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**Richard Southall: 1937–2015**

Jacques André and Alan Marshall

Richard Southall, typographer, teacher, scholar and well-known specialist in the field of digital typography, passed away on May 26th, 2015, at the age of 78.

In 2005, Richard published an important study entitled *Printer's type in the twentieth century* in which he outlined his own biography [21, p. xiv]:

The author joined Crosfield Electronics Ltd in north London in the summer of 1965, to work on the specification of matrices for Lumitype-Photon photo composing machines. At the end of the 1960s he found himself in New England, building a large high-resolution camera for photo matrix manufacture at Photon Inc. In the early 1970s he was responsible for the typography of Crosfield's novel scanned-matrix photo composing machine, the Magnaset 226. At the University of Reading later in the same decade he designed a series of directly generated subtitling fonts for broadcast television. In the 1980s he worked in California, at Stanford University, Adobe Systems Inc. and the Xerox Palo Alto Research Center. Much of this work was at the disputed frontier across which computer science and traditional typography contemplated one another in an uneasy truce. In the 1990s he was closely involved with the Colorado type making project described in Chapter 9.

Richard is typically modest in his preface, just as he was in his professional activities which are impossible to sum up under one simple heading. The various fields in which he was involved include photo and digital typesetting, film subtitling, and the theory and history of typemaking [21, 22, 23].

After graduation from Cambridge with a degree in natural sciences in 1960, Richard worked for a while in technical publishing (for Wireless World). His initial involvement with typemaking began when he took over from Matthew Carter the job of liaison on typographical questions between the British scanner and phototypesetter manufacturer Crosfield Electronics and the French type foundry Deberny & Peignot. His job was to oversee the production of photo-matrix disks by D&P for Crosfield's version of René Higonnet and Louis Moyroud's revolutionary second generation Lumitype phototypesetter which was produced under the name Photon 540. At first sight that might seem a simple task. In fact it was extremely complex because the manufacturing process

not only had to work to extremely fine tolerances, it also had to take into account myriad technical details of type design, language and typographical markets and conditions of production.

Typemaking in the 1960s and 1970s also had to cope with accelerating technical change. Phototypesetting quickly went through four distinct generations from electromechanical to digital, before desktop publishing and PostScript swept (nearly) all before them in the eighties. As printers and, increasingly, graphic designers struggled to make their way through what Lawrence Wallis once called "The phototypesetting jungle", Richard never contented himself by simply applying the new technologies empirically to the job in hand: rather, his aim was always to understand the theoretical foundations which underpin the techniques and purpose of typemaking.

Over a period of about 20 years, he was type consultant to various different groups such as the American Mathematical Society, Rank Xerox for whom he worked on machine-user interfaces, British Telecom (BT), the Civil Aviation Authority and National Air Traffic Services (in the UK) on typography for information systems used by air traffic controllers, and, most recently, US West Direct (now US West Dex, see below).

One aspect of Richard's career of particular interest to readers of *TUGboat* concerns his long-term use and exploration of  $\text{\TeX}$  and  $\text{\METAFONT}$ .

As he was designing Computer Modern, Don Knuth invited Richard to visit Stanford. At this time he was teaching type design at the Department of typography & graphic communication (University of Reading, UK, 1974–1983) and had an intimate knowledge of the punch cutter's skills (such as the proportions of stems and the impact of size variations on letter forms and legibility). Knuth and Richard spent the entire month of April 1982, working about 16 hours a day, revising Computer Modern from A to z. While at Stanford he also took part in early TUG conferences [4] and co-taught the new version of  $\text{\METAFONT}$  with Don Knuth and Chuck Bigelow. In January 1985 he gave the first  $\text{\METAFONT}$  tutorial in Rennes [5, 7] and had the opportunity to work one year at the Université Louis-Pasteur in Strasbourg (with Jacques Désarménien, who had been at Stanford in 1983–84, and Dominique Foata) where he designed a font using  $\text{\METAFONT}$  [9].

Throughout this period he kept in touch with researchers in the digital field of typography through conferences such as *Raster imaging and digital typography*, the *Didot project*, and *Electronic publishing*, in which he was involved as speaker/author, as a member of scientific committee, or as editor [15].

