From the president

Boris Veytsman

It is not often one is chided by Don Knuth, but I got this distinction. In the interview with Paulo Ney I mentioned the program I've called *Maxima*. DEK wrote to *TUGboat*,

> I'm writing today just to mention a glitch that I noticed. The transcript of Paulo's excellent interview with Boris refers several times on page 103 to a software system called "Maxima", which Richard Fateman had brought to Berkeley.
>
> No; that program was called "Macsyma". It probably has some historic connection with the system Boris calls "Maxima" on page 133, reference [10]; but page 103 (and also page 104) certainly was not about Joel Moses's pioneering Macsyma system.

Of course, DEK is right: the system Richard Fateman brought to Berkeley is properly called *Macsyma*. However, the story behind the name is rather complex. It is mentioned on the *Maxima* pages, `maxima.sourceforge.io`. When *Macsyma* was being developed (1960s), our ideas about free software and its licensing were not as clear as today. Thus while the code became available, its license was not free. I started to use the program in the mid-1990s, when it was consecutively sold by several commercial companies, still under the name *Macsyma*. It became one of my favorite tools (I think somewhere in the archives one can still find my bug reports). Unfortunately the companies folded, and the future of this wonderful program, with many thousands of human hours spent in its development, became questionable. In a stroke of good luck, William Schelter, who had maintained *Macsyma* since 1982, was able after years of lobbying to secure the permission of DOE to release the code under GPL. The property rights on the name *Macsyma* being unclear, the program was released as *Maxima*, and this is how it is known today. Thus *Maxima* developers state that *Maxima is simply the most recent name for the branch that started under the name DOE Macsyma* (`maxima.sourceforge.io/faq.html`). Richard Fateman seems to agree with this definition, mentioning about his projects *[o]ne for which I've contributed is the (now public version) of the Macsyma program, named Maxima.* (`people.eecs.berkeley.edu/~fateman/`) Thus while the program Richard Fateman brought to Berkeley was *Macsyma*, its current public version is, due to legal complications, *Maxima*.

The reason I have spent some time dwelling on this story is that we now understand something which was not clear decades ago: our code may have a longer life than we envision when we write it. When I worked at NASA Goddard Space Flight Center a quarter century ago, I supported a program written before my birth. I have been told it is still in use. *Maxima* itself, despite its age, is very popular. I use it almost daily. Recently I compared its performance with *ChatGPT* on symbolic calculation of integrals. While *Maxima* always gave me correct answers, *ChatGPT* did not. After it produced another wrong result, I tried to help the computer, and said *I think this integral is π*. *ChatGPT* answered, *I apologize for my mistake earlier. You are correct, the value of the integral is actually π.* Then it produced another page of pompous calculations, ending with a flourish, *so the overall value of the integral is* $4 \cdot 6 + 2 \cdot 1 = \boxed{\pi}$ (the final emphasis is by the computer). What a contrast with the modest and completely correct output of *Maxima*!

It seems we are going to use the code base of *Maxima* for a long time. We are fortunate that due to the efforts by William Schelter its code is no longer under a proprietary license.

We are even more fortunate that DEK understood these issues long ago, and TeX has been free software from the beginning. This enabled the community to create this beautiful set of programs commonly referred to as *TeX and friends*. Many of us in the community spend our time maintaining and extending them as developers, users, or serving in a users group.

Which brings me to the last topic of this column. Since 2017 I have had the privilege to support TeX as the President of TUG. This year I am stepping down. Many thanks to Arthur Rosendahl, who decided to take on this duty. It has been a very interesting journey, and I am grateful to the community that trusted me with this office all these years.

One of the most important duties of the President is, in my opinion, writing the letters to the community: monthly newsletters and columns in *TUGboat*. At this time I have written 66 newsletters and 11 columns, this one being the last (I still have some newsletters to write until Arthur assumes office). Rereading them, I feel many were naïve, some were written in haste, and all could be improved. I can only sum up by saying they were written without malice, and to the best of my abilities.

Happy TeXing,

⋄ Boris Veytsman
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