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News, Trends, and Comments

NEWS

Top 40 Software Packages in Europe

Ovum, compiler of IT reports, (44 (0)71 255 2670), notes in its "Software Europe" report (July 1990), that half the names on its "top software list" are American, accounting for 64% of sales. "Unless something is done to strengthen the position of European software product companies", says Ovum, "it will be the Americans who get all the benefit of the Single European Market in this area".

The top 10 on its list, with 1989 software revenues in ECU (millions) are:-

IBM	2659	US
Siemens	500	Ger
Nixdorf	470	Ger
ICL	400	UK
Bull	395	Fr
DEC	350	US
Olivetti	296	It
Unisys	230	US
Computer Assoc.	191	US
Microsoft	191	US

Dialog

The American Chemical Society (ACS) is the defendant in a suit filed against it in June 1990 by Knight Ridder/Dialog. The suit seeks treble damages exceeding $150M arising from ACS's file licensing policies, and requests an injunction for the release of all ACS databases to Dialog in perpetuity.

Dialog considers that ACS was government subsidised through the National Science Foundation in the period 1965–1976 and that this obliges it to release its files.

Dialog have recently announced a number of improvements to its own services. UK users can use a free public password for use on BT's Dialplus PSS service. Users pay $10 an hour for using Dialog's Dialnet telecoms service. Speeds may be up to 2400 bps, there is a single telephone number for any speed and 63 access nodes throughout the UK.

Error correction to CCITT V42, MNP up to level 4, may be used. Databases added to the service include Extel company cards, IDD M&A Transactions covering UK mergers and acquisitions, Moneycenter financial topics, Ageline database about ageing and the old, Newsday full text of US evening newspapers, Fine Chemicals, Pharmaprojects about new drugs, Boston Globe full text newspaper, ICC British Company Datasheets, AP News (single file) and Elsevier's EVENTLINE covering worldwide conferences, symposia, trade fairs, exhibitions and sports events.

New products from IBM; PS/1 personal computer: Displaywrite 5.

PS/1, launched in the US in June 1990, is based on a 10 MHz 80286 processor. It comes with a VGA screen, 1.44 Mbyte diskette drive, DOS, and Microsoft Works. A 30 Mbyte hard disk is extra. To be introduced in the UK later in the year it "will address the needs of individual tradesmen, the small home-based business, students, and people taking work home".

In July Displaywrite 5.0 was announced. The changes to it bring it more into line with competitive offerings. These include split screen editing on two different documents and pseudo-WYSIWYG viewing of combined graphics and text in selectable fonts. Another new feature is the automatic generation of a Table of Contents.

NFAIS Awards

At its 32nd Annual Conference, the National Federation of Abstracting and Information Services, Philadelphia, awarded its certificate of appreciation to Anne Marie Cunningham and Arthur Elias, both of BIOSIS, and to Stephanie Ardito of ISI, for their outstanding work in support of NFAIS.

STN Announcements

In February 1990 the Scientific and Technical information Network, a division of the American Chemical Society, announced that CABA's (formerly the Commonwealth Agricultural Bureau, Wallingford, UK) database of over two million records covering agriculture and related subjects from 1972 onwards, would be available on their network.

In June STN announced the addition of the National Library of Medicine's MEDLINE, the JGRIP file on current research in Japan, and a new calculation package TPROPS.

The MEDLINE offering includes over five million references from 1972 onwards and easy transfer to CAS registry numbers for chemical substances retrieved from MEDLINE searches.

STN has also up-dated its chemical structure search and structure graphic display software for IBM and Macintosh computers. The improvements relate to conversions between chemical structures and connection table.

IBM describe their new (?) handprinted-character recognition device

IBM announced at the 10th International Conference on Pattern Recognition, Atlantic City, June 18th 1990, that they have succeeded in producing an experimental device for recognising "run-on handprinted characters" where "previously real-time handwriting recognition systems could only recognise handprinted characters that were spatially separated or confined to boxed areas... however it will be some time before portable computers will be capable of recognising cursive script".

In the IBM approach, stroke sequences in characters written on a digitizing tablet are matched against stroke sequences stored in the machine to identify the combinations which represent characters. The system can be made to adapt to a writer in a training session.

