

ARCLIB BULLETIN 2

MARCH 1994

EDINBURGH CONFERENCE DATES:

The 1994 ARCLIB conference will be an international affair with the theme of networking. This covers not just electronic networks but links of all kinds between professional colleagues both within and between countries. The conference will be held on 13-17 September and will include a trip to Glasgow. Full details will reach you in the near future and the next Bulletin will preview some of the topics to be discussed. We hope to see as many of you as possible, especially those who have recently joined ARCLIB, whom we are keen to meet.

WELCOME TO LUTON

Britain now has another School of Architecture, at the University of Luton (formerly Luton College of F.E.) Architecture Librarian, charged with establishing a collection, is Joan Drage. Joan has joined ARCLIB. Members will no doubt give her any help and advice they can.

NEW SCHOOLS NETWORK?

"University of Portsmouth to launch a network for Schools of Architecture", proclaimed the headline in the AJ (9 February, p.8). According to the story, Acting Head of the Portsmouth School, Wendy Potts, strongly encouraged by RIBA president Frank Duffy, wanted to see a network involving "a register of names, a regular bulletin giving news, areas of interest and activities in each School". Just what ARCLIB does in fact (give or take the word "regular" in connection with the Bulletin!). A discussion with Wendy Potts revealed that her view of the project was somewhat less ambitious than suggested by the AJ; all she is aiming for, she says, is a means by which individuals in each school might know who their opposite numbers are elsewhere, and how to contact them. No formal structures are intended; whether the list of contacts results in increased "networking" activity between schools will therefore be up to the individuals concerned. ARCLIB will naturally keep an eye on developments with a view to possibilities for mutually beneficial collaboration.

NMR TO MOVE

The National Monuments Record is to move to the West Country. From April 1994 their address will be:

National Monuments Record Centre
Kemble Drive
Swindon
SN22GZ

Tel. 0793 414600

GOPHER IT!

Being assiduous professionals (with plenty of time for reading!) members will all be aware of the enormous interest within the profession in INTERNET and its potential impact on the information world. You may even know about Gophers: essentially these are message-handling devices which run around the world-wide network looking for databases which meet specified criteria. Oxford

Brookes have a pilot scheme under way to establish an architecture gopher. It is hoped that there will be a paper on the Brookes architecture gopher (BAG, perhaps?) at the Edinburgh conference in September.

YE OLDE YEOMANS

David Yeomans gave a paper at our York conference on the problems caused for building historians and conservators by the fragmented nature of printed documentary sources. He has a paper on this subject coming out in the forthcoming issue of Journal of Documentation (perhaps not a source habitually perused by ARCLIB members!). See D.T. Yeomans, Sources for the building conservator and historian, J.Doc 50 (1), March 1994.

AVERY STILL IMMINENT

Avery Index has been imminently expected for some time. The long-awaited product has been announced by the U.K. Distributor, Thomson Henry, at a price of £686 (enquiries to Thomson Henry on 0344 24615). The database will use the "Nimbus Romware engine" and the search & retrieval software is being written by G K Hall (another new wheel - what's wrong with good ol' Silver Platter??). At the time of going to press our contact in the U.S. had a copy in his possession, so it shouldn't be long now. We hope the next issue of the Bulletin will carry a product review.

....URBADISC LESS SO

The London Research Centre had hoped that the new version of URBADISC would be out by the end of January, but tell us that there has been hitch with the software. We hear that after a prolonged period of uncertainty they have now abandoned the new software, which was to have involved using a mouse and "hypertext-like" features, and are working on an update using the same software as previously. As a result of this U-turn (of Major proportions?), release date for the update is now late April. The new URBADISC was to have cost £500 p.a. for a single copy or £750 for a network licence; whether these prices still apply in the light of the changes remains to be seen. Enquirers should ring Annabel Davies of the LRC, tel. 071 627 9661

BARBOUR TO GO ELECTRONIC

Barbour Indexes Ltd have until now resisted the trend towards CD-Rom, insisting that their practice clients prefer microfiche and that in any case fiche has many advantages over CD-Rom (suggestions on a postcard please?). However, they have recently announced their intention to produce electronic services for the construction industry. These will they say, be "electronic based expert systems, providing a structured approach to decision making". The new services will be "not only revolutionary but unique in the construction industry". Further details are not available at this stage; even Barbour sales staff claim not to know what is planned.

