* to investigate software options for the production of *ARI* from the beginning of volume 8 (1996);

* to include multi-author works (eg Festschriften, proceedings) in the index from the beginning of volume 8 (1996).

In a series of constitutional changes, the Association reduced the categories of financial membership to one (with institutional membership restricted to one representative) and introduced the category of Honorary Life Membership. It subsequently elected Dr Lawrence McIntosh as the first Honorary Life Member. During the conference dinner, McIntosh also became the recipient of the first *Trevor Zweck Award* for his publication of *A style manual for the presentation of papers and theses in religion and theology*. (Available for A$20 from the Centre for Information Studies, Locked Bag 660, Wagga Wagga NSW 2678. Phone: (069) 332 325. Fax: (069) 332 733.). The Association also ratified the financial commitment involved in the publication of a Festschrift in honour of McIntosh, entitled *So great a cloud of witnesses: libraries and theologies*, edited by Philip Harvey and Lynn Pryor. (Available for A$20 from Philip Harvey, Joint Theological Library, Ormond College, Parkville, Vic, 3052. Phone: (03) 9347 8480. Fax: (03) 9349 1857).

The Association also adopted the Australian Council of Libraries and Information Services schedule for Interlibrary Loans, with its base rate of A$9 for a book or an article of up to 10 pages. It also fixed the membership fee for 1996 at A$40 and the newsletter subscription at A$20.

Office-bearers who were re-elected are: Trevor Zweck (President), Val Canty (Secretary/Treasurer), Irene Mills (Editor of Newsletter), Judith James (Assistant Editor) and Helen Greenwood (Statistician).

The next conference is to be held at Perth College, Mr Lawley, Perth WA, 10-13 October, 1996, under the theme: 'Tradition and technology: theological libraries in the electronic age'. The co-ordinator of the conference is Lynn White, who is also the Extra Member on the Executive for the ensuing year. She can be contacted at the Baptist Theological College of Western Australia, 20 Hayman Rd, Bently WA 6102. Phone: (09) 361 9962. Fax: (09) 362 1603.

DIGITAL LIBRARIES AND GOD IN CYBERSPACE: Opening Address of the 10th ANZTLA Conference

Colin Steele

I'm very pleased as University Librarian to be able to welcome you to the Australian National University. I hope you have a chance to look at some of the information technology advances we are making at ANU as well as, of course, seeing our very strong print stock, which owes much to Robert Barnes *of* the Classics Department. We have pioneered the Electronic Reserve in the Chifley Building which provides 24 hour access to material for students, not least in Halls of Residence and from home with appropriate copyright and password cognisance. ELISA, the Electronic Library and Information Service at ANU provides Internet gateways to the world.

With reference to digital libraries, the Net is the key to universal access and dare I say, in advance of Cliff Law's talk, that the GDC - Global Distributed Collection is the key rather than the DNC - Distributed National Collection. I believe in strong regional cooperation but after that, at least for the larger research libraries, the Internet makes the world an oyster. As we all know, however, some of the oysters or URL's are empty or have grit rather than pearls!

Leading scholars throughout the world will interact with students outside their own university in a real time environment. Professor Richard Lanham (1993) of UCLA has argued on a number of occasions that the whole process of learning will be radically changed as knowledge moves away from linear access. Irrespective of the disappearance of the non sequential learning process, the merging of educational and information technology will see teaching and learning patterns changing dramatically.

As one of the leading IT proponents, Professor James O'Donnell, a classicist of Pittsburgh, has written "Tools as powerful as networked computers are going to transform human communication. This transformation will bring with it both loss and gain. Every revolution in communication has both added to the power and range of what is communicated, and taken away some of the intimacy. Writing began the long, slow disestablishment of the face to face community of people who all knew each other, and every communication technique introduced since then has furthered that process".The changes we are seeing at the present time with the conversion of telecommunications, computing and Net publishing with association indexing and retrieval tools is bringing about a revolution which many have indicated is similar to the transition which took place in the fifteenth century from manuscript scriptoria to print. As Professor Elisabeth Eisenstein has indicated this fifteenth century change had profound societal effects and effects of the Net revolution will be as profound as we enter the twenty first century.

