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News, Trends and Comments

NEWS

Hackers and Viruses

Three West German hackers received suspended jail sentences recently after breaking into military computers in the US. They were caught because Clifford Stoll, of the Lawrence Berkeley Laboratories, USA, investigated a bill for 75 cents of unattributable computer time. He discovered that someone without an address for billing was accessing the lab's computer. Stoll suggested that the hackers should be baited by loading a fictitious but apparently important classified report into the computer. It tempted a hacker to remain on the line long enough to be traced.

In November 1989 the EDP auditors association urged that new legislation should be enacted at a hearing before the US Criminal Justice Subcommittee. "Because of the level of dependence placed on computer systems and the data stored on them", said Carolyn Conn of the EDPAA, "it is essential that action be taken to minimize the threat of viruses and to enact laws that will establish sufficiently stringent penalties to deter such activities".

CEC Action for Libraries in Europe

The CEC have followed up their announcement about the May Library Automation Conference (See IS&U 9(5) February 1990 page 313) with more information in a newsletter. Seven national libraries in Denmark, France, West Germany, Italy, the Netherlands, Portugal and the UK have formed a consortium for the exchange of bibliographic records on CD-ROM. The project, co-ordinated by the British Library, is part of the CEC Plan of Action Program for Libraries, and will be discussed at the conference.

Setback for the CEC versus the PTTs....

The challenge to the CEC's authority brought to the European Court of Justice by France may succeed. It concerns one of the least controversial proposals aimed at reducing the power of the PTTs - the liberalisation of the terminal market in Europe. The CEC is also being challenged about its power to enforce its directive about competitive

services. An advocate general has advised the Court to over-rule the Commission's use of Article 90 of the Treaty of Rome which enables it to issue directives which must acted upon by all countries. If the Court so rules the Commission will have to deal with each country separately, a lengthy process likely to result in a non-uniform situation. Alternatively the CEC could try to tackle these issues by negotiation with the Council of Ministers.

....but the CEC does better for VANS

Negotiation was the approach taken in December 1989 when the 12 telecoms ministers agreed with the Commission an open market for Value Added Network Services as from 1993. However the agreement was reported as a fudge in which "users come bottom; governments will be able to impose their own license conditions if reserved services are held to be in danger".

AT&T and deregulation - again

In January 1990 a Washington appeals court ruled that Judge Greene improperly set up screening procedures for Bell companies; this should now make it easier for the companies to expand their interests. The ruling arose from Greene's denial of a waiver to Nynex who wanted to exercise its option to buy an interest in the new PTAT transatlantic cable. Nynex consequentially had to forfeit $10M. It was also announced in January that the FCC is to begin an enquiry to determine whether AT&T's position in the long distance market is still too dominant although its share has declined to 66% from 80% in 1984.

Balzan Prizes

The International Balzan Foundation, founded at Lugano in 1956, awards prizes aimed at fostering culture, science, humanitarian ventures, and peace. There are three prizes of 300,000 Swiss francs each annually, and an occasional award of 500,000 francs as a peace prize. Past winners include Jean Piaget, Ernst Mayr, and the Office of the UN refugee commissioner. The three prizes awarded at the end of 1989 went to a Frenchman, Emmanuel Levinas, for his work linking ethics and metaphysics, an Italian, Leo Pardi, for his research on the social activities of animals, and to an Englishman, Martin Rees, for research on quasars and extra-galactic radio emissions.

Compact Solution closes

Compact Solution, a Maxwell/Pergamon CD-ROM publisher, closed early in March 1990.

US West will develop Hungarian telephone network

In a rapid move following political developments in Eastern Europe, the Bell offshoot, US West, has signed an agreement with Magyar Posta to construct a cellular radiotelephone network as a method of meeting the demand for lines for the Public Switched Telephone Network. The enterprise will be owned 49% by US West and 51% by the Hungarians. Subject to approval by the US government and COCOM, work will start in 1990.

Excerpta Medica EMBASE

EMBASE, led by general manager Ruud Warner, continues to make progress. Although the throughput time for journal article records will increase temporarily in the first half of 1990, it will return to the 21 day rate achieved in 1989. The number of records to be input during 1990 will be increased by 100,000. Excerpta Medica is on 3120 5803222 (Amsterdam) and 212 633 3971 (New York).