BOOKFUND SURVEY

Last year Norman Ashfield of the University of Central England attempted a survey of library funding for architecture courses. He received few replies; those he did receive suggested that financial structures, if not funding levels, vary widely.

At last year's AGM the suggestion was put forward that a second attempt at such a survey might be worthwhile, under the auspices of ARCLIB rather than Norman individually. Norman is now working on a draft questionnaire which will aim to

tease out information about the different methods of funding and establish some meaningful basis for comparison of funding levels, at least among institutions of comparable type.

INFORMATION SOURCES IN ARCHITECTURE

Valerie Nurcombe, née Bradfield, is working on an update of the above work the first edition of which she edited for publication in 1983. She is looking for contributors for a couple of chapters. For those undertaking this work a sum of money will be forthcoming; this sum is believed to be not unadjacent to £80.

Anyone interested should contact Valerie on 0606 558242.

Papers from the Belfast conference are either reproduced here or summarised by rapporteurs Julia Barrett, Keith Parker and Ian Mayfield. Before concentrating on the theme of the conference, "From Document to Disc", the first two speakers set the local scene for those of us who were unfamiliar with the architectural heritage set-up in Ireland.

Nick Brannon: The Monuments and Buildings record, "Hill Street, Belfast"

The following is a transcript of Nick Brannon's paper:

The (Northern Ireland) Monuments & Buildings Record (MER), housed within the Environmental Service: Historic Monuments and Buildings (ES: HMB) premises in Belfast, was officially opened as a publicly-accessible facility by Robert Atkins MP, Minister for the Environment, on 27 October 1992. The opening fulfilled a government White Paper commitment and goes some way to meeting the new Environmental Information Regulations (EI) 1993, which derive from an EC Directive on access to environmental information. Pressure for such a facility began in the 1980s, led particularly by the Ulster Architectural Heritage Society. In 1990 Mr. Peter Bottomley, then Minister for the Environment, announced the Department's commitment to create the MBR. The transfer of ES: HMB to its present Hill Street premises (a listed building once owned by the Bushmills Distillery group) facilitated the allocation of space for the Record. Although now open to the public, it is stressed that the MBR is an evolving resource, with much time and money needed to provide a comprehensive provision. The MBR has an important role as a working tool for the staff of ES: HMB, as well as a public resource.

The Monuments and Buildings Record is a non-intensive record, that is, it embraces a group of records which have separate origins and functions, listed below. Longest established and best developed is the NI Sites and Monuments Record (SMR), which to date contains information on some 12,800 archaeological sites in the province. Established in the 1970s, the SMR is map-based database which forms the main protective tool for archaeological sites, being distributed in map and list form within government departments and services - planning, agriculture, forestry, drainage, water, who interact daily with landowners and the general public. Some SMR material has also been copied to local historical societies. The SMR includes maps, card indices, site descriptions, management files, photographs, transparencies and drawings. It also houses archives and artefact collections from archaeological excavations, most of them undertaken by ES:HMB.

Over 50% of the basic SMR data is computerised on a self-built system. A detailed feasibility study towards an ES:HMB-wide computerised system for monuments, buildings and maritime sites, suitable for internal and public access, is to be undertaken in 1993.

ES: HMB maintains a statutory list of some 8,000 buildings, available for consultation in the MBR. The major difficulty with public access provision, beyond the lists themselves, is that detailed architectural data are not at present separated from administrative/financial papers. This probably will be addressed in 1993. The Buildings Record, begun in the 1950s, includes information on non-

listed as well as listed buildings, and records donated by architectural practices and private individuals.

The Industrial Heritage Record includes the province-wide Industrial Archaeological Record and the Greater Belfast Industrial Archaeology Survey. The McCutcheon Industrial Archaeology archive is on loan to the MBR from the Public Record Office of Northern Ireland, but at present is mostly inaccessible to the public.

The Historic Gardens Record (the basis of the Inventory, reviewed in Ulster Local Studies 14: 1 (1992), 53-4) was compiled at Queen's University Institute of Irish Studies, and deposited in the MBR by the NI Heritage Gardens Committee. It contains information on over 600 historic gardens. The ES: HMB Library includes many books and journals on loan from the Public Record Office of Northern Ireland.

PRONI was also the source of numerous Works Service files, containing architectural information on public buildings in the province, and the University of Cambridge, St Joseph collection of aerial photographs.

