Remembering history
The work of the Information Services Sub-Committee of the Joint Information Systems Committee in the UK

Derek Law

The Authors

Derek Law, *Centre for Digital Library Research, University of Strathclyde, Glasgow, UK*

Abstract

Purpose The paper seeks to record the work of the committee and its interaction with the much better known Electronic Libraries (eLib) Programme. It also examines the principles that underlay the development of content acquisition and supporting infrastructure in UK university libraries in the 1990s.

Design/methodology/approach A historical account of the development of nationally organised e-services for higher education in the 1990s, based on personal recollection, committee minutes and contemporary reports.

Findings Confirms the continuing relevance of principles established in that period.

Originality/value Provides a record of previously undocumented work.

1. Introduction

As we enter the Web 2.0 world it is very easy to forget how recent most of the electronic environment we take for granted is; to lose track of the maze of false starts and blind alleys; to forget that what we take for granted is not deeply embedded. The web has existed for barely 15 years. A decade ago Google and Amazon and Skype did not exist and libraries still had a monopoly of mediated and often charged online searching services. As late as 1995, the Joint Information Systems Committee (JISC) of the UK Higher Education Funding Council had just joined the World Wide Web Organization (W3O) at the Massachusetts Institute of Technology. W3O was the forerunner of the World Wide Web Consortium (W3C), an international group where â€œmember organisations, a full-time staff and the public work together to develop web standards(www.w3.org/Consortium/). In February 1995 a workshop on the web was funded by the JISC's New Technology Initiatives, and organised by the Advisory Group on Computer Graphics (AGOCG) as part of the Support Initiative for Multimedia Application (SIMA). The workshop was attended by (only) 54 higher education (HE) institutions it was reported that The WWW is clearly an important tool for many applications and is expected to be so for some years to come(**Mumford, 1995**). This underwhelming vote of confidence simply reflects the fact that today's broad and certain highway was not a self-evidently obvious path to follow.

The growth of database usage for online searching had been slow. In 1971 a mere 18,000 batch processed searches of the Medical Literature and Analysis Retrieval System (MEDLARS) database were conducted in the whole of

the US (**Landesman, 2005**). In 1972 the Lockheed Missile of Palo Alto, California launched its Dialog service which provided online searching of secondary abstracting and indexing databases and which charged on a pay-as-you-go model. A 1984 survey of 376 US HE institutions showed that less than half offered online searching services, and of those that did, less than 5.8 per cent performed more than 1,000 searches a year (**Perry, 1992**). This was the time when CD-ROM was seen as the answer to online searching and we loaded as many as two dozen datasets in jukeboxes run on local computers thus obviating the need for any telecommunications connections. There was agonised debate as to whether users should have mandatory training courses on how to search the online databases before being allowed to have their carefully pre-booked sessions at library terminals.

Following the huge expansion in undergraduates studying in UK universities in the early 1990s a review of library provision was set up in 1992 under the chairmanship of Sir Brian Follett. **Brindley (1994)** provided an overview of the contribution of the Information Technology Sub-Committee of the Follett Review and subsequently went on to chair the JISC committee responsible for the resulting Electronic Libraries (eLib) Programme of 70 or so funded projects. This author served on that committee and was also Chair of the Information Services Sub-Committee (ISSC). In this paper the work of the ISSC and its links with the eLib Programme are explored.

