Editorial comments

Barbara Beeton

Bart Childs, 1938–2025

Bart Childs, a long time advocate of TEX, TUG Board member from 1983 to 1991, and TUG President from 1985 to 1989, left us this past New Year's Eve. Born January 3, 1938, in Magnolia, Arkansas, he was just shy of his 88th birthday.

Bart was the youngest of four boys in his family. Both his parents were educators, his father a Professor of Agriculture at Southern Arkansas University, and his mother a teacher in the public schools; education was encouraged by both sets of grandparents. With this background, it wasn't surprising that Bart also took up teaching.

With degrees in Civil Engineering from Oklahoma State University, in the summer of 1963 he participated in a short course at the University of Houston to learn about a newfangled device — the computer. He was hooked. After wandering around in positions that included various math, engineering, and computer science components, in 1974 he accepted a position as professor of computing science at Texas A&M University (TAMU). Details of his early years (and an explanation of his given first name, Selma) appear in a 2010 interview on the TUG website.[1]

One of Bart's assignments at TAMU was to write the specs for a computer system to be used for laboratory work in the Department of Industrial Engineering. He insisted that it be interactive, and should include word processing software; the word processor (including the source code) was to be supplied by the OEM that sold the system. The output device was a Diablo spinwriter, and Bart set to work adding features to support the presentation of math notation.

One day he met a colleague, Norman Naugle,[2] who questioned him about the features that would be needed for the presentation of math; these features were mostly absent. Norm handed Bart a copy of Don Knuth's book, *TEX and METAFONT*. It was soon obvious that TEX was more suitable for the intended task than the OEM software, so Norm obtained a copy of the SAIL code. They sent a grad student to a TUG meeting at Stanford; he returned with the news that Don was rewriting everything in Pascal. This resulted in a change of direction, and the very next year, Bart started attending the annual TUG meetings.

In 1990, Bart, Norm, and their colleagues and students hosted the annual TUG meeting at TEXas A&M. Bart, in a lion suit, welcomed Don Knuth to the party.[3] The proceedings issue of *TUGboat*[4] provides a good record of our organization's progress after ten years.

See the interview for details of progress both at TAMU and within TUG. The story is an illuminating overview of the community as TEX's availability expanded to many different platforms, operating systems, and output devices.

After his retirement, Bart settled into a retirement facility in Bryan, Texas. He developed ataxia, an ailment affecting balance and coordination, but it didn't change his ability to observe the physical limitations of the other residents of the facility. He applied his technical skills to devising contraptions that would make their lives easier. He also devised a salsa recipe, and prepared batches to take to the dining room to spice up the bland offerings. His life ended with a heart attack. He is survived by a daughter, Meredith Childs, and a grandson, Logan Childs.

For a final tribute to Bart, Norm, and Texas A&M, we can thank them for bringing Tom Rokicki into the TEX fold.

R.I.P., Bart.

Lecture: "The Shape of Letters: From Leonardo da Vinci to Donald Knuth"

The annual meetings of the American Mathematical Society traditionally include several invited lectures. TEX's "coming out" was the consequence of one such event: Knuth's Gibbs Lecture, delivered at the 1978 annual meeting.[5]

Editor's note: Thanks to Bart's nephew, Bill Childs, and to Bill's mother, Holly, for providing personal information.

[1] tug.org/interviews/childs.html

[2] Bart's remembrance of Norm: tug.org/TUGboat/tb20-2/tb63naugle.pdf

[3] tug.org/TUGboat/tb11-3/bart-lion.html

[4] tug.org/TUGboat/tb11-3/tb29complete.pdf

[5] And subsequently published in the AMS *Bulletin*: doi.org/10.1090/S0273-0979-1979-14598-1

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doi.org/10.47397/tb/47-1/tb145beet

This year's meeting, the 2026 JMM, was the venue for a lecture in a related vein: the MAA-AMS-SIAM Gerald and Judith Porter Public Lecture. The speaker was Étienne Ghys, from the Ecole Normale Supérieure de Lyon, and the topic was "The shape of letters: from Leonardo da Vinci to Donald Knuth".