ES: HMB has recently assumed responsibility for maritime archaeology in Northern Ireland waters, as agents of the Department of National Heritage. It will be producing a maritime database for use in designation and protection of historic wrecks, in co-operation with the Royal Commission on Historic Monuments, England.

The MBR is headed by a Senior Inspector of Historic Monuments. An Executive Officer (grade 2) handles administration, copyright and general queries, and a Curatorial F (Architectural Records) post was filled in autumn 1992. Most ongoing data enhancement (e.g. computer inputting, systems checking etc.) is handled by contracted staff. In its first month of operation the MBR received 60 visitors, and it is expected that enquiries to the Record will gradually increase as its availability becomes more widely known.

The Record is open on weekdays, from 9.30am to 4.30pm (closed for one hour at lunchtime from 1.00pm), and is modelled on similar facilities, like the English National Monuments Record or PRONI. Visitors to the Record are welcomed in the search room, where the nature of their enquiry is established. The computerised SMR data is available to the public on an easy-to-operate terminal, but most data - such as map-based locations, or listed buildings schedules - have to be manually accessed. Wherever possible, visitors are encouraged to pursue their own lines of research, using catalogues and other synthetic works to request documents from the archive stores, but help is available. Non-Record staff, such as the archaeologists and architects in ES: HMB, are not 'on call' for specialist queries, but can be consulted by appointment. Photocopying and photographic reproduction facilities are available, at standard charges, while copyright fees may be levied as appropriate.

Just before its public opening the MBR acquired, through purchase, much of the Clokey collection of stained glass window designs. Clokeys was a stained glass manufacturing company operating from Belfast in the first half of the 1900s, and their products were used throughout Ireland and elsewhere. This valuable acquisition typifies the long-term role of the MBR. Architects, estate agents, antiquarians and other enthusiasts for the built heritage are encouraged to deposit material in the MBR archives. All donations will be acknowledged, and wherever possible the archival integrity of collections will be preserved.

An important landmark was reached with the opening of the MBR to public access. With an evolving resource much work remains to be done to improve the management and accessibility of the constituent Records, to publicise the facilities on offer (including through exhibitions), to acquire archives from the private sector, and to establish working relationships with other Records in Britain

and Ireland. The MBR space will also be used as a venue for small exhibitions, launches of publications, and meetings. The role of the MBR within the DoENI Environment Service, as a provider of environmental information used to shape and implement policies for protection of the man-made heritage of Northern Ireland, will remain a central concern.

Dr. Edward McParland, Trinity College Dublin: Irish Architectural Archive

The Irish Architectural Archive (IAA) started out as an idea - Nick Robinson's - that there should be a photographic archive of Ireland's architectural heritage. By 1976 the idea had gelled into reality with an initial £30,000 donation from the Heritage Trust and one full-time employee.

Nearly 20 years on the Archive has moved premises (donated by the Government), has two full-time permanent staff, three almost full-time and innumerable volunteers. Its annual budget is around £150,000, much of which has to be raised through various commissions, selling of publications and fund-raising and with about 40% provided as direct grant by Government. The Archive's collections have grown to 250,000 photographs; 50,000 drawings; models, prints, books, news cuttings, journals etc. With such growth, a more defined mission has become necessary from the original generalised one, and the Archive's main aims today are to:

- .stay in business
- .collect
- .keep safe what is collected
- .make the collections accessible to the public

The stated aim of staying in business highlights the nature of the IAA as an essentially voluntary organisation. What started out as a small, pioneering, entrepreneurial outfit with few pre-conceived roles for those working within it has now become a large and important national collection. The scale of its operation demands a shift to a more formal style of management.

The voluntary nature of the IAA has its advantages: the services of many of the most noted architectural historians have been poured in free. The IAA is an independent organisation free to do what it wants. There are, however, disadvantages: apart from the time spent fund-raising, the IAA has to resist the temptation to undertake commissions merely because they are profitable; it has to reassert repeatedly its architectural and archival priorities.

The aim of collecting is achieved by taking photographs, copying old ones, and seeking out donations. "By merely existing, an archive attracts, salvages, solves people's storage problems!" Exactly what it collects, and how, is dictated by an inevitably opportunistic policy.

The third aim of keeping its collections safe poses problems familiar to librarians and archivists. The threats are from fire, theft, physical handling, temperature and humidity. Some of the problems are special to an organisation handling card models, tracing paper and photographs as well as the more familiar books and journals.