2. The UK funding councils and libraries

In 1991 the Computer Board of the then University Grants Committee was recast to become the Information Systems Committee (ISC) of the Universities Funding Council (UFC). Its original role had been the funding of mainframe computers in the then much smaller number of universities in the UK (**Verdon and Wells, 1995**). Board members revelled in the formal title of godfather (this author being briefly, but officially, the godfather for Wales!). The Computer Board was prescient in sensing that while the need for centrally funded computers was disappearing, there was continuing benefit in a centrally managed programme promoting the electronic world which was beginning to appear. It therefore began work on the first national dataset procurement. The concept was that any institution that signed up paid an annual sum which resulted in all searches being then carried out free at the point of use. The ISC only had the time to award the contract for the Institute for Scientific Information (ISI) dataset (comprising the Science Citation Index, Social Sciences Citation Index and the Arts and Humanities Citation Index) before it too disappeared to become the JISC, while UFC was balkanised as the (national) Funding Councils (i.e. the Higher Education Funding Council for England, the Scottish Higher Education Funding Council, the Higher Education Funding Council for Wales, and the Department for Employment and Learning, Northern Ireland). ISC's other significant achievement in its one year life was to decide to commission a national review, the specification for which became the IT component of the Follett Review (**UKOLN, 1993**). JISC operated then, as now, through a series of sub-committees, and the Information Services Sub-Committee (ISSC) was set up and charged with managing and developing the support infrastructure for the UK's Joint Academic Network (JANET) and with developing and implementing a national datasets policy. In 1993 came the Follett Report and its findings related to information technology as described by **Brindley (1994)**, the National Center for Supercomputer Applications (NCSA) Mosaic web browser and the first SuperJANET contract to deliver 34Mb connectivity to 55 universities. The world had changed irredeemably.

3. A national datasets policy for the UK

The Computer Board had had its offices in Orange Street in central London. Close by stands what was the traditional post-meeting venue of the Hand and Racquet public house. It was here that the main discussions took place to plan the acquisition of the ISI dataset. A combination of ambition, an end of year Computer Board surplus and a publisher end of year sales shortfall led to the striking of the first ever national dataset deal. The initial deals focused on abstracts and indexes. Electronic journals were still experimental and, even in 1993, the report for the Follett Committee was very ambivalent as to their potential (**Waddell, 1993**). The ISI deal was accomplished quickly and was immediately and formally described as a giant leap in the dark. In a world of mediated online searching it was not clear whether the general mass of users would have either the skill or ambition to undertake their own searches. The first deal with ISI was very successful, being adopted by some 76 institutions, but the second and third deals (involving the biomedical and

pharmacological database (EmBase) and Inside Information which provided access to the journal contents of the British Library's current journal holdings) attracted only 22 institutions (**Scanlon, 1993**). The ISI databases were initially available for searching via the Bath Information and Data Services (BIDS). **Pinfield (1998)** describes how the BIDS ISI service came to play a central role in bibliographic research in UK HE and provides details of its use at the University of Birmingham. Indeed, it was a sufficiently large change to move from mediated to unrestricted access that a Computer Board sub-committee was set up to review needs and policy and, in effect, retrospectively to validate the rushed decision. The advantage of this approach was that from the start a set of principles was established, mainly by the ISSC, to guide policy on datasets. With a budget of eight million pounds a year to acquire datasets and a nervous and uncertain publishing industry, the ISSC spent a lot of effort in determining its guiding principles. Some of this thinking was spurred by Harry East's comment that the committee's activity was pragmatism in search of a policy (**East, 1994**). Some ten years on, it seems worth rescuing these now forgotten principles from the mists of time, not least because they have helped shape where we are.

By 1994 the ISSC had developed the concept of the Distributed National Electronic Resource (DNER). The model was still seen as a centrally funded and driven one, but was to be based at five national data centres. One of these already existed as the Data Archive at Essex, whose funding was taken over by JISC; one was to be a new distributed model in the Arts and Humanities Data Centre, awarded to King's College London by competition. Also by competition, Bath, Edinburgh and Manchester Universities were designated as national data centres. The Edinburgh centre is known as Edina (http://edina.ac.uk/) and the one in Manchester as MIMAS (www.mimas.ac.uk/).

By this time the first ISI contract was coming close to renewal and so the DONUT strategy was created. This model described two situations. A core of universal datasets, such as ISI, would be purchased for all. This would be surrounded by a whole series of subject specific datasets. It was clear that the substantially positive response to the acquisition of the first dataset and its heavier than expected usage, as well as the public knowledge of the eight million pound budget would lead to publishers in general, and ISI in particular, to adopt a much tougher negotiating position. The DONUT strategy then offered ISI the option of being the jam in the doughnut or the hole in the doughnut; they could be part of the solution or part of the problem (**Scanlon, 1993**). The ISSC stance was deliberately hard. National deals were still a novelty and yet there was much more data than the budget could buy. If a publisher was difficult they could simply be ignored since there was always another deal to hand.