New ISI Service

The Institute for Scientific Information launched a new current awareness product in February called *Focus on Global Change*. It will provide bi-weekly bibliographic information culled from scientific, social science, business and popular environmental journals, on diskette for IBM, MacIntosh, and other machines. The product is aimed at scientists, research administrators, product planners, market researchers, policy formulators and environmental activists. ISI is on 215 386 0100 (Philadelphia) and (0)895 30085 (Uxbridge, England).

Guide to Library Systems

Gower Publishing have announced the second edition (1990) of *Library Systems: a Buyer's Guide*. It covers large and small system packages, provides details of capital and running costs, and adds information often obtained only by seeing systems in action, not just from supplier's data. Gower is on (0)252 331551 (Aldershot, England).

You've heard of one million transistors per chip but this is ridiculous!

Last year the first chip containing over one million transistors appeared - Intel's 486 and RISC chip family. The people who make forecasts by extrapolating smooth curves were delighted - the things fitted on to their time versus number-of-transistors-per-chip curve quite nicely.

Now TRW and Motorola have together come up with a chip containing four million transistors, the CPUAX. It will work at 200 million floating point operations per second (MFLOPS), and (of course) is able to repair itself. Repairs are the job of an associated chip containing a mere 36,000 transistors. This chip tests and monitors its big brother which carries a number of spares. If some parts don't work when the CPUAX is new, or fails during its lifetime, the spares are automatically connected.

VIEWS AND COMMENTS

Telecommuting

The idea that telecommuting is the big growth area won't lie down. Every year for the last ten years a "feature article" has appeared somewhere about this idea, with the same "pioneering companies" (Xerox et al) inevitably mentioned. Telecommuting and home-working are nearly always treated as synonyms. Undoubtedly much larger numbers of people are now working at home, but few of them are telecommuting - that is using a terminal in order to work for their employers over a

telecommunications link instead of physically commuting.

Since telecommuters and home-workers seem now to be the same thing perhaps complaining about the need to separate them is merely being pedantic. However there is a difference. By my definition a telecommuter uses a telecoms link. That is why telecommuters are often mentioned in the "future telecommunications scenario" context.

If there are by now millions of telecommuters anywhere it must have come to the notice of the telecoms authority. Each would probably need an extra telephone line. They would be prime targets for the Integrated Services Digital Network (ISDN). It seems odd that I can't find anyone in the telecoms business who is the least bit interested in these millions.

NFAIS, Philadelphia (215 563 2406) are offering a workshop on "telecommuting (work-at-home)" - a phrase perpetuating the merger - for $285. But perhaps it is no longer a myth and something really is happening at last. Gil Gordon, who will preside at the NFAIS workshop, also publishes *Telecommuting Review*, and claims that "we're seeing the same kind of growth curve with telecommuting as we did for personal computers".

However three out of the four articles under the heading "Telecommuting - it's Home to Work We Stay" in the *Current Contents Press Digest* feature for February 26th are about people working at home. One author claims that "55 to 60 percent of people he counselled who were losing their corporate jobs said that they wanted to work for themselves at home". We don't know whether the actually did. Another author firmly states that "over 26 million men and women, nearly one quarter of the labor force, have shifted part or all of their jobs from the office to the home". We don't know how many of them are telecommuters.

The *Current Contents* piece does not include what might be called the definitive article about the topic - in The *Journal of Communication* 39(3), 19-47, Summer 1989, by Robert E. Kraut, entitled "Telecommuting - the trade-offs of home work". Kraut is manager of the Interpersonal Communications Research Group at Bellcore, Morristown, New Jersey.

Each record in my Scimate personal information database/index to shelved items has a "VG" field - if you want only the Very Good Articles about a topic you include VG as a search term. Not many articles receive this accolade. Kraut's is one of them.

To use the vernacular, Kraut takes the lid off telecommuting. The last of his 61 references is well known and remarkably appropriate. It is to "Zipf G. Human behaviour and the principle of least effort. Cambridge, Mass. Addison-Wesley 1949". This reference comes in the section headed "Why - despite the popular image of telecommuting and the "electronic cottage" - have we seen so little employer-initiated workplace substitution"?