It is interesting to note that the term digital is now replacing the term electronic or virtual in information technology because we are looking at digitized forms of information being available as never before. But with much information still present in traditional print sources, we need to challenge the dominance of the major multinational publishers, particularly the scientific ones. We now need to revert to the intellectual preeminence and ownership of information by the academic community, eg. returning to the publication sponsorship of learned societies such as the Royal Society in the 1660's or to the Universities themselves.

I'm not going to go into any great detail here re library issues as I've addressed them in my 1995 UK Follett lectures (Steele) (http://snazzy.anu.edu.au/CNASI/pubs/Follett.html or http://ukoln.bath.ac.uk/follett lectures/new romances.html) but the economics of information being given away by the scholarly community to multinational publishers, who at vast expense sell it back to University libraries and individuals, is becoming more and more absurd. Elsevier/Reed, one of the major academic publishers and information providers has recently announced a £358 million profit and a significant double digit inflation/increase in serials subscriptions in 1995/6 in the United States. Tenure has always been one of the criteria in terms of publishing in print journals as well as academic respectability. However, electronic refereeing is no longer dependent on print. It is medium independent and will be increasingly used in electronic journal or access provision.

The Higher Education Funding Council in the UK in its response to the Follett Report allocated £15 million to modernise the UK higher education information system. In Australia the $5 million allocated in 1993 following the Academies Scholarly Communications Forum runs out in 1996 and future grants need to be provided for national initiatives. Individual universities are notorious for a lack of support for naturally coordinated library and information activities - as the spirit of individual competition prevails. The DEET programme which has been split into Datasets, Network Information Coordination and Electronic Publishing, has been innovative and stimulated national coordination. In the national datasets initiative ISI's Current Contents has been taken up by 35/38 of the universities after seeding funds; the ABS (Australian Bureau of Statistics) database has so far been taken up by 28 of the 38.

Libraries in the past have concentrated on the outward cover of the book, ie, bibliographical details but in the fact they will provide access to the contents of the book or article.

To achieve these changes of access successfully, academic libraries will play a major role in determining and implementing policy on

a) information access and dissemination throughout their institutions.

b) integrating their information into networks, campus, national and international.

c) training and developing the members of the institution to make effective use of this information.

d) providing networked access in addition to information originating outside the institution.

Good networked access (internal and external) will require effective access tools on the student's or researcher's terminal showing what relevant information is available and what charge (if any) has to be made

to the individual or the institution for providing the information. Site wide licenses will increasingly be the norm.

In this context it seems likely that there will be a move away from designing courses and then expecting the library to supply appropriate learning materials to designing courses around the availability of appropriate electronic documents and networked resources. Librarians will need to develop a high level of comprehension of the educational perspectives of academic staff and find a suitable mechanism for appropriate dialogues.

In the new electronic world each academic can be a publisher. The essential elements of "deconstructing" the print journal will allow an expansion of access to material eg., numbers of articles on a server in a subject or chronological framework being available to specialists eg., in history or chemistry. Students will be able to find their articles, and course work in customised electronic format. Some of this student course material may well be given out in small credit card format With data encoded and the cards slipped into hand held "reading screens" as currently postulated by the American Publishing Association. Such readers will have variable list screen and changeable typeface to aid those with visual problems.

To turn to information provision and control and to use one discipline to provide one subject vantage point, Odlyzko (1994) has argued that half of the world's mathematical papers (circa one million) have been published in the last ten years. There is no way the traditional library structures can cope with such a rate of production, i.e., the doubling of the world's mathematical literature in the next twenty years. A sophisticated combination of scholars and librarians coordinating learned societies input and output of articles on the Net could displace print libraries as we know them today.