Making its collections accessible to the public results in nearly 2000 visitors a year to the Archive with that number again in written and telephone enquiries. The retrievability of information and objects is achieved through the provision of card catalogues; a database is gradually being built up. The main collections, that is the photographs, are stored and numbered, in boxes, on open access. Who uses IAA? "Every Tom, Dick and Harry who wants to know something about a building". Practising architects; architectural historians; planners, conservationists AND developers; students of history, geography, art history and of course architecture.

There are strong links with the architectural profession and the schools of architecture, with students contributing (for example with measured drawings) as well as benefiting. There is, however, a fashionable element in all of this: maybe another age will come again when, as in the 1930's, 40's and 50's architects and students believed that the past was dead, that styles were a lie, and that the *tabula rasa* was a realistic goal. In an age thus limited, there would not be much of a role for the IAA or the Northern Ireland Monuments and Buildings Record or the NMR's or the RIBA drawings collection. But architects, let us hope, will never permanently lose interest in studying the records of how their predecessors battled to attain commodity, firmness and delight.

JB

Simon Grant, Royal Commission on the Historical Monuments of England: York multi-media project

The RCHME produces its own archive, of photos, drawings, survey records etc., for some 200,000 sites, as well as acquiring records from elsewhere (e.g. Country Life photographic archive). Digital processing is becoming seen as the only viable means of accessing this mass of information. Besides offering a radical and cost-effective method of handling the records, it can also contribute dramatically to the activity of organisation, whether in publications, outside enquiries, environmental assessments etc.

A project was set up to investigate the potential for applying digital processing to such an archive to assess what it could offer in integrating selections of available information, test user reaction to a multi-media approach, and help RCHME's own information managers appreciate such a system's value in the context of the National Monuments Record.

York was chosen because of its historical importance, compact area, and the amount of available information. About 100 buildings were selected, with records combining text, photos, paintings, plans etc. being entered on a 400Mb hard disk linked to a high-quality colour monitor. A menu offers mouse-driven searching by map, street name, date etc. or by browsing across photos, branching out into increasingly detailed information.

Much work had to be done on the standards for capturing, storing and reproducing the information, especially in image form; these were scanned with cameras and then digitised, with generally acceptable results. The scale of the operation was brought home to us when Simon Grant pointed out that for York Minster alone 300 images were chosen from about 10,000.

A major priority for RCHME in the coming decade will be the integration of its information systems, with large-scale use of multi-media products, plus distance access. Long and short-term benefits could include reduced costs in the public provision of information, reduced wear and tear on archival material, maybe increased income generation.

However, management, planning and production of the right product would not be easy, though (starting with the conversion of about 7 million items already in the archive, plus continued additions). Guarantees would be needed not just on the hardware and software needed to cope with such a collection but also on a long life for the system (archive and similar bodies do not view built-in obsolescence in the same way as manufacturers and business might).

The York project has produced a prototype which is very useful in its own right. It has also allowed the team to focus on technical, commercial and other interests which RCHME must consider. The Commission is a body of slender means but long-term responsibilities, and it will need to examine such new methods carefully to be sure they really are the answer.

Michael Good: the Pevsner database on CD-Rom

While the publications of the RCHME may stand pre-eminent as works of scholarship in the recording of historic buildings, for large areas of the country the first call for information is "Where do you keep your Pevsners?" The next presentation was by Michael Good, who offered a look at his own journey 'from document to disk' over the past 4-5 years. The documents in question were not only individual volumes of the Buildings of England series but also the virtually unknown card indexes to them which were begun at the instigation of Pevsner himself and are now deposited at the Society of Antiquaries.

Michael Good's own interest in the series led him to propose to Penguin Books the production of an index database, and with their approval he has spent 5 or 6 years (mainly self-supported, with only limited funding) developing just such a tool offering typological, chronological and other forms of access to the whole series. A reprint of his article "Computerizing the Buildings of England: conflict or continuity (Computers and the History of Art vol. 1, 1990, pp53-69) was distributed to provide more detail than Michael could give in his talk.

My admiration for someone who could take upon himself such a mammoth task (however desirable) with very little support increased still further when he gave us a look also at the complications of dealing with one publisher who owns the original work and another who is interested in issuing the index.

Publication is expected from OUP Electronic Publishing around mid-1994, when maybe the question 'Where are your Pevsners?' may be followed by another: "Do you have a Good Index?". Its success will be richly deserved.