The telecommuting-hyper-uppers presumably don't believe it but Kraut succinctly expresses the obvious, :- "The defining component of the conventional office is the co-presence of other workers for a substantial part of the work day... physical proximity is the technology that organisations use to support the informal communication that underlies much group work and the social relationships attendant upon this communication (61)... it is frequently the basis of supervision, socialization, social support, on-the-job training, and the spread of corporate know-how and culture. Moreover the informal communication among coworkers helps provide the major satisfaction denied to home workers - socialising and friendly social interaction".

A rather good cartoon appeared in one of the papers the other day bringing to life the home-worker's unhappy lot. The home-worker, facing away from the screen of his computer, is speaking to a friend on the telephone. "The worst thing about working at home", he says, "is this feeling of total isolation". A cat dozes on the top of his micro while his young daughter stickeys-up the keyboard. Grandpa is entering to join two ladies holding an animated conversation over a cup of tea. The railway lines of his son's train set disappear somewhere under his desk while another son is trying to pull the dog over the lines by the tail. The baby has just been sick on the floor.... and so on.

Colour

We see the world in colour so when will can we expect to see all reproduced information in colour as well? Will the time come when a monochrome publication is the exception, rather like the appearance of a "black and white" feature on the TV?

Colour is still expensive. In the UK a full page in colour in one of the high-circulation tabloid newspapers costs up to #42,000. Colour, economics, and state-of-art colour technology are tightly coupled in this area. Huge advertising expenditure based on the cost per thousands of consumers reached may be shifted from TV to print media or vice versa. Advertisers think that the effectiveness of certain items - for instance succulent food advertisements - considerably depend upon good colour.

In the Desktop Publishing (DTP) world the rule of thumb is that colour costs "six to ten times more". DTP is still one of the hyped-up new-toy-syndrome activities. 43% of all the DTP systems in use in the UK have been purchased within the last twelve months, and the ebullient suppliers, backed by an equally ebullient corps of glossy magazine writers, don't want to let it run out of steam. Colour is the next thing that you will be unable to do without. Typical headlines are "How to put 16 million colours to work", "Let a million pixels bloom" and "Over the rainbow".

It is often said that the Information Technology market is technology driven. Colour is one of several areas where market offerings are ahead of demand. Forecasters in the IT field usually end up with egg on their faces, but technology watchers know that products highly dependent on chips, bits, and bandwidth are in an area where time is on their side - see the earlier item about the CPUAX chip.

Colour equipment and software is well ahead of demand; suppliers are presumably working on the assumption that names and reputations must be established in the market ready for the growth that will come with increased computer power and falling costs.

The heart of the matter lies in the response to the question "How good must colour quality be to be acceptable when used in publication x?". Professionals in the colour printing business would say that current technology plus craft is essential, the second ingredient being the more important.

At the bottom end of the scale you can buy a 24 bit colour scanner, a Mac II, a paintjet printer, and appropriate software, for around £10,000 in the UK. You can then slowly churn out pages in colour from the printer acceptable to some for short runs, the "some" being a matter of personal judgement.

At the present time the next step up to "quite good colour" really means getting into the preparation of colour separations. That appears to

be a significant step in terms of equipment, the necessary expertise and the cost implications of page printing.

European Universal Telecommunications

I have just received a report dated November 1989 which does not appear to have a publisher but is none the less interesting for that. The title is *PACE 89: Perspectives on advanced communications for Europe.* It is a summary of the results of a study performed for Directorate XIIIF of the EC.

The publication, commissioned by the part of the Directorate which manages RACE, was compiled by a group of consultants. The complexity of alternative routes to a telecoms nirvana is such that a consensus about which route to take would lend strength to the arm of RACE. This report represents the consensus of the consultants.

The main recommendation is the early implementation and expansion of a dedicated European Integrated Broadband Communications (IBC) network for selected services reserved for interested user groups with gateways to other networks. An independent European long-distance carrier would be established to run it and a single European regulatory organisation would mind it.

