Conference Report

Essen Symposium 1983

Introduction

From the 29th through the 31st of August, the sixth Essen Symposium took place at the Universitäts/Gesamthochschulbibliothek in Essen, F.R.G., under the theme “New Trends in Electronic Publishing and Electronic Libraries”. This event was organized by the Library, under the able direction of Dr. A. Helal and his staff. It included a program of ten formal presentations, each followed by a discussion period. Three evening receptions for the participants were organized; the second of these took place at the Town Hall, and included an address by the Mayor of Essen. A small exhibition next to the conference room attracted the attention of attendees during the intervals between the sessions themselves.

In spite of splendid late-summer weather (in contrast to previous years), attendance for the papers was enthusiastic, and discussions proved quite lively. Indeed, the number of registrations had exceeded expectations—amounting to more than eighty altogether. (One should note that participation is primarily by invitation, and it is the intention to keep the number low in order to facilitate the effective exchange of ideas, and informal contact and communication among those present.) Somewhat more than forty percent of participants were from the F.R.G., about ten percent each from the United Kingdom and the USA; slightly smaller contingents were present from The Netherlands and Scandinavia; the third world was hardly represented (apart from the middle east), nor—interestingly enough—were, for instance, certain other European nations (France, Austria, all of southern Europe), nor Japan. Participants came primarily from the library world, and attendance by publishers, data-base producers and vendors, and equipment/software suppliers was slight.

The symposium was very efficiently organized and conducted; there was likewise sufficient opportunity for exchange of information and opinions in an informal context.

There follows here a summary of the various presentations and of the salient points of the resulting plenary discussions.
Anarchy?

After brief opening remarks by Dr. Helal, Helen Henderson (of Information Management Associates, UK, and Administrative Secretary of the European Association of Information Services—EUSIDIC) delivered the first presentation, on the topic “Will there be Electronic Anarchy?” Essentially, her answer was: “Yes, unless we make a concerted effort to avoid it”. We have already seen special terminals for particular information systems such as Mead and Textline, and special software to work with microcomputers for particular data bases, such as MicroDisclosure. Where will all of this end? In addition, we face—so we are told—an electronic publishing revolution that will transform the means for publishing all kinds of information. It looks as if there will be two distinct methods of electronic publishing: local videodiscs or optical laser disc stores, and greater use of remote central online systems. There are at the moment three standards for videodisc, each requiring different readers, and it looks as if there will be at least two standards for optical laser discs. How shall we cope with the plethora of electronic devices; shall we be able to read the data on them in ten years’ time when the manufacturer of the hardware has either gone out of business or lost interest? What about the user? It is impossible to expect harried staff to keep pace with the enhancements in search languages on hosts and their various data bases, let alone the numerous micro systems available. Will the average library end up looking like a warehouse with a different piece of hardware for every application, from microform to videodisc? Is there any possibility of one piece of hardware that can not only handle all these media, but also make them ‘user friendly’?

At the beginning of her presentation, Ms. Henderson pointed out that she would be speaking on behalf of the users of information. She recounted the various significant problems associated today with electronic information transfer, and placed some emphasis upon the question of the “stability” of hardware and software suppliers. Among her predictions were the following: 1) an important new development will be the ‘swapping’ of access to private data bases; 2) “We are going to end up with an elitist information society.” (Someone afterwards asked whether she meant ‘elitist’ in a negative sense.); 3) the information broker may become a sort of electronic information services ‘subscription agent’, and consultants will probably “always be needed, to sort out people’s compatibility problems”; 4) we may see the rise of “switching agents” as a response to demand for easy access to computer-based information in a continuing environment of incompatibility and lack of standardization.