Editors footnote: A beta version of the disc has been tested by ARCLIB members Catherine Tranmer, Sylvia Harris and Ian Mayfield: reports are now being sent to the publishers. From recent conversations it would seem that views are mixed!

Tony Burton: New Towns Archive

Documentation of a more recent time was the subject of the final session of the day, by Tony Burton of the Planning Exchange, Glasgow. The Exchange is one of four partners in a consortium developing the New Towns Urban Design Archive (the others being Hertfordshire Universities Electronics R & D Centre, the Commission for the New Towns, and the Scottish New Towns).

As Tony pointed out, the new towns movement in Britain was one of the most important and longest lasting instruments of social policy in the world, 50 years of continuous activity leading to the designation of 34 new towns. With all except Scottish ones now handed over (and those soon to follow), the question arises: what happens to all the records? Where could a would-be student be directed? Answer: NTUDA.

NTUDA aims to develop a mixed mode database of urban design in the UK new towns, developing the database in line with the most advanced technology available. It will provide access to all interested parties, and hopes to stimulate the creation of similar resources in other countries.

Accumulating resources from design teams, Government departments, the BBC, commercial companies (for aerial photos), slide collections, correspondence etc., the archive currently holds such items as précis of master plans, data sheets, essays by many of those directly involved (architects, planners), maps and photos.

Funding, at the time of speaking secure only until December 1993, comes from the BL R&D Department, the Scottish New Towns, Milton Keynes, Telford and

the Commission for the New Towns (how might this arrangement compare with those of other countries)?

The technology used is a Macintosh Quadra 950 with a QuickTime interface to access data sets stored on erasable optical discs. Each document can contain four types of data elements: text, pictures, sound and video. The last three types need compression to cope with storage problems. Navigation is by both linear and non-linear linking.

At present access is only available for visitors at one location, but it would be possible to publish parts on either CD-ROM or erasable optical disks. As SuperJANET develops, this could also provide a means to disseminate data.

Tony closed by pointing out that Ebenezer Howard's first book, the starting point of the new towns movement, appeared in 1898. What more suitable way to mark the centenary than with a publicly-available archive of this outstanding achievement? Let us hope the powers that be show a similarly enlightened attitude.

KP

Jeff Johns Information, architects and libraries

Jeff Johns reviewed the nature of information use by architects and the problems associated with this, and went on to describe an information system designed by the Welsh School of Architecture which attempts to address some of these problems.

Jeff pointed to some of the issues highlighted by the substantial literature on the use of information by architects:

1. research findings are either not disseminated to architects or are not taken up by them; this is perceived by some as being directly linked to building failures, since defective practices are replicated even though the remedies are known.
2. Architects rely heavily on trusted information, principally passed on by colleagues or other professionals. Documentary sources are little used except for one or two core journals and mandatory information such as Building Regs, Standards etc.
3. existing information sources concentrate on technical information, there has been little in the area of initial design ideas.

The potential of computers for addressing the information needs of architects was reviewed. Advantages include fixed access (i.e. the computer doesn't "walk" as printed sources do), centrality of location, periodical updating, the ability to find 'contextual' information often missed when browsing; plus the accepted strengths of speed and power. On the other hand, many people are still resistant to computers (and to VDUs for health reasons), computers are not portable, hardware and software may be unreliable, and cost may be higher than printed material. Also, computer-based information is not normally self-structured, i.e. the user cannot easily impose hierarchies of usefulness/interest etc. which aid retrieval.

There followed a brief discussion of the strengths and weaknesses of the different types of computer-based information system currently available. Most of this was familiar ground to ARCLIB members. However, Jeff went on to describe a new system which has been developed at the Welsh School of Architecture. This system aims to overcome some of the problems described above and to address the particular needs of architects in the following ways:

the information covers a limited, clearly-defined area of immediate practical importance (energy use in buildings).

information is reduced to the bare essentials and tailored to suit the preferred style of presentation of architects (i.e. good use of graphics, clear layout, not too much text on one screen).

the system is interactive in that users can add indexing, notes etc., and also input additional factual information to provide a customised information resource.

The system, known as "Hyper-Manager", is multi-media based, incorporating video sequences as well as graphics and text. Video is used sparingly, however, because of space problems. Despite the name, the information is more structured than in a true hypertext system in order to facilitate easy navigation. Information is presented in the form of a menu consisting of a 6 X 4 matrix of slides. These can be selected individually for more information, or a search can be undertaken using key words, Boolean logic etc. There is a built-in glossary, which can be referred to at any time.