There is just one aspect of this report which I have singled out for discussion here. It is covered in section 6.3.2. *Socio-political Benefits.*

"Universal Telecommunications" may mean the opportunity for anyone who wants a telephone to be able to have one so long as they can pay the market price for it, or it may mean the opportunity for anyone who wants or needs a telephone to have one with part of the cost paid for by somebody else. Alternatively it may mean that an area, a country, or a continent, has a telecoms system in place able to transport rapidly large volumes of data of any kind to anyone else at the market price, or at an assisted price. In other words "a fast broadband data highway" is universally available. Section 6.3.2. is about the first of these meanings.

When the telephone system is operated by a monopoly, pricing based on "welfare economics" e.g. on some kind of marginal cost pricing is sometimes used, or revenues from business lines may be used to subsidise rural lines. One problem has always been who is to decide on the degree of assistance, to whom it shall be given, and what is the reference "market price".

A company which runs a competitive business has to make a profit to survive and normally charges "the market price". The people who pay the price get the product or service; the people who need it but "cannot afford it" do not.

In the case of British Telecom - the European telecoms authority most closely resembling a competitive business - the company is not permitted to operate subsidies across the divisions of its business; for example some of the proceeds from equipment sales could not be diverted into its network business to lower the price of telephone calls. However it is permitted to cross-subsidise within its network - for example long distance revenues may be diverted in order to cheapen local calls.

The Office of Telecommunications (OFTEL) may intervene if the degree of BT's within-network cross-subsidies and price changes are considered to be unreasonable. BT is also required to maintain the level of its charges for UK telephone services at some level below the annual retail price index as agreed with OFTEL.

These arrangements seem to be a considerable improvement on the

way the UK Post Office's telecom monopoly used to be operated. In those days it was subjected to intervention by the government of the day according to the prevailing dogma. It was never clear whether National Telecommunications was supposed to be a social service, or a system to provide the UK with a low cost efficient telephone service - a competitive edge badly needed by a country living through its exports. Many people believed that it never achieved the second objective - an objective which was rarely spelled out.

It is not clear whether the UK's present level of telecom social universality will match up to the benefits listed in section 6.3.2. of this recent CEC report. The benefits include the provision of advanced communication services carrying substantial potential for "teleworking from the home or decentralised offices in lesser developed regions... reduction of the need for physical travel... provision of services to the handicapped... the list could be very, very long..."

A long list of social benefits should be generally welcomed with one proviso which is not mentioned in the report. It ought to be, in view of the concluding words in the immediately preceding section 6.3.1. about the importance of market research to find out "how much revenue could be generated from fees... duties imposed... etc."

The proviso is that the bills for non-revenue earning but socially desirable benefits should be paid for, and clearly be seen to be paid for, by the sponsoring national governments. If these costs are fudged into the bills of users paying what the market will stand, the "Socio-Political Benefits" enumerated in section 6.3.2. of the report will be nullified by ongoing Socio-Political Controversies resembling those of the old UK Post Office.

Authors, Publishers, Word Processors, Typesetters, and Structure Coding

Electronic Text Archiving in which "Structure Coding" is discussed, is reviewed in the "Books" section below.

Structure coding is a matter of considerable general interest. Structure codes are inserted into text to control a typesetting machine so that the machine may appropriately handle the text submitted by authors on disk. For the "Knowledge Warehouse" (a repository of stored text) discussed in the book, it is proposed to allow a choice of coding methods; each stored work would be labelled indicating the method used. The use of the Standard Generalised Markup Language (SGML) is suggested as a sensible approach.

The author of *Electronic Text Archiving* comments:- "On the face of it, the author should be encouraged to express the structure formally through the use of markup as well as informally through the conventions used in preparing the manuscript. The use of a word processor means that markup commands could be recognised electronically at subsequent production stages and used in the interpretation of structure into typesetter commands or database structures. However a generic coding system implies a certain formality with the need to obey rules in order to avoid logical ambiguities. This formality is alien to the creative problem, and it may be unwise to rely wholly on an author's ability to prepare complete and consistently marked up copy".

When using a word processing machine, an author specifies the format and layout of a document with a set of codes which determine margins, font, line and character spacing, and so on. A set of codes may be stored in a small file and retrieved into a new document. The layout of

the new document, when printed on the author's printer, will then look like its predecessor - the coding job was only done once. Several such code sets, specifying different looking documents, may be stored and retrieved as needed.

