David C. Walden, 1942–2022

Karl Berry

David Corydon Walden was born June 7, 1942, in Longview, Washington. He died April 27, 2022, at his home in East Sandwich, Massachusetts, of mantle cell lymphoma. He had been coping with the lymphoma for several years.

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Dave had a long and distinguished professional career as a programmer, technical manager, and general manager at Bolt, Beranek and Newman (BBN). His best-known programming project was also among his first: being part of the small team that developed the Interface Message Processor (IMP), the original packet-switching gateways, known today as network routers. This story is told in plenty of other places (there is an overview in [3]). Dave himself wrote about the rediscovery and resurrection of the IMP code to run on emulators ca. 2014 (walden-family. com/impcode). With Bernie Cosell, he developed and then documented the famous will/won't/do/ don't telnet negotiation protocol; Dave's own biography page [5] goes into some detail on this.

After his retirement from BBN, Dave became increasingly involved in writing and computer history. One of his first post-retirement projects, a new edition of one of his management books, brought him to LaTeX. He tells this story in his first *TUGboat* article ("Writing a big book in LaTeX", *TUGboat* 24:2, [10]). After losing work and time due to Microsoft Word's lack of compatibility between versions, his attraction to (LA)TeX was driven by his twin desires for explicit ASCII markup and a stable system. As a programmer, he was much happier with TeX's explicitly-written source files than Word's invisible controls.

With that initial introduction, it quickly became clear how invaluable a contributor Dave would become to the TeX community. He immediately helped establish *The PracTeX Journal* (tug.org/ pracjourn), an online journal published by TUG with its first issue in 2005. Dave wrote a regular column for the journal ("Travels in TeX Land", [8]). He also wrote the software to generate the journal's web site (from its inception in 2005 until its final issues), the first of several such projects he undertook.

His interests in TeX and computing history combined with his TeX interview project [9], which he pursued throughout nearly his entire tenure working with TeX: he conducted the first interview in 2004 (Dan Luecking, a TeX, METAFONT, and MetaPost contributor and package author for many years), and his last was in 2021 (Amelia Hugill-Fontanel, associate curator at the RIT Cary Graphic Arts Collection). As even this sample of two shows, Dave cast his net for interviewees widely and always found insightful and unusual questions to ask. (By the way, Dave always encouraged others to participate in this and his other projects, and a new volunteer to continue an interview series would be most welcome; just email me.)

After several years of interviews, enough material had been accumulated for a collection, and so another of Dave's interests was engaged: publishing books. He was instrumental in setting up TUG's book publications, in everything from acquiring the ISBN numbers, figuring out the best print-on-demand service (Lightning Source), collecting and editing the material, and generally directing the publication of TUG's first two books — the interviews (*TeX People*) and a commemoration of TeX's 32nd anniversary conference (*TeX's 2^5 Anniversary*). (Both are listed in [6], and linked from tug.org/books/#tug.)

In general, it seemed for any project Dave completed, he would then write up a report about it. He wrote so much! Throughout his many articles and talks relating to TeX, he emphasized the practical side of getting work done. He still used Word for simple documents, and the perennial question on TeX forums of "how to make TeX compete with Word" held no interest for him. His attitude was, let's try to improve the TeX system at what it already does well; for example, he wrote many notes about solving practical problems he faced in his writing.

In addition to these myriad TeXnical projects, Dave was the treasurer for TUG from 2005–2011, and a board member for four years beyond that. As TUG treasurer, Dave worked extensively with long-time employee Robin Laakso, who handles financial matters. He recommended various improvements to TUG accounting, created new reports, and helped the board better understand financial statements. Dave had a lifelong appreciation of double-entry bookkeeping, saying in an interview for *MAPS* [13]:

Anyone who dismisses double-entry bookkeeping as boring or too complicated has thrown away the possibility of making use of [a] tremendously powerful organizational tool . . .

Although being treasurer and director of a tiny nonprofit (TUG) may seem rather modest after being a general manager for a major corporation (BBN), Dave repeatedly made the point that the two organizations have more in common than one might think, particularly in the *MAPS* interview and other interviews of him [12] — the same principles for creating viable businesses apply, whether for-profit or not, whether run by volunteers or paid staff. This made a substantial impact on the understanding of many of us on TUG's place and its operations.

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As mentioned above, Dave was deeply interested in computing history, and devoted much of his post-retirement time to numerous history-related projects, including his final talk at a TUG conference ("Noticing history", *TUGboat* 41:2, [10]). In this connection, he had a long association with the *IEEE Annals of the History of Computing* [7]. His close IEEE colleague David Hemmendinger kindly wrote the following description of Dave's work with *Annals*:

Dave had a major role in *Annals* work. He joined the *Annals* board in 2006 and from 2008 until last year, he edited the Anecdotes department. From 2011 to 2013, he was the first editor of Interviews. When he resigned as Anecdotes editor last year, he became the Events & Sightings editor until his poor health prevented his continuing. He developed the `annals-extras.org` web site for supplementary material and bibliographic tools. According to it, Dave was co-author of five Annals articles, including two on TeX, conducted ten interviews, wrote or co-wrote four anecdotes, wrote eleven E&S reports, and five book reviews.

Dave reluctantly became acting Editor in Chief for six months in 2014. He and colleagues then brought in 40 submissions, an unmatched record. I had joined the board shortly before he took over, and he got me actively involved with *Annals*. We worked on numerous projects, and I greatly enjoyed our collaboration.