Perhaps IBM meant to claim newness just for doing the job in real time. Cursive script recognition has been in progress at Optiram (Tolworth, UK) since 1986 or earlier. Their machine typed out a sentence without training which I wrote and signed during a visit. Optiram digitize input by scanning rather than by tablet digitizing. Incredibly it typed out my signature correctly - most people can't read it. It took a minute or two to do the job, but presumably with today's cheap processing power, Optiram could do it in real time.

ISI announcements

The Institute for Scientific Information, Philadelphia, now a member of the JPT Publishing Group, purchased the Philadelphia College of Physicians Medical Documentation Service earlier this year.

ISI also announces several improvements to its services. In the Genuine Article Extended Service, ISI offers photocopies of articles from journals going back to the last century. ISI adheres to copyright laws through its royalty agreements with journal publishers.

Current Contents files in Table of Contents format, corresponding to the files available on the Scisearch and Social Scisearch databases, are now available on the ISI databases run at the German DIMDI centre.

A new feature has been added to Current Contents on Diskette from June 1990 onwards. Besides providing keyword searching from titles, keyword searches can be made from descriptors drawn from references cited by each article as well.

Adonis

In preparation for its operational service, Adonis has moved to Molenwerf 1, 1014 AG Amsterdam, The Netherlands, (+ 31 (020) 842206). Bob Campbell (Blackwells), chairman of the board for the last ten years, has handed over to Dr. Dietrich Gotze (Springer Verlag).

Following the conclusion of its trial service, the ADONIS commercial service will offer more than the maximum 7000 pages per CD-ROM disc achieved in the trial and will commence with 1991 journals. Indexing will be done by Excerpta Medica, scanning by Satz Rechen Zentrum, Berlin, disc production by Nimbus at Monmouth, UK, and software development by Lasec, Berlin.

Initially 437 journal titles will be covered by agreement with their publishers with the subject distribution (Ulrich definition) Medicine (47%), Biology (19%), Pharmacology 16%, Chemistry 11%, Physics 2%, Veterinary Medicine 1%, and General Science 1%.

Software will be supplied and discs delivered to libraries two weeks after receipt of printed journals for "a modest annual subscription fee and royalties depending on whether the library subscribes to the printed version of the journal".

European HDTV launch

Vision 50, a European Economic Interest Group (EEIG), provided a series of High Definition Television demonstrations at Strasbourg on the 11th and 12th July. A 30 square metre laser projection screen was demonstrated together with HDTV sets with the 16:9 screen-size ratio. The

founding members of Vision 50 are BHD TV, Unitel, Nokla and BTS (Federal Republic of Germany), France Telecom, OFRT, SFP, and Thomson of France, RAI (Italy) and the BBC, Thames Television, Laser Creation, and British Satellite Broadcasting (UK).

Vision 50 is a CEC response to the Japanese who proposed a world standard at a Geneva meeting in 1985 which would have amounted to (quoting one comment made at the time) "the surrender of the lucrative television revolution of the 1990s by the rest of the world without firing a shot".

Since then Europe and the US, in the shape of the FCC, have adopted various delaying tactics until they can get their act on the road. They may have left it too late. For a history, review, and explanation of HDTV see Cawkell, A.E. Critique 2(2), 1-12, December 1989. (Aslib, London).

Online 90

Learned Information (+ 44 (0)865 730275) announce that the 1990 14th International Online Information Meeting and Exhibition will take place at Olympia 2, London, on the 11th-13th December. In a call for papers a range of themes are suggested including User Interfaces, Microcomputer Software, Hypermedia, Open Systems Architectures, Integrated Online Library Systems, New IT Devices, and System and Database Comparisons.

A Deal-making session - a "formal and structured interest-matching referral" for Companies wishing to participate - will be held on the 11th December.

MIT Media Laboratory

The MIT Media Laboratory received a donation of $3M in May 1990 from Nintendo to be devoted to research on how children learn when they play.

In 1977 Richard Bolt described some of the activities of this remarkable laboratory in a DARPA report (MDA903-77-C-0037 MIT Architecture Machine Group). At that time they had constructed a special room containing a chair fitted with a joystick and other controls in which the experimenter sat, confronted with a large screen with back projection facilities and stereo sound.

A "Spatial Data Management System" was developed enabling the experimenter to "travel in space defined by a multiplicity of visual, auditory, and haptic (touch) clues, encountering items of data deployed in that space".