When a document is typed, a series of ongoing codes are added to the text by the machine automatically specifying such items as indents and "tabs", new lines, etc. Both layout and text codes may be peculiar to the WP machine, so if the text is sent on disk (instead of as print on paper, or as "camera ready" print on paper) it cannot be used by a publisher unless he has a machine which can read the codes.

If an author is asked to use special codes so that his text on disk may be read by a typesetting machine - for example SGML codes - he will have to spend a good deal of extra time doing it. Among other uses, SGML codes are attached to "document elements" e.g. Author's name, Address, appendices, abbreviations, headings, paragraphs, sections, and many more, enabling the document to be easily abridged, re-arranged, published in different forms, etc., simply by issuing a set of instructions to the typesetting machine.

A number of benefits will accrue to both authors and publishers from this procedure. The publisher will be able to go directly from author's text to print at a much lower cost than previously and the printed result should look much better. He will also be able to re-arrange or republish the text in different ways - for example a set of journal articles by the same, or by a number of different authors, could easily be re-published in book form, abridged as necessary.

The author will share in these benefits, since he or she will be paid more for the extra work involved. If and when he relinquishes his copyright to the publisher, he will be party to a re-use agreement enabling him to approve the manner of the re-use and to receive a royalty payment for each re-use.

BOOKS

Digital Design by Bernd Holthusen. Published by Econ Verlag, Dusseldorf. 1988. ISBN 3-430-14774-3. Price DM 98.

This extraordinary book measures over 40 x 30 cms - nearly 1ft 4ins x 1ft - and contains 208 pages printed on 200 gramme art-paper; that makes it extremely heavy. The book was partially sponsored by Scangraphic Dr. Boger GMBH of Hamburg and consists entirely of illustrations printed from film produced by a Scantext 2000 machine.

It is alleged to be "the first comprehensive handbook for the specification of integrated digital typesetting, graphics, and picture data. The illustrations are in 11 chapters covering Type, Type & Screens, Rules & Screens, Single Colour Screens, Graphic Shapes, Line Art, Halftone Pictures, European Process Colour Scale, Real Colours and Process Colours, Typesetting Examples, and Bookwork Typefaces.

A "Designometer" is enclosed with the book - a rectangular card on which is printed a finely graduated rule, screen ruling counter, radial fan for screen identification by moire pattern, type face sizes, protractor, determination of circle radii from 0.5 to 300mm, set of screens from 5 to 100 lines/cm, colour mask used with the book for matching purposes, and a grey-level value scale, also printed from the Scantext 2000.

Unfortunately the book is at present out of print. It may be

reprinted or you may be able to squeeze a copy out of Scangraphic on 04103 801106.

One feature of the book is a succession of 26 pages containing an average of over 500 reference colours on each page. Other pages show examples of the sharpening of food subjects by using filters which selectively alter the contrast in highlight, mid-tone, and shadow areas. There are pages showing special effects obtainable with colours and many pages showing off the features of dozens of different type faces, all superbly printed. Numerous other illustrations provide examples of the versatility of digital printing. Apart from its obvious value to designers, this book is a thing of beauty which would not look at all out of place among a collection of fine-art books containing reproductions of the works of Monet, Gauguin, or Turner, on a coffee table.

Innovation in the Information Chain by J.S. Mackenzie Owen and Johan van Halm. Routledge, Chapman and Hall, Andover, England. 1989. ISBN 0-415-03871-5. 121 pages, Price £25.

This little book explores the hypothesis that "there is absolutely no consensus as to future developments in information provision... the various sectors of the information chain (e.g. publishers, booktrade, libraries) are entirely different worlds".

Of technological developments the authors say:- "All kinds of developments - microforms, AV-media, online databases, catalogue automation, telecommunications, optical media - are first regarded as "revolutionary", promising far reaching effects on parts of the information chain. Yet time and time again these developments seem to find their own niche in the world without having the radical effects expected of them".

"Technology has not yet brought about any drastic changes in the process of scientific and technical communication, or in the traditional functions of publishers, the book trade and libraries, nor in their relationships. Neither has it radically changed the way authors and readers function as producers and consumers of scientific and technical communication".

The authors have reviewed the literature seeking to find a sense of direction in information provision, They provide a bibliography of nearly 1000 references which is part of a larger collection.