During the discussion period, H.-J. Ehlers (Klett, F.R.G.) contended that similar problems prevailed also in traditional forms of information transfer. Another participant pointed out that the technology of printing—unlike that of electronic information storage and retrieval—had reached in some respects a point near perfection at the very beginning of its application, more than 500 years ago. The same individual referred to a paper delivered the previous week at the IFLA conference in Munich, in which the speaker had surmised that in the new
information society, libraries might well disappear, while publishers would adapt and survive—even prosper; he asked Ms. Henderson’s view on this point, since she had seemed to suggest that it was publishers who would especially have difficulties. Her response was that neither publishers nor libraries were in imminent danger. Everyone would have to adjust to changed circumstances. The natural inference, however, seems to have been that it was going to be the users who would determine the shape of things to come. This has, of course, already begun to happen. C. Leamy (Dept. of Educ. & Science, UK) expounded on the fact that so far as information transfer is concerned human beings are ‘tolerant’ and naturally adjust to all kinds of imperfections, while electronic systems are ‘intolerant’. R. De Gennaro (Univ. of Pennsylvania, USA, and chairman of the opening day’s sessions) expressed his opinion that there is good reason for optimism in regard to information technology developments, even though automation’s inherent limitations are now widely recognized. There was also some discussion (mostly critical) of the BLEND ‘electronic publishing’ experiment in the UK, and one participant brought up the IRCS (Elsevier)/BRS project for purposes of comparison. One person expressed the opinion that there was unfortunately no such thing as an ‘electronic wastebasket’, but someone immediately observed that such a facility does indeed exist (for example, on the relatively new LISA microcomputer), and another participant gave a brief description how it worked.

Human factors

Andrew Torok (of Northern Illinois University, USA) addressed the subject of “Ergonomics in an Electronic Society: the Effects of Technological Innovation on People”. He called attention to the problems arising from the application of new technologies to human information systems. Due to rapid technological change, most people have little opportunity to become accustomed to the intricate information systems coming into existence almost daily. Although ‘ergonomics’ and ‘human engineering’ have become commonplace words in the electronic society, few systems readily adapt to the way most people, particularly end-users, are accustomed to seeking information. Problems arise both from lack of ‘computer literacy’ among a large part of the population, and from the failure of systems developers to account for the ‘human element’. One area receiving particular attention is microcomputing. Microcomputers permit end-users greater access to large machine-readable files, and hold promise for more efficient access to the holdings of electronic libraries. Electronic journals are available for home use, sent through the mail on floppy disks or downloaded from publishers’ computers. Sophisticated user-oriented software packages permit single query languages to search data-base offerings of different vendors. Although these systems attempt to be user-friendly, they are often unsuccessful or are not fully utilized due to problems arising from hardware and software failures.

Dr. Torok prefaced his speech with a rather lengthy history of interest in, and
study of, ergonomics as a research field in its own right. He later broke the
development of electronic information systems, from the 'human factors' view-
point, down into four phases in terms of user proximity to the information-
manipulating environment. We are now probably already beginning to enter the
final phase, because of the advent on a wide scale of local 'intelligent' machine
processing via microcomputers. Dr. Torok referred to the twin problems of
'suboptimizing' the various elements in a multiapplication device (e.g. a multi-
purpose computer), and 'overengineering'. He also made the interesting remark
that about half of the software houses that existed two years ago are now out of
business.

The discussion which followed this presentation turned partly, in consequence
of an observation made by Dr. Torok, to the question of contemporary pub-
lishers, and the extent to which they are sensitive to the interests and needs of
their markets. Mr. Leamy opined that they don't know their markets very well,
and feared that electronic publishing would occasion even more "randomly
generated" publications. This was apparently not a view shared by all of those
present.

Automation of library functions

Niall Perry (OCLC Europe, UK) opened the second day of the symposium
with his description of the "OCLC Local Library System LS/2000". LS/2000 is a
minicomputer-based library system now being offered by OCLC. LS/2000 is an
enhanced version of the Integrated Library System (ILS) developed by the
Computer Technology Branch, Lister Hill National Center for Biomedical Com-
munications of the National Library of Medicine. LS/2000 offers five subsys-
tems: circulation, online public catalogue, bibliographic, administrative and ser-
ials control. New subsystems under development include acquisitions and a
"gateway" which will provide access to other international data bases and
networks. Mr. Perry pointed out that this was the first "formal presentation" on
the system, and to this extent the Essen Symposium represented a platform for
the public launching.