Recent grants (May 1995) issued under the aegis of the UK Electronic Libraries Programme includes a wide spectrum of electronic initiatives in training document supply and publishing. Included in the latter were 'Electronic Seminars in History and Review in History', with the Institute of Historical Research being the lead institution, and 'Sociological Research Online' with the lead institution being the British Sociological Association. Similarly in the USA the American Association of University Press/Coalition for Networked Information initiative includes a wide variety of subject topics, such projects as SCAN - 'Scholarship from California on the Net' with an initial focus on nineteenth century literature and classical antiquity.

This author is on the Editorial Advisory Board of the new electronic Australian Journal of the Humanities funded by DEET via the AVCC Electronic Publishing Grants Scheme which is based at La Trobe University and will not be available in print form. Electronic article access will also allow flexibility in searching and a timelessness of access which is impossible in a print environment.

The UK SuperJournal Consortium announced recently it has a grant of £833,000 to develop multimedia electronic journals. The UK Higher Education Funding Councils will fund the work over three years. Project work begins immediately, and the first electronic journals will be ready in March 1996. The SuperJournal Project is a major collaboration between publishers, librarians, and universities. The aim is to develop the electronic journals of the future that researchers, students, and librarians find useful and usable. Electronic journals in the project will be based on quality refereed journals that exist in print today, but with innovative electronic features such as interactivity, hypertext linking, video, animation, and 3D graphics.

An important feature of the project will be to use industry standards and off-the-shelf tools to develop the electronic journals. Standards for structuring the information, like SGML, and standard file formats will be used. Vendors of user interfaces, browsers, and search/retrieval programs, and multimedia handling tools will be invited to provide software for the project.

Project partners include the 21 publishers of the SuperJournal Consortium, University of Manchester, and Loughborough University of Technology. Each publisher will contribute journals and be involved in developing the multimedia features. The University of Manchester will develop the host infrastructure to make them available electronically to user sites.

Of particular interest for the future is answering the scaleability questions: How do you handle large quantities of multimedia content? David Pullinger, Project Director, has said in the press release 'The project

is unique because of its scale and collaborative approach. By teaming together publishers, researchers, and librarians, we can achieve what none could do alone. The critical mass of journals, the testbed environment and network of users will enable us to translate the printed journal into new electronic paradigms. It's a real opportunity to redefine the scholarly publishing process, from author, to publisher, to library, to reader.' We need to be part of this process in Australia.

Fewer academic monographs are being bought each year as prices rise to maintain revenue or profits. Cambridge University Press publish 500 copies of each academic monograph. Increasingly we will be able to access published electronic archives and download parts of books, ed., chapters or articles in symposia, directly to desktop via individual payment or site wide licences. The Head of Australia's Copyright Agency Ltd, Michael Fraser, controversially postulated, at the Australian National Scholarly Communication Forum in June, the transformation of libraries into electronic bookshops where customers buy licensed articles or chapters thereby supplementing or even replacing the traditional academic bookstores. Copyright is protected by site wide license fees or password access.

Universities will become Internet publishers. The US Copyright Clearance Center (on the Web at www.directory.net/copyright/) offers an Automated academic permission service for obtaining the rights to course parts, ie custom designed anthologies for class. Australia has recently seen unsuccessful legal action by CAL over course related material sold by universities. In the US Richard McDaniel, President of the National Association of College Stores has said that at Cornell University, sales have soared from less than $70,000 in 1989 (when virtually all the product was produced elsewhere) to over $700,000 in 1993 (when the product was largely produced or controlled internally). McDaniel has warned, customers will get what they want, if not from him, then from someone else. The future will be high tech and campuses must use that technology to get close to the customers and give them what they want.

Libraries at the moment are in a difficult position as they try to balance the control and orgnisation of existing print collections with the need to make available information electronically both locally and then to provide links to related international information. Users generally still want both forms of information while budgets remain static and are declining in real terms. The only flexibility in a stale or declining budgetary framework is to redistribute elements of the print vote to electronic access.