They conclude by saying "there is still time for the information section to determine its own future... co-operation between the various parties involved will be crucial to success".

MS-DOS Software for library and information applications. Paul F. Burton (Ed). Gower Publishing, Aldershot, England. 1990. ISBN 0-566-03617-7. 140 pages. Price £22.50.

The title of this book may be misleading for some people. I thought it would be about MS-DOS Software. In fact it's mainly about the application of a number of software packages which run on the MS-DOS operating system -a book of useful UK case studies. Three types of application are covered - Information Retrieval, Library and Information Service Housekeeping, and Management Information.

Three IR packages are described, Tinman for compiling and searching an in-house database of periodical items, Headline for enhancing online services, and MicroCairs for a legal database service. All the authors seem happy with performance in their libraries.

The library housekeeping packages are Class and Cars for issue and cataloguing as used at Plymouth library, and dBase III at the City Business Library for managing a collection of reports. Various applications of microcomputers at some of the 93 libraries in the county of Essex are described and this section of the book ends with another application of dBase III for maintaining an order system.

The last section contains one case-study and I found it to be the most interesting. It describes the setting up of a general purpose office system (called a "decision support system" here) at Leicester Polytechnic library, funded by the British Library.

The system consists of a 3Com Ethernet Local Area Network (LAN) with a number of IBM-compatible microcomputers and attached shared resources such as a backup tape streamer and a laser printer. The network runs at 10 Mbps using coaxial cable. A number of software packages are used including a relational database, spreadsheet, word processor, telecoms and "desktop facilities", statistics, and network package.

The author (Roy Adams) tells me that there are present 8 stations on the system and that the cost per user is £300 a year (amortised purchasing plus running costs). More information is awaited about useage patterns since it was too early to report about this when the chapter was written.

Communication and delivery systems for librarians by Roy Adams. Gower Publishing, Aldershot, England. 1990. ISBN 0-566-05750-6. 269 pages. Price £32.

This book is written by the deputy librarian at Leicester Polytechnic (the same Roy Adams who authored the last chapter in the book reviewed above). It is a noble attempt to cram a great deal into a small space. By and large, the attempt is successful. In any book of this kind it is unusual to find that "futures", which really start on page 132 with "Artificial Intelligence", occupy nearly half of it. On the other hand it could be argued that this is as it should be since communications are still primitive in many libraries at present.

Incidentally "communications" means "telecommunications", not "human communication" - a sphere of activity which is much neglected by information scientists and librarians.

There are 12 chapters divided to cover History, Networks, Large-scale storage devices, Artificial intelligence, New communications technology, and Social implications. There is a ten page Glossary, an eleven page index. The chapters are very well referenced.

To get a few gripes out of the way, the book contains specialised phrases and acronyms in the text such as CCITT, CDV, MAN, etc., which do not appear in the Glossary. Satellites are mentioned incidentally, but they have moved beyond the "glamorous hi-tech must-get-a-mention phase". Here-and-now data broadcasting from Direct Broadcast Satellites and VSAT (Very Small Aperture Terminal) networks do not get a mention. High Definition Television (HDTV), which could be a driving force in wideband telecoms, is also ignored.

The book is weak on regulatory developments and the section headed "European Community Developments" is very out of date - DOCDEL, UNIVERSE and APOLLO are no longer the most important issues. The Green Paper and the important but tortuous efforts being made by the CEC to do something about the PTTs and to encourage one-stop European

wideband data communication are the topics of most current interest. Some progress is being made and £700 million is being spent on network R&D; this work deserves a mention, if not a section on its own.

These omissions are not a reason for not buying the book. It contains much useful information about networks and deals at least as much with social and consequential issues as it does with systems. Problems surrounding charging for services and equitable information distribution are well discussed. Standards also receive the discussion they deserve. Unusually and refreshingly, future developments and expectations are realistic. No attempt is made to talk-up the technology as if it was the most important issue. Artificial Intelligence/Expert Systems receive the cool discussion that they merit.