Dave excelled as an editor, able to find common ground among reviewers and to guide authors in refining their articles and in improving the English when it was not an author's native language. When the IEEE changed the magazine production process, Dave worked with its staff to facilitate submission of articles in LaTeX

as well as in Microsoft Word and to improve several aspects of the process.[1]

Dave had wanted to edit an issue on digital typography, but gave up that plan when he became sick. He was a guest co-editor of two special issues on the history of BBN and worked closely with guest editors of other issues. When Burt Grad and I edited the desktop publishing issues that grew out of a 2017 workshop, Dave was a co-editor in all but name.

The workshop that David mentions was held at the Computer History Museum, and brought together pioneers from the early days of desktop publishing. This was an intersection of Dave's interests in publishing, TeX, and computing history, and he was a key advisor in organizing the meeting, including the participation of Don Knuth and Chuck Bigelow, as well as attending himself. A transcript of the entire meeting is online [2], and of course Dave wrote a short report about it ("Collecting memories of the beginning of desktop publishing", *TUGboat* 38:3, [10]). He also co-authored a two-part history of TeX for the subsequent *Annals* special issues [1].

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In addition to his continual writing activities, Dave also returned to programming for some of his TeX projects, mainly for generating web pages, including the Interview Corner, *The PracTeX Journal*, and most extensively for *TUGboat* — he was instrumental in getting all past *TUGboat* issues online, and then generating the online lists of *TUGboat* articles accessible by author, title, and category (such as the link at [10]). He mostly wrote these programs in Perl, with an occasional dip into m4. He always made extensive use of macro capabilities; one of his longest and most technical articles for *TUGboat* was entitled "Macro memories" (*TUGboat* 35:1, [10]), where he discusses his experiences with several macro languages, including TeX's. However, the implementation language was almost immaterial to him; he once wrote:

Despite various programming disciplines that have been popular during my era of computing (the move from assembly language to high-level languages, avoidance of goto's, structured programming, object-oriented programming, etc.), in any high level language I still program as if I was writing FORTRAN in 1964, e.g., `if X eq Y, goto Label A`.

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[1] As usual, Dave wrote an article after finishing this effort: "An experience of trying to submit a paper in LaTeX in an XML-first world", *TUGboat* 40:3, [10].

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On a personal note: over the 18 years of our collaboration, Dave and I exchanged thousands upon thousands of emails, and were able to meet in person at many TUG conferences and elsewhere. I was privileged to work with him on nearly all his TEX and book projects, and enlisted him for help on plenty of my own. Aside from our TEXnical efforts, we shared wide-ranging interests in books and movies [11] and regularly exchanged recommendations. Our connection through the years was one of the great and unexpected pleasures of my life, and he continues to be an inspiration. He was a remarkable mentor, colleague, and most of all friend.

Dave has already been remembered in many other places, by family, friends and colleagues, including Internet pioneers with whom he worked. The family's obituary is at `olsonparent.com/obituary/David-Walden`, and includes several personal remembrances. The *New York Times* obituary [3], by noted author Katie Hafner, provides an excellent capsule summary of his professional career, especially his early work on the proto-Internet. A more comprehensive biography of Dave's remarkable careers is published in *Annals* [4]. On an Internet history list, there are personal accounts of some of his earlier technical work (`elists.isoc.org/pipermail/internet-history/2022-May/`).

We are honored and appreciative that Dave designated TUG as one of the two charities for gifts to be made in his memory (`tug.org/donate`). The other is the hospital that cared for him through his illness (Beth Israel Deaconess Medical Center, Dept. of Medical Oncology, 330 Brookline Ave., Boston, MA 02215).

Dave is survived by his wife Sara, son Luke, daughter-in-law Mindy Sobota, grandchildren Ada and Kai Sobota-Walden, brother Daniel Walden and his wife June, sister Velma Hampson and her husband Paul, sister-in-law Susan Cowles, and numerous nieces and nephews.

We all miss you, Dave.

References

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[2] Computer History Museum. Desktop Publishing Pioneer Meeting, day 1, session 1, catalog number 102740205. The other sessions are linked. `computerhistory.org/collections/catalog/102740205`

[3] Katie Hafner. David Walden, computer scientist at dawn of Internet, dies at 79. *New York Times*, May 3, 2022. `nytimes.com/2022/05/03/technology/david-walden-dead.html` (Generally accessible via a re-tweet from TUG: `twitter.com/TeXUsersGroup/status/1522061721757642753`.)

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[6] David Walden. Published books. Includes all his publicly-available books: on quality management, BBN history, and TEX. `walden-family.com/public/mybooks` `amazon.com/David-Walden/e/B003OR3E4A`

[7] David Walden. His own description of his involvement with IEEE and the IEEE Computer Society, including an extensive bibliography. `ethw.org/David_Walden` `walden-family.com/ieee/`

[8] David Walden. Travels in TEX Land. A compendium of all his works relating to TEX, including his column of the same name written for *The PracTEX Journal*. `walden-family.com/texland`

[9] David Walden. TUG Interview Corner. `tug.org/interviews`

[10] David Walden. Publications in *TUGboat*. `tug.org/TUGboat/Contents/listauthor.html#Walden,David`

[11] David Walden. Personal web site. `walden-family.com`

[12] David Walden and Karl Berry. David Walden interview for TUG. `tug.org/interviews/walden.html` (included in the TEX *People* book, `tug.org/store/texpeople`)

[13] David Walden and Frans Goddign. David Walden interview: A conversation about writing and learning and some books to read. *MAPS* 34, Najaar 2006, pp. 81–84. `ntg.nl/maps/34/16.pdf`

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