Underpinning negotiations with publishers were a set of principles that may now seem self-evident, but certainly were not obvious in the early 1990s. These were:

- *Free at the point of use.* This was certainly not a given. Charged mediated searching had been the norm and this had always been a source of irritation to the computer literate and a 1993 report stated that â€œ90 per cent of academics had their own microcomputer(**Waddell, 1993**). The determination to spread electronic methods of working which permeated all JISC programmes would be held back by charging, but encouraged by free access. The view was also heavily coloured by the fact that the membership of the ISSC was dominated by librarians for whom free access to information was an article of faith.
- *Subscription- not transaction-based.* This model had been developed by The Combined Higher Education Software Team (CHEST) based at the University of Bath for the purchase of software licences for UK universities (www.eduserv.org.uk/chest/). This again fitted comfortably with the librarians' view of how information should be made available and their experience with printed journal subscriptions. At that point publishers were pressing the transaction-based model. Fortunately, the size of the budget gave JISC sufficient clout to set its own terms, while the experience of CHEST in negotiation ensured success.
- *Universality.* The intention was to use the budget to cover all disciplines. This again was a hard fought debate. The pressure was to spend the budget entirely on big science research publications as these were the most expensive and therefore most at risk of being cancelled in most institutions. However, there was a clear wish to spread computer skills and practice throughout the HE community. It was felt that this would be greatly helped if every member of staff and every student had access to at least one resource that was essential to them.
- *Lowest common denominator.* In the same way it was clear that there should be something for staff and students at all levels. In the post-1992 world with double the number of universities there was no political will to set up an elite system of resources rather than a mass system.

- *Commonality of interfaces.* This turned out to be a clear area of failure, although it may have helped to develop thinking on interoperability. Every publisher had developed, or was developing, different search and operating systems for their products and it was clear that this was set to become a nightmare for users. The ISSC was confident that its financial muscle would allow it to start imposing sufficient commonality to make life easier for users. This proved a fond hope.
- *Common mass instruction programmes.* It seemed clear that such a large change required a major training component to deliver the full benefit of the principles. Initially, this focussed on a partnership approach with the JANET User Group for Libraries (JUGL). The issue remained prominent as JISC's work expanded and the Electronic Libraries (eLib) Programme funded the Netskills programme based at Newcastle University. Netskills was one of the seven projects funded in the Training and Awareness section of the eLib programme (www.ukoln.ac.uk/services/elib/projects/). The need continued to be important and this soon developed into a large enough activity to require its own Sub-Committee, CALT (Committee for Awareness, Learning and Training). At the same time much emphasis was placed on producing high quality documentation to support datasets purchased.

4. ISSC and the Follett Implementation Group on Information Technology (FIGIT)

When the Follett Report was published in late 1993 it endorsed further development of activity in what was now a JISC core programme of database and dataset provision and the development of network navigation tools and services (**Brindley, 1994**). When the FIGIT Group was set up in 1994 to implement the Follett recommendations, harmony of development was ensured through cross-membership of the two committees. The ISSC budget remained at £8 million per annum compared with FIGIT's £3 million. As a broad division of labour, FIGIT funded development projects and exploratory work through the eLib Programme, while the ISSC funded operational services and infrastructure. This was never a hard and fast rule, of course. FIGIT had the following initial thematic lines to pursue under Chris Rusbridge's energetic and imaginative leadership:

- electronic document and article delivery;
- electronic journals;
- digitisation;
- on-demand publishing;
- access to network resources; and
- training and awareness.