A number of practices had had the system for a two-week evaluation period. The response was generally favourable, though there was some resistance from those happier with paper-based information. The system was seen as a source of technical information rather than as a design tool or as a replacement for journals. As with other computerised information systems, there was concern about the possible cost.

It is early days yet but the system is seen by the developers as potentially valuable in teaching as well as a practical tool for use in practices.

The Northern Ireland Centre for Learning Resources (NICLR)

The Thursday morning sessions (9 September) were held at the above location. Adrian Mallon, a member of the Centre's staff, gave the final paper of the conference, on the subject of optical imaging. Before that, however, the Centre's director gave a brief introduction to the Centre and its work.

NICLR runs courses and seminars on developing multimedia learning packages. It is also involved in research in this area. There is nowhere comparable within the rest of the U.K., i.e. a single centre enabling development from an idea to a finished product in-house. The policy of the Centre is to emphasise the importance of teachers themselves taking control of the medium.

Staff include televisions specialists, graphic designers and multimedia developers. Half the Centre's income is guaranteed from Curriculum Council contracts, but the remainder has to be earned. Amongst its other work the Centre produces a journal, entitled Immediate (the first three letters denoting International Multi Media).

Adrian Mallon: Developments in photo CD/optical imaging

This was a wide-ranging review of the latest technology in handling visual images in digitised forms. It is hard to do full justice to the session in a purely textual format, since it incorporated several illustrations of what the technology could actually do. However, a considerable amount of factual information was delivered, the main points of which are outlined below.

A key point to stress was that multi-media packages are expensive to produce, whether this is done by commissioning consultants to do the work or by in-house production (time involved is considerable and staff are expensive). Having made this general point, there are various degrees of expense in terms of

hardware/software. For example, laser discs of the kind used in interactive video packages, which can contain up to 50,000 still images on a 12-inch disc, are extremely expensive to produce (at least £10k) and the hardware required is around £2-3k per workstation. A cheaper alternative as far as hardware is concerned is CDI (CD Interactive) which can handle up to 3,000 24-bit images per CD (much more at lower quality) and requires only a CD player and a TV monitor. The problem here is the cost of digitising images - up to £100k for 50,000 images. Software development, on the other hand, is relatively easy.

Anything handled by a PC or Mac can be stored on a CD, which greatly adds to storage capacity. However, NICLR usually stores material initially on very large hard disks and also uses floppy, re-writeable optical disks; these carry up to 128 megabytes and cost around £50 each. The Centre also presses its own CDs (600Mb) but since these are not rewriteable their use is for stable, archive material. The cost of the CD pressing hardware is around £5k; CDs can be created in about 2 hours. A technique which is not much used at present by NICLR but which is seen as having considerable potential, especially for use in multi-site situations, is to transfer visual images by means of a modem; the image is broken into small files and transferred by a higher-capacity comms link called ISDN. An extension of this idea is the use of desktop video for teleconferencing.

The pace of change in the computer industry is a problem; the investment time of hardware is no more than four years. At the same time, image quality has to be long-lasting as well as satisfying both designer and user. The Centre uses scanners, and also TV cameras. Scanners are expensive, especially for high quality products. Digital cameras are useful, being portable but able to link directly with the computer. The camera costs around £500, whilst the necessary board in the computer is around £1000.

A recent, easily-available alternative is photo CD: 35mm photographic film can be processed onto CD by high street stores, giving 100 images per CD. The same photograph is stored 5 times, enabling different image sizes at the same quality; the larger the image, the slower. This technology offers an economic means of handling good quality digitised images. Some colour information is lost, so that shadows and depth are slightly inferior to the original image. However, this is not noticeable to most people and the technology is very satisfactory for multi-media presentations. A picture library can be created by housing up to 100 CDs in a juke box. In the near future, it will be possible to handle additional film sizes, including transparencies. Efforts are being made to establish an international standard in this area, with Kodak playing a leading part. In-house photo-CD facilities currently cost in the region of £85,000 but will become cheaper.

Another alternative means of capturing digitised images is to use the Picture Wire Service in which images are transferred from major libraries (Hulton Deutsch, Presslink and Comstock) via communications links. It is expensive, at £60 per image, and also very slow.