In June last year the Media Laboratory provided a demonstration at the Hypertext II conference in York, in support of a paper by H.P.Brondmo and G.Davenport called "Creating and viewing the elastic Charles - a hypermedia journal". It was a documentary about the Charles river with text, graphics, digital sound, and motion video. The video was obtained from a laserdisc player with sections selected and duration-controlled from Hypercard software running on a Mac II.

EC's Audiovisual Strategy

The EC is concerned about US and Japanese domination of the audiovisual media. According to an announcement in April 1990 "60% of cinefilm distribution in Europe is controlled by companies of US origin, 40% of video-cassette distribution circuits are owned by non-Europeans, Europe purchased $700M of TV programmes from the US in 1988, and in

1989 11,000 hours of cartoon programmes, 60% from Japan, were screened on TV channels while total European production accounted for 300 hours.

"Lacking any central or combined strategy", says the announcement, "the European industry cannot assert itself on the world market. Its impact in Japan or the United States is scarcely more than 2% of audiovisual and cinema programming".

The commission proposes to "focus on training, preproduction, multilingualism, use of new technologies, distribution and commercial promotion, the creation of a second market, and easier access to venture capital". It proposes to finance its plan with 250 MEcu in the period 1991-1995.

ICL sold to Fujitsu

Apricot was sold to Mitsubishi, Inmos went to the French, Plessey has been carved up between Siemens and GEC with Siemens taking over Plessey's radar and defence operations and getting 40% of GPT a GEC/Plessey telecoms equipment manufacturer. Now ICL has gone to Fujitsu. What's left of the majors in UK electronics? Not a lot: how long will Alan Sugar's Amstrad hold out?

Computer sales ($M 1988)

IBM	20200
Siemens/ Nixdorf	8117
DEC	4740
Olivetti	4115
Bull group	4030
Unisys	2740
Hewlett Packard	2155
ICL	2015
NCR	1870

Since ICL was taken over by STC in 1984 it has been changed into a highly successful company mainly responsible for STC's £11.5M loss in 1985 being transformed into a profit of £223 in 1989. However ICL's small size compared with its giant competitors made its growth prospects doubtful.

It was thought that ICL would seek a European partner although it had a link with Fujitsu for chips. In the event, STC agreed to sell 80% of ICL to Fujitsu for £743M on July 30th 1990.

The price was lower than expected because STC's half-year profits fell by 32%. However Fujitsu paid more because of depreciation in the yen. Fujitsu now becomes the world's second biggest computer company.

Dawn of a new era in European telecoms?

A July 1990 press release from Brussels says that its two new directives for open networks and competitive new services "herald the dawn of a new era". The commissioners sound optimistic, as they always have done, in spite of the great difficulty they have had with the PTTs in trying to get an efficient European network in place if not by 1992, then perhaps by 1995. They say that their new measures will "open up unlimited opportunities for the telecommunications industry, for business users and for the individual consumer".

The Open Network Provision (ONP) concerns the standardisation of interfaces so that value added service providers will be able to offer services throughout the Community.

The new Services Directive has required the force of Article 90 of the Treaty of Rome behind it to ensure action. It had postponed bringing it into effect until agreement had been reached over ONP. It requires the PTTs to allow competitive value added telecoms services over their networks throughout the Community. Also from January 1st 1993 competitors will be able to resell leased line capacity.

Article 90, which allows the Commission to issue directives directly without the laborious process of Community ministerial consultations, does not, in fact, ensure compliance. France took the Commission to the

European Court over an earlier ruling about allowing competition for the supply of PTT terminals. In February 1990, the Advocate General to the Court, whose advice is usually taken, advised it to over-rule the Commission.

This means that the Commission's attempt to achieve the compliance of all PTTs over terminal competition in one operation may have to be replaced by country-by-country negotiations. This could result in non-uniform policies and substantial delays in implementation.

The above Services Directive contains various "escape clauses" which will enable reluctant PTT's to drag their feet. For instance countries who claim that their packet-switched data services are insufficiently developed may get an extension so that capacity resale need not be allowed until January 1996.

VIEWS AND COMMENTS

STM, ELP, EDIFACT, and barriers to the flow of books

The connection between this collection of acronyms - Scientific, Technical, and Medical publishers, European Librarians and Publishers, and Electronic Data Interchange For Administration Commerce and Transport (a Standard) - is to do with standardising message exchanges about books.