Issues which need to be addressed are the organisation of material on the Net, the effectiveness of the organisation in your local CWIS, and not least network infrastructure. The problems of printing and network delivery printing on a campus need to be addressed. One US commentator, Dr Clifford Lynch, has commented at the Washington April 1995 Coalition for Networked Information meeting that "printing is the problem from hell". Most users however still want to keep print copies, from Net access, so that we need to factor in effective network delivery and highspeed printers all of which have significant cost components.

Digital library developments will ensure the independence of place via appropriate access mechanisms, apart from heavily used items. It is also accelerating the campus convergence of relevant access and delivery structures, because unless the network access and delivery infrastructure is in place user effectiveness will be reduced. It is clear that relevant university structures must also evolve or universities will be left behind. The form this will take around the world will mean radically different organisations in the future as authors, publishers, libraries, computer network and multi-media centres come together to provide more integrated and comprehensive storage, production and access facilities.

Information overload, however, is becoming a pre-eminent feature in every single field of knowledge, let alone cross-disciplinary foci. Nicholas Negroponte (1995). the Head of the MIT Media Laboratory, has made analogies in this context with an "English butler", who provided a physical sifting mechanism for entrance to a home (including presumably referrals to the tradesman's entrance - the equivalent of junk on the Net!) and that now we require them for the digital environment! As Negroponte has said digital changes - eg. are not simply affecting computing but essentially society as a whole.

It is not the place here to go into detail on copyright. My paper for the National Scholarly Communications Forum earlier this year organised by the Copyright Agency cover some of these points in the published papers. The ANU has pioneered an electronic reserve; with copyright procedures in place, so that when

AVCC and CAL finally negotiate a suitable remuneration access package, the data can be successfully incorporated. The twenty four hour access has been a major success despite costing $100 per item - costs have been high as we have been taking print originals, scanning and providing hypertext links. Obviously this will change as we increasingly receive suitable electronic originals from this academic community who also place course notes etc on the CWIS.

Students have been extremely appreciative of this password protected service also available from home or via the Halls of Residence. Twenty four hour access is the key to obtaining access to information to the library when it is closed as well as when it is open. There is really no impediment now to moving on to network access "reading bricks" in the future. I believe libraries and developments operating this electronically will allow better usage, better control and perhaps better direct copyright remuneration to the authors than they have at present.

I recall Averill Edwards' keynote address to your first conference in 1986. Maybe the Internet does provide a situation whereby international resources can assist a discipline, ie, theology in which staffing, collection and services have been more affected than in the general university library services.

In that context some of you may be well aware of the listings that are available on the Net in terms of theological resources but I thought for those who are not I'd attach some of the basic lists* and thus resources on the Internet that I was able to find quickly. In that context I would argue the need for Internet connections either through other institutions or commercial providers, would be well worth the cost to gain access to theological web sites. I note that one of the sites is called "God in Cyberspace"!

I'd like to conclude with a reference from Phillip Adams's *The Penguin Book of Jokes from Cyberspace* in which the question is asked "Why God never received tenure at any university?

Answers

1 He had only one major publication.
2 It was in Hebrew.
3 It had no references.
4 It wasn't published in a referee journal.
5 Some even doubt he wrote it himself.
6 It may be true that he created the world, but what has he done since then?
7 His co-operative efforts have been quite limited.
8 The scientific community has had a hard time replicating his results.
9 He never applied to the Ethics Board for permission to use human subjects.
10 When one experiment went awry he tried to cover it up by drowning the subjects.
11 When subjects didn't behave as predicted he deleted them from the sample.
12 He rarely came to class, just told students to read the Book.
13 Some say he had his son teach the class.
14 He expelled his first two students for learning.
15 Although there are only ten requirements, most students failed his test.
16 His office hours were infrequent and usually held on a mountain top."

Thank you.

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*Please contact the editor for these.