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 \TeX. The author has noticed an unsettling lack of awareness among the \TeX community at large of the absolutely vital importance of the availability of many and beautiful typefaces to the continued growth and vigor of \TeX.

Naturally, each of us interested in the issues related to typefaces and \TeX 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 \TeX 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 \TeX is fair grist for the 'Font Forum'.

However, 'Font Forum' is not intended primarily for users of METAFONT, but for users of \TeX who happen to also be users of fonts. Some topics that I hope to see some discussion on in future issues of TUG-Boat include: .gf format; issues related to the appro-
Appropriate use of fonts; POEMS (a font format converter);
development of non-METAFONT fonts for use with
TeX (several shops, including Adobe, are presently de-
riving .tfm files for this purpose); general considera-
tions on the process of digital font design and cre-
ation; 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 ver-
sion 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 prepublica-
tion 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 ques-
tions 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 pre-
cise tool and any competent use of it requires a
blend of two disparate mentalities, the analytic and
the aesthetic. One lesson that the author hopes
the reader has learned from this course is that cre-
ating 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 lat-
ter 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 com-
pletion.

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

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

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