It was a great pleasure to work with him, for he was conscientious, competent and hard to please!

Richard was not primarily a type designer. His unique knowledge and skills placed him at the meeting point of type design and computer science. And though he always said “No, I’m not a computer scientist”, he understood and used computers constantly. His main question was *How to design a type*; what is the appearance of a character; how can it be transferred from the designer’s head to paper; how does each character relate to the others in a given font; and if it comes to that, what is a font? The kinds of questions which bring us back to the famous *What is the a-ness of an a?* Though most of his papers addressed such fundamental questions [8, 10, 11, 12, 14], Richard never published “the” answer. However, he was sure he was right in considering that the process of type design remains to be redefined.

Richard had the opportunity of putting his ideas into action when, in 1995, he was asked, not to design a typeface, but rather to design the process of designing a typeface, when he was approached by his long-time colleague Ladislav Mandel, an eminent French type designer with whom he had worked when the latter was type director at Deberny & Peignot. Ladislav, who had subsequently gone on to design many typefaces for telephone directories, asked Richard to work with him on the production of a family of new designs for the North American telephone directory publisher US West Direct. Ladislav as the type designer and Richard as the designer of the process by which the fonts would be made, successfully produced the Colorado Directory System ([17, 18] and [21, chapter 9, pp. 204–218]). METAFONT was the key to the design process, as well as to the metrics. As Richard concluded: *The power and flexibility that a fully-parametrized formatter affords to the typographer is well worth the effort involved in building it.*

One final point: if you look at his book, *Printer’s type in the twentieth century* [21] which was typeset using plain T<sub>E</sub>X and Richard’s own font, the text is neither justified nor ragged. Rather, it is “lightly ragged”, thanks to the subtle use of hyphenation to keep the white space at the end of the line as uniformly short as possible. He was very proud of this meticulous achievement, a characteristic of his way of working.

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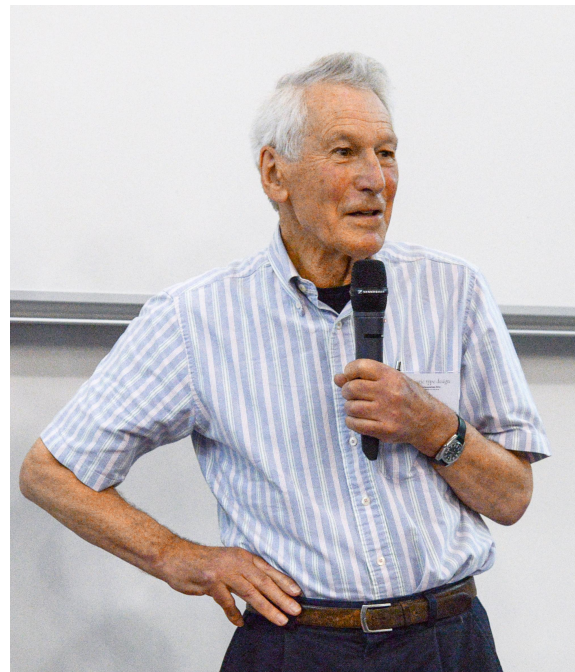
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### Richard’s archives

Some years ago, Richard Southall gave a large part of his professional archives to two institutions:

- The OAC (Off line Archive of California) received his papers concerning the period 1982 to 1985: the CM project, teaching material on METAFONT and digital typography and on his own TKMF and NMT (METAFONT typeface design systems): <http://www.oac.cdlib.org/findaid/ark:/13030/kt487036pm/>

- The Musée de l’imprimerie at Lyons: technical and promotional documents concerning the Lumitype-Photon phototypesetter (from the time when he worked for Crosfield Electronics), and a subsequent batch of documents concerning the Colorado Project including numerous samples of work in progress and printed telephone directories: <http://www.imprimerie.lyon.fr/imprimerie/sections/fr/documentation/fonds/southall/>



Richard Southall at ANRT conference, Nancy (France), May 2014

[Photo Michel Sabbagh]