Editorial

From time to time it is pointed out to us that it is incongruous for a journal on Electronic Publishing to be appearing in paper form only. But so far, when faced with the supplementary question: "Just when is *EP-odd* going to be published electronically?", our response has always been: "At the appropriate time, once suitable formats have been developed". This may seem to be ducking the issue but in deciding what constitutes a 'suitable format' the following factors had to be borne in mind:

(a) *EP-odd* has a full PostScript archive of everything it has ever published. But PostScript itself is not very useful to subscribers. All they could do would be to print out the article they already have in the hardcopy journal. There is little 'added value'.

(b) *EP-odd* also has full source coding for all its papers in either *troff* or LATEX. Moreover we can regenerate all papers from source with the single exception of Dan Berry's papers (see *EP-odd* Vol.2, No.3 and Vol.3, No.2) which require his own version of *troff* to allow left/right up/down typesetting.

(c) We need an 'electronic' format that can use the resources in (a) and (b) but with the possibility of establishing hypertext links and with support for browsing, automatic indexing, page annotations etc. This format must be potentially an open system with its specifications in the public domain.

(d) The format in (c) should be searchable for keywords etc. and be 'close', in some sense, to the printable PostScript, thereby giving us resolution independence. We are **not** interested in resolution-dependent bitmap page images (e.g Group 4 FAX) with proprietary search software that links these to some separate ASCII version of the material. However, the format must have software viewers available to enable this 'electronic' version to be browsed. These viewers must be fast and available on a wide variety of platforms. There must be full support for working in colour.

(e) The area of Electronic Publishing overlaps that of multimedia systems. Looking to the future it is important that any format we adopt must have 'placemarkers' for multimedia inserts (sound, animated video etc.) even if the multimedia facilities are not yet fully in place.

(f) There should be text-compression and image-compression options in the format, together with a '7-bit clean' capability to allow for network dissemination of material via FTP or e-mail.

The recent preliminary announcement of Acrobat™ from Adobe Systems seems to address just about all of these requirements. There has been considerable press coverage of Acrobat already (under its previous provisional title of CAROUSEL). In essence, Acrobat is based on a new Portable Document Format (PDF), developed by Adobe, which remains close to PostScript but has a range of compression options available to reduce file sizes. However the novel features in PDF are a set of facilities for 'hot links', 'thumbnail' icons of pages, chapter outlines and page annotations (an electronic version of the 'yellow stickers' that are commonly attached to paper-based memoranda). Markers

for these new hypertext facilities can either be added after the PostScript has been produced or can be passed down from front-end text-processing packages into the final PostScript. A piece of software called the Distiller™ will convert the PostScript into PDF, carefully passing on all existing 'hyperfacility' markers as it does so.

The implementation of these new markers is carried out by making them look like PostScript procedure calls, but in the context of a prologue that disables the hyperfacility procedures should the files actually be printed to a hard-copy device. The Acrobat viewer software, on the other hand, will interpret the markers (to allow for browsing, document navigation, annotations etc.) as well as interpreting the PDF form of text, graphics and images.

Acrobat viewer software is planned for all of the popular hardware platforms (PC/MS-Windows, Macintosh, PC/MS-DOS, SUN4/X/MOTIF etc.). These viewers will have the ability to print out all, or part, of a document to any available PostScript printer (the transformation from PDF to PostScript being straightforward — and particularly so if the target printer has Level 2 PostScript).

A project called CAJUN (**C**D-ROM **A**crobat **J**ournals **U**sing **N**etworks) has just started in the Electronic Publishing Research Group at the University of Nottingham. One of the tasks of this project will be to look into the possibility of making *EP-odd* available in Acrobat form both on CD-ROM and over networks. By 1994 we would like to be 'up to speed' and capable of producing an Acrobat version of this journal as well as the paper form. We shall use these editorials, from time to time, to keep our subscribers informed of progress.

A particularly exciting feature of Acrobat is that it provides low-level facilities for reifying many of the high-level, abstract, aspects of document structure. If the production of Acrobat hyperstructure is to be automated it will be easier if one begins with some high-level formulation of a document, where the innate structure is plain to see. Provided Adobe Systems can succeed in establishing Acrobat as some form of *de facto* standard then publishers may find new significance in schemes such as SGML and ODA, if documents formulated therein can be mapped elegantly into Acrobat-friendly PostScript.

With this in mind, the contents of this particular issue of *EP-odd* are particularly relevant. The paper by Nicholas and Welsch investigates the relationships between SGML and ODA. Silvano Pozzi's paper addresses the issue of establishing cross-network 'hot links' between items in distributed document databases. The third paper, by Frans Heeman, looks at three existing structured document systems and how they cope with the 'abstraction gap' between document structure and document contents.

Finally, some of our readers may not be aware of the information-server, based at the University of Nottingham, which gives indexes of papers already published in *EP-odd* in a variety of formats (ASCII, *troff/refer* and BIBTEX). To find out about this, the easiest way to get started is to send an e-mail message, containing the single word 'help', to the destination `ep-server@cs.nott.ac.uk`. This should result in the 'help' file being e-mailed back to you and this, in turn, will give full details of how to obtain extra information, either over e-mail or via FTP.

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