Editorial

When this Journal was first founded we took a conscious decision to let its content range over the entire area of Electronic Publishing — everything from hyphenation to hypertext, you might say. From our point of view as computer scientists, the comforting thought was that computers and computer programs were going to underpin almost every foreseeable development in EP and we certainly did not want to constrain our authors by imposing rigid boundaries at an early stage.

Even so, it was always clear that well-established techniques from computer science in the areas of program language design, structured programs and meta-languages, together with associated tools such as lexical analysers and parser generators, would be of enormous value in developing syntax-based document preparation tools. The paper in this issue by Cowan, Machie, Pianosi and Smit, about their structured editor called *Rita*, exhibits just such a synthesis of techniques and builds on similar work that has been in progress at the University of Waterloo for many years.

On the other hand the most traditional area of EP, that of typography and type design, is one to which we have so far devoted very little space. Here is an area where techniques from image processing and computer graphics (spline fitting, digitization and so on) have been of great assistance in adapting typefaces for modern-day output devices, but the fundamental principles of type design owe nothing to computers and are already centuries old. What typographers and computer scientists *do* have in common is that they have had to cope, in very short order, with four 'generation changes' in the machinery they use. The contrast between the two professions is that the first generation of vacuum-tube computers lasted barely fifteen years, whereas the first generation of typesetting, using movable metal type, lasted for 500 years in the western world (and its antecedents in the Far East can be traced back for centuries before that). Although metal typesetting became mechanised in the nineteenth century the basic principles of cutting punches, to enable characters to be replicated in hot metal, still remained a highly skilled art. About fifty years ago a second generation of phototypesetter machines provided fonts of characters on film strips and these in turn were soon replaced by a third generation, in which representations of characters were formed by raster imaging on high-resolution cathode ray tubes. It is only within the last ten years that the fourth generation of laser-driven raster-scan output devices has achieved a true marriage of typography and computer science by means of on-board page description languages, hinted fonts and so on.

So, how have the type designers coped with these bewildering changes of technology during their lifetime? The answer seems to be — amazingly well. It is hard not to be impressed by the technical skill, the cultural depth and the open-minded willingness to embrace new technology that has been the hallmark of so many modern typographers. Your intrepid editors were both present at the Raster Imaging and Digital Typography (RIDT) conference in Boston last year (which in many ways forms a companion series to the biennial 'EP-even' meetings) and we rapidly found ourselves plunged into a most enjoyable mix of handcrafted calligraphic skills, spirited discussions about the use of

grey-scale for low resolution fonts and the finer points of sub-pixel edge detection for the letter *y* in Baskerville italic! It was a great pleasure to meet the Swiss type designer Hans Meier at that conference — many readers will already have noticed that his elegant *Syntax* sans-serif was used on our early publicity material.

Of course, type design is a blend of the personality of the designer with the artistic and cultural identity of the societies whose character glyphs are represented. The sheer charm and precision of Meier's *Syntax* has all the hand-crafted care that goes into the making of a Swiss watch; the air of the English gentleman seems to live on in Matthew Carter's reworking of Galliard; the graceful combination of Gothic tradition with Roman capitals can be seen in Berthold Wolpe's *Albertus* (which has been used for everything from Faber book-covers to the signposts in the cult television series *The Prisoner*).

In recent times, the demands for new typefaces to be used in advertisements and on computerscreens have given rise to some striking new designs and these too reflect the age in which we live. In our 'EP Odds and Ends' section in this issue, we feature an article on redesigning the Macintosh screen fonts to be outlines rather than bitmaps. The authors of this article, Chuck Bigelow and Kris Holmes, are type designers based in Menlo Park, California, and have they already achieved a considerable reputation for their *Lucida* family of typefaces (now used by the *Scientific American* journal). We are sure that EP-odd readers will enjoy the scholarly and technical analysis of the problems posed by such old favourites as *Chicago*, *Monaco* and *New York*.

The issue is completed by a lengthy but rewarding contribution from Peter Karow of the URW company in Frankfurt. The illustrations for this were remarkable in themselves: each being beautifully hand drawn, in Indian ink, and a work of art in its own right. After reading this paper it soon becomes clear why Karow's *Ikarus* software is the system of choice among professional type designers for high-quality digitization of hand-drawn type designs.

A further paper on typography, by the noted French type designer Ladislas Mandel, has had to be held over for production reasons, but it will feature in a later issue.

<div align="right">DAVID BRAILSFORD AND RICHARD FURUTA</div>