In a February 1990 statement, a working group of ELP drew attention to factors inhibiting the flow of books. Many countries have not acceded to the Florence Agreement abolishing import taxes on books, and there are internal tax (VAT) anomalies. VAT on books varies from 0% in the UK, through about 6% in most EC countries, to 22% in Denmark. The flow of books is impeded by increased postage, prohibitive teleordering tariffs, exchange control problems, censorship and boycott, library budget cuts and illicit photocopying.

ELP (supported by STM, Amsterdam, on + 3120 225214) suggests that "publishers, librarians, and booksellers should engage themselves in this growing field (EDI)". If this brings with it the benefits which have been claimed for Electronic Data Interchange in commerce, it should go some way to counteracting the impeding forces listed above.

EDI is the computer exchange of transactional data, conveyed until now on paper, comprising business "forms" such as purchase orders, delivery notes, invoices, credit notes and so forth. In suggesting that EDI should be adopted, presumably ELP has in mind primarily the transactions between Public/Academic Libraries and Agents/Booksellers.

In regard to the potential of EDI in another field - import/export documents - the EC put it like this "If 700 customs documents are to be replaced by a single administrative document in the community of 1992, the document will have to be electronic" (TEDIS - Trade Electronic Data Interchange Systems. Leaflet. CEC Brussels. 1987).

There are believed to be about 8000 companies in the US already engaged in EDI, at least 2500 in the UK, but only about 2000 in the rest of Europe. Development of EDI networks has tended to be industry-specific. Thus ODETTE was an early EDI association of car manufacturers, TRADANET is used world-wide for import/export documents, Marks & Spencer has organised over 90% of its clothing suppliers on EDI, and ICI runs a private EDI network over leased lines to the US and Europe, but also uses the major commercial services - GE Information Services, AT&T Istel, International Network Services, IBM, and BT Tymnet.

In February 1990, 21 national Post Offices from Canada, Western

Europe, Japan, United States, and Australia set up a cooperative EDI venture called Unipost. A European pilot project is expected this year.

The main problem is standardisation, but EDIFACT is undoubtedly gaining ground. EDIFACT takes account of end-to-end communications since its component parts fit the OSI (Open Systems Interconnection) model which itself is gaining ground slowly but steadily. A whole range of existing ISO and other standards fit into the OSI model of the layered divisions of communication processes.

EDIFACT processes follow recommended standards for its major component parts - Data Elements, Segments of related Data Elements, Codes, Syntax (structural rules), and Messages. EDIFACT's major "competitors" are the Article Numbering Association's system used in an EDI scheme called TRADACOM and the American National Standards Institute standard, X.12.

Are VDU's dangerous?

Two attempts in the United States to introduce protection for VDU users have not progressed very far. In late 1989 a New York City bill was vetoed by the departing Mayor Koch, and the Supreme Court struck down a law introduced in Suffolk County, NY. This law included mandatory 15 minute work-breaks every 3 hours, and company payments of 80% of the costs of annual eye checks. In 1989 a bill was proposed in California, which among other things, would set up a committee to establish guidelines for pregnant computer operators.

The recent history of opinions about this topic (1986 onwards) is a repeat of its previous history - disagreement.

W.H.Cushmann (Human Factors 28(1), 63-73, 1986) who used a Visual Fatigue Graphic Rating Scale in a series of subjective tests, found that "reading continuous text with dark characters on a light background was more fatiguing than reading the same copy printed on paper, but reading light characters on a dark background was not".

V.M.Reading et al., in a short letter to the Lancet (April 19th 1986, page 905), commenting on their tests, said that "there was no significant difference in respect of eye strain or pain between full-time typists and VDU users".

In a letter to Byte (May 1986, "Letters", page 24) W.G.Nabor said "I have yet to measure any ionizing radiation from any CRT, old, new, colour, or monochrome... claims to the contrary are misleading to the point of fraud".

In a review of the subject, N.MacMorrow (Aslib Proc. 39(3), 65-74 March 1987) rebutts claims "that VDU's are connected with adverse pregnancy outcomes" and says "none of the reliable studies shows any link", nor do "VDUs cause epilepsy". "Attention to the ergonomics of the workplace" should avoid the development of such complaints as "Kangaroo paw, tenosynovitis, writer's cramp, and carpal tunnel syndrome". MacMorrow says that it was the Swedish Board of Occupational Safety and Health (no reference), and the UK Health and Safety at Work Magazine (no reference) who reported that VDUs engender discomfort in various parts of the body.