Matters of interest which fell outside those lines tended to be picked up by the ISSC. In terms of infrastructure the ISSC supported a number of activities. By 1995 the key ones were:

- *AGOCG.* The Advisory Group on Computer Graphics, which provided a single national focus for computer graphics, visualisation and multimedia. Based at Loughborough University it carried out software and hardware evaluations, ran workshops and seminars and assisted sites in the introduction of key technologies. It offered a then useful technology watch service. AGOCG ceased in 1999.
- *Cache service.* This was still a novelty in the mid-1990s when the provision of bandwidth (or more accurately the cost of such provision) was a major issue for JISC. Cache sites simply capture the international traffic and store it for a brief period. This assumes that the best guide to what will be used is what has been used. Early results showed that a modest investment in servers produced the equivalent of a large increase in bandwidth, and a national service was duly set up.
- *The Database Resources Research Group.* Evaluation was an early and important requirement for all services. It was felt that even a modest investment in electronic services would be better made in knowledge of how they were used. A small unit was therefore funded at City University (until 1998) to study who used network services and why.
- *CHEST.* CHEST was based jointly at Bath and De Montfort Universities. It was responsible for the negotiation of software and data purchases on a national basis, either through purchase or by licensing. Software purchasing was a longstanding Computer Board activity taken over and extended by ISSC; by mobilising the total purchasing power of the HE community, large discounts were acquired.
- *Resource discovery.* A review study of the Clearinghouse for Networked Information Discovery and Retrieval

(CNIDR) and of the Internet Network Information Center (InterNIC) in the US was completed in 1994 to consider how we might use these American ideas in a UK context to make generally available information on network developments and standards and to provide advice and leadership on local system design. Although not completely followed through this did lead to the development of resource discovery services (**Law and Dempsey, 1995**) such as ADAM, EEVL and SOSIG which are described in the next section.

- *MAILBASE.* It is now difficult to remember a time when e-mail was not the pre-eminent communication form. But in the mid-1990s it remained a minority activity. What did exist was often channelled through listservers. Mailbase was based at the University of Newcastle and organised the Listserv activity in the UK Its brief was wider however and it also set out to organise the communities which would operate listservers. In 2000 the Mailbase service migrated to JISCMail (www.jiscmail.ac.uk) and is one of a number of services provided by JANET (www.ja.net) provided by the UK's Education and Research Networking Association (UKERNA) and funded by JISC to benefit the learning, teaching and research communities in the UK.
- *UKOLN.* It is again difficult to remember a time when UKOLN did not exist, but in its present form it was created in 1992, when the much lamented British Library Research & Development Department and ISC agreed jointly to fund a new unit based on two older units at the University of Bath (**Dempsey, 1996**). Under a succession of energetic leaders UKOLN has become one of the outstanding bequests of the ISC (www.ukoln.ac.uk/).

5. Resource discovery

Perhaps the area in which the ISSC worked most closely with FIGIT was that of resource discovery. This operated at several levels. The first was overtly political. The first major and still ongoing service was the Consortium of University Research Libraries (CURL) OPAC (or COPAC http://copac.ac.uk) database (**Cousins, 1997**). While a good thing to do in its own right, the protracted negotiations with CURL to gain access to the database were very clearly signalled as being intended to undermine the cash-strapped British Library's much rumoured intention to charge for use of its new OPAC. It was also intended to provide some underpinning infrastructure to the document delivery strand of the eLib Programme, again potentially undercutting the British Library if it continued to raise document delivery prices.

The ISSC also took over and developed three existing services during the 1990s:

1. *Higher Education National Software Archive* (**HENSA, 1999**). HENSA was a shareware archive. It had two parts, with Unix numerical and statistical software offered from the University of Kent and PC software from Lancaster University. At Kent, Internet searches could also be performed using the archive server. In 1999 the HENSA service was superceded by the JISC's National Mirror Service (www.mirror.ac.uk/).
2. *National Information Services and Systems (NISS).* The NISS set of services was based at the University of Bath and concentrated on current information ranging from yellow pages to newspapers. It aimed to promote an electronic information culture through providing access to useful collections of information. It also acted as a gateway to other services and resources, including OPACs at UK universities, and provided information through the NISS Bulletin Board. In the early 2000s NISS became part of the Higher Education and Research Opportunities in the UK (HERO) website (www.hero.ac.uk/uk/niss/index.cfm).
3. *BUBL.* The BUBL Information Service, now based at the University of Strathclyde (http://bubl.ac.uk), offered an Internet current awareness service, together with organised, user-friendly access to Internet resources and services with a combined gopher/WWW subject tree being a particular feature.