LS/2000 is designed to operate either in stand-alone mode or in "interface"
mode with the OCLC data base. The latter mode of operation provides the user
with the services listed above, in addition to access to the OCLC online union
catalogue of almost ten million catalogue records as a source of data. By the same
connection, the user will be able to use the five subsystems that are available
from, and based upon, the union catalogue: cataloguing, acquisitions, interlibrary
loan, serials control, and name-address directory. This represents a completely
integrated library service providing a complete range of services, plus a source of
bibliographic data, all from one system. In addition, LS/2000 offers a unique
"clustering" capability enabling several libraries to share equipment, files, re-
sources and costs at a number of operational levels.

Mr. Perry informed the audience that LS/2000 is running now in an exper-
imental mode at the University of Akron (Ohio) and the University of Massachu-
setts, as well as in Dublin, Ohio (where OCLC's headquarters are located). It will 'go live' in January of 1984—both in the USA and in the UK. Staff access is controllable for the various functions, by means of a password facility. The system will also accept non-MARC bibliographic records.

During the following discussion period, Susan Martin (Johns Hopkins Univ., USA) observed that as far as she knew the ILS library automation software was in the public domain, and another participant pointed out that it is publicly available via NTIS for something in the area of US$2,000–3,000. Mr. Perry admitted that he may have given in his speech an erroneous impression that OCLC had acquired complete rights to ILS; this is not the case. Mr. Leamy wanted to know more about the “gateway”, but neither Mr. Perry nor anyone else in attendance from OCLC (of which there were several) could (would?) offer any significant further information on this matter.

“The Online Catalog Revolution” was the subject of a speech by Frederick Kilgour (OCLC, USA), who pointed out, after an introductory discourse on the history and varieties of library catalogues, that library technology has not evolved as rapidly as technologies in such areas as agriculture, manufacturing, power, transportation, and communication, and went on to argue that online public catalogues will be far more powerful instruments than any preceding or existing library catalogue technology. It was his intention to replace previous narrow bibliographic statements of catalogue purpose with the delineation of a more broad societal purpose, and to list goals to achieve this purpose, then objectives to achieve the goals. He described the characteristics and capabilities of the new online catalogues.

Prof. Kilgour suggested that access to OCLC's data base should not require authorization, this being in accord with his philosophy of unrestricted public access to available library-type information—whether this be of the catalogue variety, or in the nature of text files (which he would like to see more widely developed). He favored “non-bibliographic” as well as bibliographic access. When asked afterwards by one participant to clarify just what he meant by the distinction between bibliographic and non-bibliographic elements in the context of access to publications, he responded that the ISBN (international standard book number) was a non-bibliographic element.

Document provision

Thomas Hickey (OCLC, USA) delivered a presentation under the title “The Graceful Integration of Text and Facsimile in an Electronic Document Delivery System”. The integration of graphics and text is, he contends, a continuing problem for which there is no simple solution. His objective in this paper was to describe a prototype system under development at OCLC which uses the TeX typesetting system's device-independent (DVI) output as the basic file format in which all documents are stored, relying primarily on machine-readable typesetting
files from publishers for input. Digitized facsimile documents are transformed into DVI files using a novel character-matching algorithm. At the cost of some processing time, the resulting file is extremely compact, and more easily transmitted to a variety of digital printers than the original facsimile image.

Dr. Hickey stated that 'machine-readable graphics' are several years away for most publications. The system on which he is working is destined for library delivery use. In response to various questions by one participant at the session, he indicated that the system could be operational in libraries within five to ten years, that all administration (as well as conversion and transmission equipment, and the necessary index files) would be centralized in Dublin, Ohio, but that in fact OCLC was not yet committed to carrying the present research work through to completion and ultimate implementation. Dr. Hickey did not foresee a centralized document store (which he appeared to consider impractical), and indicated that royalties would be paid to publishers. It would be a 'known-item based' system. Dr. Hickey's presentation was rather technical, and it left some questions in the minds of his audience concerning the technology involved, and its intended mode of use.