Given the large amounts of storage taken up by digitised images, compression technologies are important. Compression of up to 10 times without significant loss of quality is possible using a technique in which, rather than dealing with the image pixel by pixel, similar areas within an image are treated as being the same. Fractal compression is even more powerful. This works by using patterns and gradients within the image, and makes possible compression of up to 170 times. This technology is, however, at an early stage.

Even with improving compression techniques digitised video (for example, using Quicktime on the Macintosh or Video for Windows) still takes up a very large amount of space and produces relatively poor images: good enough for a quick handshake but not as the basis for an entire presentation. Techniques will naturally improve, and using still images there is already enormous potential for

manipulable 3-dimensional images of spaces.

IM

AGM 1993

The 1993 AGM was held during the Belfast conference, on Wednesday 8 September.

The following topics were discussed:

Finances. The balance was at the close of the 1992/92 financial year was a healthy £1767.40. Membership fees for 1993/94 had boosted the coffers further but the accounts for the Belfast conference were of course not yet in.

Email facility. Arising from the previous meeting, Ian Mayfield asked for details of any members newly linked to email facilities; current copies of the membership list, including email addresses, were available at the meeting and Ian undertook to circulate these to the wider membership (*with this Bulletin - Ed.*).

Venice Conference. Catherine Tranmer reported on this conference, attended by herself, Keith Parker and Pain Masters, and on recent Erasmus visits; money for such visits appears to be becoming scarcer.

Dissertations database. There had been little response to the invitation to send dissertations records to form the basis of a union database. The conclusion seems to be that few members currently have records in machine-readable form. However COTAC (the conservation trainers organisation) are interested in creating a database of dissertations in conservation and there may be a possibility of collaboration. Committee would draft a proposal to COTAC in hope of getting financial help, which might give us a start in setting up an ARCLLB database.

Union list of periodicals. Seventeen members had sent journal lists. The Committee hoped Cohn Ball (ex Architecture Librarian, KIAD) would enter the data in return for an agreed remuneration.

Edinburgh Conference 1994. To be held from 13-17 September 1994: theme networking and international collaboration. The conference will include a day in Glasgow which will feature visits to Mackintosh buildings including the Mackintosh School.

Elections to Committee. Catherine Tranmer and Karen Latimer had been returned unopposed, and will serve for another year. The Committee were concerned about the implications of the lack of volunteers for committee; members indicated their satisfaction with the Committee's work and consequent lack of incentive to stand against them. It was agreed that this issue of the Bulletin would suggest areas where help from members would be welcome.

European links and projects. Our main link project currently is the Union list of serials, which will go to European colleagues. Edinburgh conference should revitalise contacts.

ARCLIB logo. It had been proposed that student should be invited to enter a competition to design a suitable logo for the group, with a prize of £50.

Database of members. This had been discussed in Committee but agreement had still not been reached on what should be included or how the information could be reliably gathered. The meeting discussed these questions further but

without definite conclusion.

COMMITTEE NEWS.

The ARCLIB Committee have met twice since the last issue of the Bulletin.

7 September, Queens University Belfast.

This meeting was held the day before the AGM. Topics covered were those discussed at the AGM, as described above.

18 January 1994, University College London.

Main topics discussed were as follows:

LOGO Competition.

Sylvia Harris was almost ready to send a draft specification to Committee members. It was decided that to minimise the difficulties of collecting and judging the entries, the competition would be open initially to students of the institutions whose architecture librarians were ARCLIB Committee members.

Edinburgh Conference 1994.

Possible papers were discussed and a draft programme outlined. Committee members to contact appropriate people to finalise the speakers and programme. Ian Mayfield would draw up a database of contacts and Pam Masters would contact other organisations e.g. CIIG, RIBA etc. Catherine Tranmer would try to secure sponsorship.

Union list of periodicals.

Colin Ball has agreed to enter the data; Ian Mayfield will send him the forms and necessary software.

Dissertations database.

Catherine Tranmer still awaited word from COTAC regarding her proposal for funding to compile a database of conservation dissertations.

Erasmus visits.

Both Keith Parker and Pam Masters reported slow progress with respect to their proposed visits, to Germany and Scandinavia respectively.

Directory of members.

Keith Parker would liaise with Pam Masters and assist her in finalising the questionnaire to be sent to members.