My personal experience, for what it is worth, leads me to the profound conclusion that if you spend a lot of time sitting in front of a VDU (or in front of anything else for that matter), you need a decent chair. Torque and loading forces affect the system of levers comprising the legs, arms, and spine. To reduce those forces, arrange you body to reduce the leverage. The following articles contain some interesting information about this topic:-

Lueder, R.K.
Human Factors 25(6), 701-711, 1983.
Seat Comfort: a review of the construct in the office environment.
Life, M.A. and Pheasant, S.T.
Applied Ergonomics 15(2), 83-90, 1984.
An integrated approach to the study of posture in keyboard operation.
Corlett, E.N. and Eklund, J.A.E.
Applied Ergonomics 15(2), 111-114, 1984.
How does a backrest work?

In 1988 The Daily Telegraph (Christine Doyle, July 26th) said that VDU workers "talk about their eyes swelling or being out on stalks, seeing pink spots, or their actual eyesight changing". An organisation called "The VDU Worker's Rights Campaign" in London accused the UK Health and Safety Executive of "extreme complacency" in the matter.

In 1988 the World Health Organisation produced a report called "VDU's and Worker's Health", saying that "the visual discomfort experienced by many VDU users must be recognised as a health problem". The UK Central Computer and Telecommunications Agency (CCTA) is reported as saying "After hula hoops and skateboards, VDU health reports are the latest growth industry in the UK".

Perhaps CCTA might have added "in the US as well". According to Patricia Little writing in the Sunday Times on August 7th 1988, "researchers at the Kaiser-Permanente Medical Care Programme (Oakland, Ca.) noted that pregnant women working with VDUs for more than 20 hours a week suffered twice as may miscarriages as women doing other office work".

In 1989 the Financial Times (January 19th) reported that "several UK trade unions are pursuing a number of claims for Repetitive Strain Injury (RSI) on behalf of their members... NALGO (a UK union) found that among keyboard workers in Newham, London, more than 80% reported visual problems and a high degree of depression and irritability". By early 1989 (FT February 28th) this had become "operators of keyboards face high risk of limb disorders" - a finding of the Institute of Occupational Medicine in Edinburgh.

My favourite comment comes from Louise Kehoe writing in the FT on December 8th 1989. After providing a review of the topic, she concludes "It is extraordinary how little attention is being paid to this issue". Bringing you right up to date:- "Tax women suffer VDU stress" (UK Inland Revenue Staff Federation, May 1990).

Out of all this, bewildered readers, the common sense view of Nigel Heaton, University of Loughborough (Computer Weekly, 18th August, 1988), may appeal to you most. "If an employee's work is well designed, the job description is well defined, and you've still got problems, then, and only then, would you have to conclude that VDUs affect user's health".

Books

Kimberley, Robert (Ed).
Text Retrieval - a directory of software.
3rd Edition. Gower Publishing, Aldershot, UK. 1990 ISBN 0 566 03642 8. Price £55

Published under the aegis of the Institute for Information

Scientists, the book starts with an interesting Introduction, followed by 10 tables which list 38 mainframe, minicomputer, and microcomputer software packages by Market Features, Programming Languages, System Features, Indexing Features, Information Retrieval Features, Output Features, Security Features, Interfaces, Modular Features, and Contract arrangements.

It continues with a description of each product, a profile of each supplier, a comprehensive bibliography, and an index.

In the Introduction, "Text Retrieval Software" is defined as "software that is specifically designed to support the creation, maintenance, and use of databases of textual data".

The Editor has had some difficulty at where to draw the line, given this definition. He stresses that the directory is not comprehensive. However in this book with 500 pages, the detail provided is easily sufficient for a buyer to save a great deal of time-wasting in enquiring about unsuitable packages; in fact it is so thorough that the next decision would probably be arranging for demonstrations.

Feeney, Mary, and Merry, Karen (Eds).
Information Technology and the Research Process. (Proceedings of a Conference, Cranfield Institute of technology, UK, July 1989).
Bowker-Saur 1990. ISBN 0 86291 476 0. Price £39.

The rather dry title of this book conceals the variety of its contents. "The Research Process" implies a certain limitation of its coverage. In fact it is about the effects of IT on the flow of information between people.

It may also be regarded as an up-date on certain academic fashions which were originally introduced with a flourish - and here I find myself in some difficulty. How can I reconcile cynicism about the hundreds of articles ending with "further work is needed.... etc" (after an improbable report in search of another research grant), and surprise at the much smaller number which end in the same way but turn out to be immensely valuable?

