



FONT FORUM

Georgia K.M. Tobin

Beginning with this issue, "Font Forum" will be a regular feature in *TUGBoat*. Now, the name was not chosen simply for the pleasant alliteration, or for the fact that a Latinism like 'forum' would look nice in chiseled majuscules, but because it is intended to both spark and showcase open and hopefully spirited discussion of the thorny questions of typefaces as they relate to the use of T<sub>E</sub>X. The author has noticed an unsettling lack of awareness among the T<sub>E</sub>X community at large of the absolutely vital importance of the availability of many and beautiful typefaces to the continued growth and vigor of T<sub>E</sub>X.

Naturally, each of us interested in the issues related to typefaces and T<sub>E</sub>X has a peculiar background and certain favorite ways of doing things; and very few column inches will elapse before the author reveals herself in her true colors, as a confirmed devotee of METAFONT, on the subject of which we are about to be treated to a brief panegyric. Designing with METAFONT is not the easiest of techniques to master, for a number of reasons; and the reason that I wish to mention here is one of METAFONT's chiefest strengths, namely, that it gives the designer control over the letter-form at a *profound* rather than a *superficial* level. I do not at the moment wish to dwell on the implications of that fact for the process of design, but for the *product* of design. In sum, good METAFONT design results in typefaces that are unsurpassed in quality. A derived design (by which I mean a replica of a given typeface in a digital medium) done with METAFONT is truer to the original than one done with any other method I know of; METAFONT allows consideration of the niceties of stem and serif growth, and the tiny variations in letter proportion that are lost with techniques that involve scaling. And any design, whether derived or original, if done with METAFONT, has the very considerable advantage of being able to be easily, quickly and properly tuned to various output devices. Because of this, a document can be produced in every stage from roughest draft to final copy in the same typeface. Finally, it is worth reminding the reader that,

when we create a METAFONT font, we have really created two very different but equally important files: one, the digital image for the output device, and the other, the T<sub>E</sub>X Font Metric (.tfm) file. The point here is that the .tfm file is not merely an after-the-fact addendum to a METAFONT font; it is created taking into account all the details in letter-form variation that I spoke of a moment ago.

The discussion of METAFONT, then, will form a substantial part of the content of this column. The all-new, all-improved METAFONT is about to become available; I hope to see the results of experiments with it soon. All users of METAFONT are therefore encouraged to send samples of the results of such experiments to share them with the readership of *TUGBoat*. Even unexpected or unwanted results can be very illuminating, as Don Knuth demonstrates in his set of 'meta-flops' ('Lessons Learned from METAFONT,' *Visible Language*).

Of course, publication of one's wanderings along the road to digital correctness will elicit remarks on the Wanderer's apparent progress; and 'Font Forum' will serve as a sounding board for such thoughtful criticism. The author is less disturbed (intellectually, at least) by round and hearty disapproval of her work than by acceptance of it by a user who feels unqualified to make any comment. The latter attitude is as illogical as saying, "This egg is rotten, but it is a better egg than I can lay; therefore, I shall eat it and like it". The former, of course, is unhelpful only if carried to unreasonable extremes, such as failing to consider the strictures of the medium in assessing the product. The upshot of this is simply that all thoughtful criticism of any font that is intended for use with T<sub>E</sub>X is fair grist for the 'Font Forum'.

However, 'Font Forum' is not intended primarily for users of METAFONT, but for users of T<sub>E</sub>X who happen to also be users of fonts. Some topics that I hope to see some discussion on in future issues of *TUGBoat* include: .gf format; issues related to the appro-

priate use of fonts; POEMS (a font format converter); development of non-METAFONT fonts for use with T<sub>E</sub>X (several shops, including Adobe, are presently deriving .tfm files for this purpose); general considerations on the process of digital font design and creation; even 'wish-lists' of character sets and/or type styles are appropriate.

Any and all such contributions should be sent to the author's address given at the end of this column.

#### New Developments with METAFONT

As I mentioned above, a new and improved version of METAFONT is about to be released; as of this writing, Version 0.95 is available. Don Knuth is preparing a complete guide to its use, *The Metafont-book*, and has graciously been making prepublication copies of it available through his office. The first print run was exhausted this summer, though, and Dr. Knuth was estimating that a new issue would not be made until sometime in October. I taught a course intended to serve as an introduction to METAFONT, 'The Elements of METAFONT Style,' at this summer's TUG meeting. This two-day seminar was enlivened by the perceptive remarks and questions of the brave souls who enrolled, and enriched by the contributions of Neenie Billawala, John Hobby, Don Knuth and Richard Southall, who shared some of their experience with METAFONT with the class. A videotape of the seminar is available from TUG.

An important point made again and again in the course deserves one more iteration here: and that is the fact that METAFONT has not been used as much as it deserves to be. To quote from the course manual:

...METAFONT is a tremendously subtle and precise tool and *any* competent use of it requires a blend of two disparate mentalities, the analytic and

the æsthetic. One lesson that the author hopes the reader has learned from this course is that creating an entire true meta-font is many times again harder than creating two or three meta-characters; and that creating a meta-family is many, many times harder than that. In fact, to achieve this latter requires yet another combination of disparate mentalities: one must be recklessly foolhardy to dive into such a task in the first place, and one must be doggedly level-headed to bring it to completion.

But while meta-font design may be a task for only a handful, and meta-family design is a task for fewer even than that, some use of METAFONT *is* for everyone. It is eminently useful for such tasks as creating logos, specialized character sets, dingbats, borders and so on. Such tasks are of less monumental scale than font or family design, but of no less importance to the final appearance of a document.

#### Suggested Reading

Knuth, Donald E., "The Concept of a Meta-Font," pp. 3-2, *Visual Language*, Volume XVI, Number 1, Winter 1982

Knuth, Donald E., "Lessons Learned from Metafont," pp. 35-53, *Visual Language*, Volume XIX, Number 1, Winter 1985

*Georgia K.M. Tobin  
The Metafoundry  
OCLC, Inc., MC 485  
6565 Frantz Road  
Dublin, Ohio 43017*

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