The lecture was recorded and has been posted on YouTube at youtu.be/1OIxzewWilc. It's about an hour in length. Sadly, it's interrupted by ads, but they can be bypassed after a few seconds. More disconcerting is the automatically generated captioning,[6] which is filled with clutter ("uh") and misspelled words. Many misspelled names have since been corrected, but here are some as they appeared before the update. Let's hope that the accuracy of AI transcription tools improves.

Professor Ghys	at Geese
Donald Knuth	Donald new / donut / Don Kus / kith / Kunus / Kuth / Donus
Jacques Tits	Jacqu Titz / Jaktitz
Jean Borgain	Jean Bourgan
Pier	Pierre Deligne
Misha Gromov	Misha
Maxim Kontsevich	Maxim Convich
René Thom	Rene Tom
Luca Pacioli	Luca Pachi / Pachuli / Pulli / Puli / Pachi
Euclid	Uklid
Francesco Torniello	Francisco / tonelu / Donello / Dello
Albrecht Dürer	Dur
Colbert	Colbear
Claude Garamont	garam
John Baskerville	Basker
Bézier	bizier / Bier
Didot	dado
Macron	Mum / Mcum
Marianne	Maran

At 28:30, the font identified in the captioning as "Roma Dwa" is the "Romain du roi", the king's font. This was the subject of a *TUGboat* article, "Father Truchet, the typographic point, the *Romain du roi*, and tilings", by Jacques André and Denis Girou.[7]

Since I'm not as knowledgeable regarding font history as I am with TEX, I sought the advice of someone who is — Chuck Bigelow. After responding "This is fun!" he provided some concrete information:

- On the introductory slide, the capital A constructed with compass on a grid is by Geoffrey Tory in Le Champ Fleury, 1529. Not by Leonardo.
- Leonardo drew the solid Platonic and Archimedean figures, or most of them, according to most sources, but I strongly doubt that he drew the constructed capital letters.
- Pacioli probably drew the constructions himself for transfer to woodblocks for the printed edition of 1509.[8]
- The size of the Gutenberg Bible type is not all that small. Roughly 7.2 millimeters tall, or around 20 point in the current point system.
- I doubt that that the young man in the painting with Luca Pacioli is Leonardo. There are other guesses, including:
  - Guidobaldo da Montefeltro (Duke of Urbino)
  - Francesco di Bartolomeo Archinto
  - Galeazzo da Sanseverino (son-in-law of Montefeltro)
  - Albrecht Dürer

  For no really good reason, I favor Galeazzo da Sanseverino, but speculation, flimsy association, and shaky deduction seem to be all that is available. Wikipedia seems as good as any source.[9]
- The page of printed Euclid looks like that by Erhard Ratdolt, 1482, Venice, the first full printed edition of Euclid, including elegant diagrams made by a method nobody had figured out until recently.[10]

I've been informed by Professor Ghys that his research has also resulted in a book: *La petite histoire des lettres*.[11]

Orbis Typographicus, by Hermann Zapf

Through the 1970s, Hermann Zapf and his friend, Philip L. Metzger, an accomplished amateur printer, collaborated in the design and printing of a limited-edition book of quotes. Comprising 27 unbound sheets, each laid out as an individual typographic experiment, the resulting pages could be displayed in a custom frame. The archives of this experiment reside in the Cary Graphic Arts Collection of the Rochester Institute of Technology (RIT), and are on exhibit there until May 8, 2026.

The exhibit, drawn from several Cary collections, contains letters, drawings and proofs, showing the complete arc of the process over time. A web page,

[6] Captioning provided by YouTube.

[7] tug.org/TUGboat/tb20-1/tb62andr.pdf

[8] A metafont based on Pacioli's designs is available, thanks to Peter Wilson: ctan.org/pkg/pacioli

[9] en.wikipedia.org/wiki/Portrait_of_Luca_Pacioli Professor Ghys is aware of these possibilities, and the uncertainty of the attribution.

[10] Images of pages from a copy of this edition can be viewed at old.maa.org/press/periodicals/convergence/mathematical-treasure-paciolis-elements-of-euclid

[11] Available online: www.amazon.com/petite-histoire-lettres-Etienne-Ghys/dp/2415014672/

rit.edu/carycollection/orbis-typographicus, introduces the exhibit, and the complete work is online at www.orbistypographicus.com/index.html.