In which category are Automatic Indexing, Electronic Journals, Computer Conferencing and Hypertext? Does the further pursuit of any of these ideas amount to flogging a dead horse or is such a dreadful thought totally infra dig? Incidentally this was the conclusion by Urquart in respect of further work on The Value of Information.

Harold Borko briefly discusses Automatic Indexing of the kind based on the frequency analysis of words. A big effort has been devoted to this topic, or variations of it, over the years, in an attempt to displace time-consuming manual indexing. But, Borko concludes, "the level of retrieval effectiveness for natural language searching without manual indexing is still an open question". Is he implying that Automatic Indexing of this kind does seem to have been almost flogged to death?

Can the same thing be said of Electronic Journals? Jack Meadows says that "it has definitely been established in recent years that electronic research journals can be handled successfully", but continues "it is equally clear that no rush has occurred to set up such journals". Should he have said "electronic journals have been a total failure?" That rather depends on your assessment of the by-products.

One of these is Computer Conferencing. I conclude, rather uncharitably, that people backed off into this area when the first flush of enthusiasm for electronic journals began to fade. Brian Shackel says that "as far as I am aware no electronic refereed paper journal has yet been published".

On electronic conferences he concludes that "they are an additional medium to international conferences, not primarily a replacement for them". However (at HUSAT, Loughborough) he is "looking at the possibilities and potential advantages of mounting a whole journal in hypermedia form... at last it seems as if some of the limitations of the new technology have been overcome... I refer you to Dr. McKnight's paper for further details".

McKnight's paper is entitled "The development and field testing of a hypertext database". It starts with the well known theme about linear versus non-linear articles - that is the convenience of linear writing, versus the potential advantages of non-linear retrieval by browsing through introductions, conclusions, etc. He cites Yankelovitch's quotation about hypertext information webs where "the boundary between author and reader should largely disappear".

This paper is complemented by Andrew Dillon's article "A psychological investigation of researcher's perceptions of text" in which implications for database design are discussed.

One aspect suggested by McKnight would be extremely useful - a hypertext link between a reference in an article and the cited article "using the mouse causing the full-text article to be retrieved and displayed". However "it would be difficult to create all necessary links in advance. A better strategy, therefore, might be to allow the readers to create their own links".

The article continues with the question "Is the database usable?". At present it is limited to a subset of the journal "Behaviour and Information technology".

Thinking through the implementation of the full text retrieval of cited articles, the answer would seem to be in some doubt. As a *personal database*, where the user creates his own links, the user would have either to input the chosen selection of full-text cited articles, or arrange to retrieve them automatically from a central database presumably holding the full text of those articles likely to be of interest to him.

Since it is unlikely that such a central database will be available, the idea might be feasible if the user was one of a number interested in the same topic - a sufficient number to increase the probability of financing a suitably selective full text database. In other words it needs to be made more *impersonal* to satisfy the needs of more users. But the broader the subject area, and the more difficult it is to circumscribe its edges, the harder the task of ensuring that it is of value to its intended users.

What do the statistics of this exercise look like? A database of 100 articles, each of 6 pages, would occupy about 12 Mbytes of storage. What number of earlier articles must be stored in order that, say, 75% of the articles cited by a current corpus of articles about a particular topic are retrieved? When submitting such a system to a user group for evaluation it must contain some critical mass of articles - but how large is that mass?

These considerations must look very boring to a researcher and may well be the point at which the research is abandoned or ought to be abandoned. Conversely, these obvious considerations should be faced at the outset so that all concerned know what they are letting themselves in for. But are questions like this too mundane and too naive to ask? Does anyone believe in a research budget anyway? Perhaps I had better end before I become even more cynical.

There are several other articles in the book which deserve detailed discussion if space permitted it.

Lynch and Willett, in their piece about "The effects of hardware and software developments in basic research in information science"

(primarily chemistry) conclude that a number of approaches which they describe "have yielded a rich harvest of novel techniques and methods".

In "Homework: an international comparison of behavioural researcher's use of computers for work at home" Patricia Wright concludes that "computing at home was clearly seen as enabling additional work... but was also often viewed as an alternative location". "Telecommuting" is not mentioned, and communications is hardly mentioned at all. The people using Sun machines can call upon "support access to networks" but there is no mention about whether they are used for this purpose.

