 . . . and now

Now I have only two journals: *CJL*, the old stalwart,

Table 4: Page counts 1992–2011

Year	Pages	Projects	Year	Pages	Projects
1992	2,365	13	2002	3,152	18
1993	3,609	19	2003	2,077	10
1994	3,240	16	2004	715	4
1995	2,737	17	2005	976	6
1996	3,643	21	2006	937	5
1997	3,528	19	2007	1,009	5
1998	2,435	13	2008	1,357	9
1999	2,984	15	2009	1,396	8
2000	3,490	21	2010	613	4
2001	1,023	6	2011	630	4

is still with me,³⁰ and an annual collection of papers from the University of Ottawa’s OLBI (Official Languages and Bilingualism Institute); and there’s the renewed consulting work for the NRC.

From time to time I lend a hand to others, editing texts and/or inputting edits to T_EX files. I don’t mind bibliography work either, which is often where editors have difficulties.

It’s been a good run so far. Many inventions and opportunities, coming together at the same time, have made it all work out quite well, I think.

T_EX has allowed me to have my own small business and work from home, close to my family. It has made it possible for me to have a job where I know I have contributed to the larger world of scholarly research and publication, as well as passing my skills and enthusiasm on to others of the same mind.

T_EX — and TUG — have led to long-standing friendships in many places far beyond Ottawa, experiences in working on a variety of boards and committees and lists, and an appreciation of the role each of us can have in making things better for one another, and for everyone.

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³⁰ Having started with vol. 29 in 1984, I’m currently finishing vol. 57. For its 60th anniversary, my proposal to have the entire backlist put into PDF files for its MUSE collection has been accepted — which means some new work over the next year or two. I have files back to vol. 35 (1990) and will generate true searchable PDF files through vol. 47 (2003). Everything before that (1954–1989) will be scanned into PDF, from originals held by the University of Toronto Press.

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