Fonts and a mysterious symbol

A pop-up font book The traditional meaning of "font" (according to the American Heritage Dictionary) is "a complete set of type of one size and face". A new book extends this meaning: *Alphabet in Motion*[12] by designer Kelli Anderson delves into the structure of letters and the history of typesetting machinery to explain the increasing stylistic diversity of type. The shapes and methods are illustrated with ingenious pop-ups. The materials required to render the volume structurally stable and durable result in a volume that requires a sizeable coffee table. Chuck Bigelow offers this opinion: "A masterpiece of visual and mechanical delight, and paper-engineered ingenuity."

A video (youtu.be/eKCcqlJnZcA) with the creator and Adam Savage reveals the secrets of the engineering. It's almost half an hour long, and every minute provides a new surprise.

A symbol identified When the STIX project[13] was established, the participating organizations submitted lists of the symbols required in their book and journal production. A starting set of symbols was a list compiled earlier by an ISO working group and published as ISO TR 9573-13. These symbols were named according to their shapes, with no indication of where they might be used, or for what purpose.

One symbol — ⍼ — identified as &angzarr was renamed for STIX as \rangledownzigzagarrow, but its actual use was unknown.

Some symbols in the STIX list were already present in Unicode; the remaining complement was accepted in full, and duly assigned codes. ⍼ was assigned the code U+237C with the name RIGHT ANGLE WITH DOWNWARDS ZIGZAG ARROW. Not very helpful.

The mystery has been solved by an article posted on the web: "U+237C ⍼ is Azimuth".[14] An azimuth is the horizontal angle from a reference direction to a point of interest; it is used in celestial navigation, astronomy, and similar applications. For a more thorough explanation and a helpful illustration, see the web article.

[12] www.fastcompany.com/91432645/alphabet-in-motion
[13] stixfonts.org and ams.org/STIX
[14] ionathan.ch/2026/02/16/angzarr.html

Accessibility

US federal law mandates a deadline for Web document accessibility covering documents distributed to or required for study by students. The original deadline was April 24, 2026. About a week before this deadline, an extension was announced, to April 26, 2027 for public entities with a total population of 50,000 or more, and an additional year for entities with a smaller total population. Nelson Beebe has pointed out that this law could have forced the shutdown of software mirrors (such as CTAN and TeX Live) at all US academic sites.

Quoting Nelson, "Worse, there is no clear statement of what 'accessibility' means: what software package(s) get to pass judgement? We have used Adobe Acrobat, veraPDF, UDOIT, the Canvas scanner, and WAVE [...]"

The LaTeX Team has been working hard for several years to make math intelligible to someone who can't see it on a page, and so has the W3C MathML Working Group. The target format output by LaTeX is PDF; MathML, on the other hand, was originally designed to be directly presented on screen in readable form by Web browsers and understood by accessibility tools such as screen readers. Current PDF accessibility standards such as PDF/UA-2 allow MathML to be embedded in PDF, so provide the same level of math accessibility. LaTeX can now follow these standards and produce tagged PDF including MathML tagging for math formulas.

There has been confusion about the ability of assistive tools to handle PDF files, depending on the PDF version. An article by the PDF Association, "Accessible math in PDF — finally",[15] reports the current situation with respect to ISO-standardized methods.

TUG meeting returns to North America

The last annual meeting in North America was in 2019, in Palo Alto. This was followed by three years of meetings held online, while the world was held hostage by Covid-19. When travel resumed, so did in-person meetings, in Bonn, Prague and Trivandrum.

This year, we will at long last return to the continent of TeX's origin, although north of the US border, in Calgary, Alberta, Canada. Will we see you there?

◇ Barbara Beeton
https://tug.org/TUGboat

[15] pdfa.org/accessible-math-in-pdf-finally/, with a follow-up best-practice guide created as a joint effort between the PDF Association and the LaTeX Team: pdfa.org/resource/best-practice-guide-math-in-pdf/