In "The limitations to electronic communication in the research community", John Richardson concludes that electronic mail has proved effective and popular but that computer conferencing "generally designed by computer scientists... is rarely appropriate for groups who have little opportunity for face to face meetings... future electronic communication systems will need to restrict the quantity and increase the relevance of the information they deliver if they are to remain valued".

Fleming, Hugh (Ed).
User Education in Academic Libraries.
Library Association Publishing Ltd., London 1990. ISBN 0 85365 529 4. Price £19.50.

This book contains 9 chapters by different authors which "take into account technological developments in information carriers and in teaching methods". The book brings together a great deal of experience because, as the editor says, "all contributors are able to draw on their current and past experiences of teaching students in either universities, polytechnics, or colleges.

Anon.
Directory of Portable Databases. Volume 1(1)
Cuadra/Elsevier. New York 1990. ISSN 1045 8352. Price $85 ($105 outside the US).

Armstrong, C.J. and Large J.A.
CD-ROM Information Products. An Evaluative Guide and Directory.
Volume 1. Gower Publishing, Aldershot, UK. 1990. ISBN 0 566 03626 6. Price £55.

The Cuadra book is an excellent reference source covering CD-ROM, diskette, and magnetic tape products with associated cross referenced sections/indexes and a Master Index. In this first issue, 409 CD-ROM, 66 diskette, and 108 magnetic tape products are listed.

Armstrong & Large review 19 major representative CD-ROM products at length followed by a directory, accessible in several ways, of as many products as the authors were able to identify. Its main value compared to the usual directories lies in the in-depth reviews by experienced user/reviewers.

Bawden, David.
User-Oriented Evaluation of Information Systems and Services.
Gower Publishing, Aldershot, UK. 1990 ISBN 0 566 05209 1.
Price £27.50.

David Bawden has managed to pack in a great deal about the history, current issues, and methods used for system evaluation. The value of the book is increased by chapters from Cyril Cleverdon (The

question of relevance), David Ellis (Analysis of use patterns) and Peter Willet (Document clustering experiments).

Anon.
Management of Electronic Records: Issues and Guidelines.
United Nations, New York. 1990. ISBN 92 1 100348 2. Price: $15.

This book provides a survey of UN organisations, a list of guidelines, and a discussion of policy issues. It includes an up to date list of OSI and other Standards such as SGML, and it recommends their use. What would have been very helpful would have been some indication about the state of adoption of the various Standards described. It's not much good being an adopter of a data exchange standard unless you know that it will be effective when importing or exporting data. The book concludes with a list of standards and a comprehensive glossary.

Anon.
RACE 90: Research & Development in Advanced Communications Technologies in Europe. CEC Brussels. 1990. Price: unlisted.

This RACE publication is a progress review of a very large EC project whose objective is the introduction of broadband telecommunications in the EEC. There are over 2000 people in the R&D teams, and the total research effort will cost about 1200 Mecu.

Jones, K.P. (Ed).
Informatics 10: Prospects for Intelligent Retrieval (Proceedings of a Conference, Cambridge UK. March 1989). Aslib, London. 1990.
ISBN 0 85142 252 7. Price £40.

The first paper - a review by Alan Smeaton - is entitled "Information retrieval and natural language processing". Starting from a situation four years ago when operational systems were almost nil, Smeaton says that there are now several commercial systems available including TOPIC, STATUS/IQ, and METAMORPH, so there has been some progress.

Elizabeth Duncan discusses her work with a hypertext *thesaurus* for a database - an idea which does not seem to come against problems when you think through its outcomes (see above remarks about hypertext). You can see its potential for links in a thesaurus.

Philip Barker and K.Manji describe their work in "Designing and Authoring Electronic Books". Such books may contain animation, achieved in this case using Hypercard and Hypertalk on a Macintosh. Image sequences for animation are produced using Videoworks software. In one part of the book the user can select an ikon and a moving figure demonstrates movements described in the associated text.

The rest of the papers are about research progress rather than about operational effectiveness. All this high fallutin' research is preceded by the editor's comment that "although ASCII must now be thirty years old and floppy discs are almost universally available, it is still not possible to request papers in ASCII format on floppy discs". This is a comment on the diverse range of formats he was forced to accept. However, as some readers may know, if you ask researchers to supply copy in the simplest possible format in a single widely available font such as Prestige Elite, which 95% of them could easily do, it is most unlikely that you will get it.

A.E.Cawkell