Susan Martin (Johns Hopkins University, USA) spoke on the topic of the "Evolution of Document Delivery". In fact, according to Ms. Martin, that evolution has been rather slight over recent decades—at least in terms of actual performance; it has not kept pace with practical progress realized in the area of bibliographic access. The time delay in supplying documents is still frustrating in many cases. Ms. Martin surveyed the various technology applications available for alleviating the problem—including online/tele-ordering (from jobbers, publishers, document-delivery companies, the USBE), facsimile/telecopying, and optical disk technology. One difficulty, for instance with optical disks, is the lack of standardization; microform systems, which have been around now for a long time, never did achieve full standardization. One desideratum is probably a 'black box' (microcomputer?) which could also incorporate document-delivery applications. She also posed the question, just how important is speed of delivery in every case, and how does this balance against the cost factor? Some interesting points which she made were that: 1) libraries should to some extent base their (access) services at the journal article level; 2) library professionals will continue to have a place in the future, because of the complexity of information systems; 3) we are in the process of developing an "information jigsaw puzzle"; 4) when new technical approaches seem available, we tend to neglect traditional systems which might still be perfected to do the job equally well or better. She also described some aspects of the experience with document supply at Johns Hopkins, and cited numerous pertinent facts concerning the Research Libraries Group.

During the discussion, Prof. Kilgour brought up the potential difficulties in terms of 'net borrowers' among libraries participating in interlending schemes (OCLC has devised a mechanism for directing requests to the net borrowers when they own the material requested). Mr. Leamy pointed out that special library postal services are operating in some parts of the United Kingdom; these have
worked well, and have resulted in considerable overall savings. A Singleton (F.W. Faxon, USA) mentioned a project to establish a standard article (i.e., journal article) numbering system.

Electronic publishing

Oldrich Standera (University of Calgary, Canada) presented the first paper on the final day of the symposium, under the title “Electronic Publishing: Some Observations Evolving from our Experience”. The recent leaps in technology have not left conventional publishing methods unaffected. Publishers, printers, providers of hardware, software and related services, libraries and scholars in general have begun to re-assess their respective positions. The University of Calgary, through the involvement of its University Press and the University of Calgary Libraries, and with the financial assistance of the Social Sciences and Humanities Research Council of Canada, has launched a research project encompassing two phases over the period of one year.

Phase I, which has been concluded, has seen the creation of an electronic journal of ten papers in the subject areas of the social sciences and humanities—with the entire editorial process being conducted electronically. This involved five authors with no computer experience, reviewers and editors. The computer system used was Honeywell Multics. In Phase II, which is nearing its conclusion, the performance of the editorial system has been evaluated in terms of man-actions, and concommitant errors were examined. Some 4,500 man-actions were analyzed. In addition to this, the man-machine interface has been subjected to scrutiny in some detail. Also, the human information-processing aspect of this kind of human activity was investigated. The five various journal formats have been subjected to readers' reaction. These formats are: computer printout; letter-quality printout; computer-output microform (COM); typeset, printed and bound copy; as well as output on the VDT screen. Finally, a brief cost-comparison study is being attempted, in order to put the viability of the above forms of scholarly publishing in some perspective.

Hans-Jürgen Ehlers (Ernst Klett Verlag, F.R.G.) outlined in his presentation the “Recent Work of the IEPRC”. The International Electronic Publishing Research Centre is a non-profit institute dedicated to research applications of electronic technologies to the publishing process. IEPRC defines 'electronic publishing' as “the application of computers to the retrieval and dissemination of information in all its forms”, and does its work for the information community—primarily publishers, printers and all others involved in the generation, transfer and use of information from authors to end-users. Dr. Ehlers emphasized what he takes to be the vital importance of continuing research in the publishing sector, and stated that “a greater degree of involvement” on the part of publishers is needed. Especially important is market research. IEPRC, he claimed, has an especial interest in research which is immediately useful—and which is not arcane, but rather easily understandable by everyone involved.
Among recent projects, he alluded particularly to the IEPRC Delphi study, a ten-year forecast in electronic publishing, and the satellite systems study, a small-scale information-gathering exercise to prepare the proposed IEPRC Apollo satellite transmission (text and images) project. The Delphi forecast was meant to apply to the period through 1991, and used the example of optical disk applications for educational purposes. Dr. Ehlers mentioned also the EPTECH project, a technical scenario to analyze the implications of electronic publishing for printed-media publishers. The first draft report on this project was produced in May of 1983. Also underway are two further projects: EPECON and EPMARK. Final reports on all three projects are to be finished by the end of 1983. Ehlers described EPTECH as the most ambitious study yet undertaken by IEPRC.