In the "Who Pays Debate", Adams rightly points out that the present gap, which is probably increasing, between the information-rich and the information-poor is at least as much to do with education as it is with ability to pay. A person who has not had a good education is unlikely to possess the incentive to acquire and make good use of more information. There is one area which receives little attention, but which should receive far more and should be free. That is for information about *living* - the kind of information which used to be available from Citizen's Advice Bureaux in the UK. These bureaux - for supplying much-needed information face-to-face, not computer-based information, which is not - are now few and far between.

What is the future for libraries and their staff? Several possibilities are reviewed, some pessimistic, some optimistic. The author discusses some of the attributes likely to be needed by librarians:- "The new breed of librarian with information analysis skills will receive training in inter-personal skills (Recognition of Human Communication Science at last? - Ed.), oral and written communication, analysis and research skills in addition to technical training which enables them to turn ideas into outlines of systems effectively".

"A new role will develop for an access controller acting as a gatekeeper... to understand the nature of the activities of the particular group served... with an understanding of group dynamics, a knowledge of network facilities and techniques..." and so on.

This sounds like the kind of person everybody needs. Once you have got him or her, how do you arrange for a suitable status with salary to match?

Electronic Text Archiving. By Robin Williamson. Elsevier Advanced Technology Publications, Oxford. 1988. ISBN 0-946-395-38-1. 157 pages. Price £45.

Interfacing Word Processors and Phototypesetters. By Michael Card. Blueprint Publishing, London. 1987. ISBN 0-948905-05-0. 182 pages. Price £19.95.

Electronic Text Archiving "sets out the technical and administrative guidelines for archiving electronic data as well as recommending standards and rules of good practice", and is "directed at the production departments of publishers, typesetters, and any organisation with an interest in the process of preserving electronic texts".

The book embodies experience gained during the "Electronic Warehouse" project, in which the British Library, the Department of Trade and Industry, and a number of publishers got together to consider ways and means of establishing a National Electronic Archive. Work in the pilot

phase was contracted to IRCS, an Elsevier data conversion company.

The Electronic Warehouse would be controlled by an independent trust, and publishers would have the right of payment every time a work was extracted from it.

The book deals with the matter of structure coding (see separate section above), storage criteria and costs, methods, problems, and administrative matters, layouts and indexing, security and disaster planning, and continues with a great deal of information, obviously derived from detailed discussion, about exploitation, operation of the system, etc. It concludes with examples of a completed Index Input Form, an Archive Input Agreement, and an Information Provider Agreement.

Anyone interested in the general principle of storing quantities of text for later re-use is likely to find that the wealth of detail which requires attention in order that the job will be done properly, has been admirably set out in this book.

The book by Card supplements Williamson's book quite well, since it goes into the nitty-gritty of WP to Typesetter connection. The book chapters cover Compatibility, Transportation - that is media conversion, modems, protocol conversion etc. - Telecommunications, and Destination systems. Also included are addresses and phone numbers of UK providers of terminals, typesetting software and phototypesetters, conversion bureaux, and others. A lengthy list of machines showing disk sizes and operating systems follows, and then two appendices providing lists and performance data for IBM compatibles, and portable microcomputers. The book concludes with a glossary and index.

The first part of the book goes to show the seriousness of the compatibility problem. A diagram shows "the four main data transportation paths" - via disk/OCR/disk, telecoms/protocol converter/disk, disk/disk converter/disk, and disk direct. Nasty boxes labelled "media convertor" and "protocol converter" appear on it. All of the routes are a hassle and require the use of expensive in-house equipment or bureau services, but may be worth adopting if justified by frequency of use. A route will take time and trouble to set up but if an author regularly submits data to a publisher it may be worth it. Once you get into this field camera-ready copy suddenly seems to be a rather good compromise.

The author-publisher relationship can be better understood if two extreme situations are described.

First, there is the case of the free-lance author who submits articles to a number of different publishers. The chances of any kind of standard procedure other than the use of camera-ready copy are slim unless the author has thought about it prior to equipment purchase. If the author uses the most popular WP machine/microcomputer and the most popular word processing package the situation is at its best because the publisher should be able to read the author's disks. If the publisher uses the disk as is, the layout will be as good as permitted by the WP codes.

Second, there is the case of a publisher who employs his own authors in-house - for example a newspaper publisher. In this case the publisher has the whole process under his control and can arrange for total compatibility, imposing on authors whatever procedure he likes in order to make the text from their machines immediately useable.