But ISSC also worked with FIGIT on a more developmental approach and took responsibility for developing subject-based services, in response to user demand. These services had a common theme and a common set of standards. It was believed that attempting to catalogue everything on the Internet was not reasonable probably a bad decision in the light of Google's success! Instead, it was intended to make available a limited set of resources of importance to a discipline, catalogue and abstract them, ensure availability, and provide documentation and support. In an inversion of Gresham's Law that bad money drives out good, it was believed that good information would drive out bad. High quality information, properly catalogued, reliably available, properly documented and supported would be preferred to information of unknown provenance and quality, infrequently available and without support.

There was no commonly accepted standard for resource discovery and so the Resource Organisation and Discovery in Subject-based Services (ROADS) project was set up, to support the Internet Anonymous FTP Archive (IAFA) templates and encourage their use (**Heery, 1996**). It was felt that it was less important whether this was the right decision than to demonstrate that UK HE was seen as a major player with a right to a place in the fora where standards decisions were being made. The subjects covered were:

- *Art, Design, Architecture and Media (ADAM).* This project was based at the Surrey Institute of Art and Design and covered a quite unusual set of resources required by groups as varied as fashion design students and jewellery craftsmen (**Bradshaw, 1997**). Visual images were a major element here.
- *Edinburgh Engineering Virtual Library (EEVL).* This was based at Heriot Watt University and supported the engineering community (**Macleod and Kerr, 1997**).
- *Organising Medical Networked Information (OMNI).* This was based at the National Institute for Medical Research at the University of Nottingham and covered medicine (**Wood, 2005**).
- *Resource for Urban Design Information (RUDI).* This covered urban design and was based at the University of Hertfordshire and Oxford Brookes University.
- *Social Sciences Information Gateway (SOSIG).* This was based at the University of Bristol and covered the social sciences.

It should be evident from this list of projects that ISSC was firmly adopting the distributed model championed by the eLib Programme to ensure that as many institutions as possible were engaged in developing e-activity, as a means of ensuring the widest possible support base and the largest number of proselytisers possible:

1. By 2006 some of these services formed the UK's Resource Discovery Network (RDN) which comprised eight separate subject gateways.
2. Altis (hospitality, sports, leisure and tourism).
3. Artifact (arts and creative industries).
4. BIOME (health and life sciences).
5. EEVL (engineering, mathematics and computing).
6. GEsource (geography and the environment).
7. Humbul (humanities).
8. PSIgate (physical sciences).
9. SOSIG (social sciences).

However, as a result of a detailed planning and consultation process, the RDN service was extensively re-structured and re-branded in mid-2006 in order to create a new more consolidated service with closer integration of subject areas, and to provide a single interface for users. The resulting service, known as Intute, was launched in July 2006 (www.intute.ac.uk).

6. Conclusion

The work of the ISSC is largely and perhaps rightly forgotten, and usually, but incorrectly, subsumed under the general banner of the eLib Programme. This is of little moment other than to those directly concerned. FIGIT and the eLib Programme defined a decade of momentous change and quite clearly changed a centralised institutionally based information culture, to a personal, individual desktop based information culture; and yet few of the 70 or so eLib projects have survived or are remembered, except in the fond memories of the good old days. Paradoxically, as described above, much of the work and infrastructure created by ISSC survives, yet the committee itself is forgotten. ISSC and FIGIT were harmoniously working the same patch until both were reconstructed in 1997. ISSC does however, have one bit of work that has faded away, but deserves not to be lost. It articulated the principles of acquisition and the concept of a distributed national resource. The latter has been usefully recast at least twice as the world has moved on, but the former has passed into a comfortable desuetude which perhaps denotes the acceptance of the principles as a norm; but an occasional reminder that the HE community acts on principle and not just pragmatically is no bad thing.

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About the author

Derek Law is Librarian and Head of Information Resources Directorate and Research Fellow in the Centre for Digital Library Research at the University of Strathclyde, Scotland, UK. Derek Law can be contacted at: d.law@strath.ac.uk