There was also a brief description of the IEPRC fellowship scheme, and of the IEPRC current awareness bulletin, providing an information service (abstracts, online photocopies, and translations) to its members. After the presentation—which had been accompanied by a series of humorous slides—one participant observed that in view of the fact that IEPRC's management structure and fellowship scheme board (as previously mentioned by the speaker) were predominantly British, that the EPECON and EPMARK studies had 'necessarily' British orientation (as also previously indicated by the speaker), that the Electronic Publishing Abstracts (EPA)—under IEPRC sponsorship, and exclusively distributed by Pergamon Press and Pergamon InfoLine—had a strong English-language bias, and that the fellowship scheme (in cooperation with the City University of London) required full English competency—in addition to the fact that the Centre is located in the United Kingdom and connected with a British professional association (PIRA)—the designation "International" was possibly something of a misnomer. He also wondered how useful the EPECON and EPMARK results would be to publishers from other nations. Dr. Ehlers implicitly granted these points, and said that the IEPRC would like to have more STM (scientific, technical, medical) publishers as members. He revealed that the fellowship scheme, although in effect now for some time, has had "no takers", and admitted that EPA's abstractors had difficulty handling foreign languages. In response to a request for clarification, he stated that EPMARK was concerned with market considerations in electronic publishing, and EPECON with economic considerations, but the distinction remained less than clear.

The next speaker was Alan Singleton (F.W. Faxon, USA, and recently connected with the Primary Communications Research Centre, University of Leicester). His topic was "Electronic Publishing—an Overview and Some Implications for Libraries". A vast array of factors—technological, economic, social and political—would have to be considered in a comprehensive overview. This paper considered some of them, in the light of a broad categorization of the types of electronic publishing currently envisaged—e.g. centralized/decentralized, full/hybrid or parallel, image-based / coded character, etc. Some of the existing or proposed systems were mentioned and briefly described within these categories—such systems as ADONIS and HERMES. Some of the implications for libraries
could be profound, both for their role within the system, and also for the problems that electronic publishing can create for the traditional role of storing, controlling, accessing, retrieving and disseminating information and documents.

**Technology environment**

Wolfhart Anders (Media Center, University of Essen, F.R.G.) was the final speaker on the program. His presentation bore the title "The Age of Information: the Development in Information and Communication on the Basis of New Technologies". He proposed the following outline:

- Towards synthesis: The new dimension in information and communication via media and system-networks.
- The technology base: Present status and on-going developments, system architects and suppliers.
- The early ventures: Present approaches of using videotex and other new information and communication technologies in Europe.
- The intelligent communication environment: New approaches to specific information and communication tasks.
- The communication network: The impact of the new technologies and communication structures on the information market.
- The conclusions: Change and continuity in our communication environment in the age of information.

The speaker observed that we are drifting from a situation of *distribution* of information to an emphasis on *selection* of information, and that a process of "demassifying the mass media" is taking place. He isolated the three information-handling functions of 1) transmission, 2) storage and 3) processing, and offered a summary of current technologies. He furthermore briefly described the capabilities of the new Bildschirmtext (videotex) standard, which was to be formally announced the following day in Berlin.

**Conclusion**

Although the geographical variety represented by the speakers may have left something to be desired (eight of the ten were from North America or the UK, the other two from the host country; three speakers, moreover, represented the same organization), the selection was in other respects quite good. Certainly the variety of opinions and experiences among both speakers and other participants made for interesting discussions within, and outside of, the formal program context. The proceedings will be published in due course, and should make fairly good reading.

– submitted by an editorial correspondent