PRAGUE CONFERENCE: BEGINNINGS IN ARCHITECTURAL EDUCATION PROGRAMMES

Some time in late 1992 or early 1993 committee member Sylvia Harris asked her committee colleagues if they were interested in producing a paper on library user education to be given at the above conference. Having received no positive response, Sylvia went ahead and produced a paper herself. Result: Sylvia turned us green with envy by getting an expenses-paid trip to the beautiful city of Prague!

In this section Sylvia introduces the conference and we reproduce her paper, together with another paper on a similar theme given at the conference by two American colleagues.

The ACSA/EAAE Conference held at the faculty of Architecture, Czech Technical University 11-15 May 1993 attracted a total of 165 delegates from 35 countries, the largest number coming from North America and Europe (writes Sylvia Harris).

This first combined conference of the Association of Collegiate Schools of Architecture (ACSA), based in Washington, and the European Association for Architectural Education (EAAE), centred in Unité d'Architecture UCL Belgium, came close to being a truly international forum on issues of architectural education for the undergraduate years. Apart from the mainly "pedagogical" (a conference buzzword) concerns of most papers, it included a housing symposium and student presentations of award-winning schemes in the Otis Elevator Student Design Competition.

The conference proceedings, conducted mainly in English, were grouped around a number of themes with sessions consisting of three or four papers covering the teaching of design, history and theory, addressing the problems of urbanism and environment and the use of computers and technology in the teaching of design. I was delighted to be placed in a session with fellow architectural librarians, Sheila M.Klos and Kathryn M.Wayne. Our papers, highlighting the value of teaching information-gathering skills to architecture undergraduates with the library as location for instruction, were well-balanced by Neil Jackson's innovative paper which followed, on teaching "Architecture history al fresco"

There was, of course, much to learn from the rich mixture of approaches to teaching architecture from the attendees one actually met and whose presentations one attended, and very much to enjoy and learn "al fresco" in sunny Prague itself. It is fortunate that the conference organisers, appreciating the limits to omnipresence of the delegates, have decided to publish summaries of papers given (due late 1993?). There were well over one hundred presentations in all. My paper follows, to be followed in turn by the paper presented by Klos and Wayne.

Sylvia Harris "BEGINNINGS" - How to find out in Architecture

I am delighted to be here, as my earliest acquaintance of Czechoslovakia, as a child growing up in Singapore, was my choice of a beautiful pair of shoes, which remain in my memory as "my Zlin shoes" This was my beginning in learning of Czechoslovakia; I had no understanding then of the significance of Zlin, Bata and Vladimir Karfik, now I have a little more.

I have called my paper "***Beginnings***" - ***How to find out in architecture***, aware of course that there are a multiplicity of ways anyone finds out about anything. I would like to describe to the conference how finding out in architecture is structured as part of First Year education at the Welsh School of Architecture, UWCC, where I have been Architecture Librarian for the last twelve years and where this aspect of a student's education is regarded as a vital and initial step in the learning process.

The body of literature relating to architecture is diverse and can be daunting to young students, most of whom arrive from secondary education without developed perspectives on how to find out. I propose to describe the programme followed in Cardiff to teach techniques for searching within the resources of the School and beyond it. I would also like to describe a project recently completed this academic session entitled 'Adopting an architect'. This venture has given what used to be a general approach to the field a more particular focus.

My initial contact with first year is on day one of the term. This brief meeting allows me to introduce myself, and my role in the students' education.

I sketch the scope and history of the architectural collection. Attention is drawn to the distinction between books on architecture and periodical information. The importance and currency of information in the journals is stressed. I explain the function of the bibliographical tools, the printed indexes and now the growing array of electronic indexes and databases in accessing this information. Students are given a printed guide to the library which describes the library's holdings with a plan indicating the location and arrangement of the various collections. They are encouraged to use the guide themselves before I see them in the following weeks in tutorial groups of 12-15, using the library as laboratory.

Throughout this early period of contact with first year I repeat, rather as a *leitmotif* that they form the habit of finding out for themselves, explaining that an essential part of this skill is asking for help. Students are reassured of the role of library staff in providing help when asked.

The library tutorials provide the opportunity to explain on location and in greater depth the literature of architecture and the facilities provided to tap this information. Using examples from projects that students have already been assigned, I demonstrate the scope, character and limitations of the various indexes to periodicals. The searching techniques necessary for the effective use of the Architectural Periodical Index, controlled by a thesaurus of keywords differs from the relative simplicity of the Avery Index which has an alphabetical arrangement. The speed and ease with which indexes, for example the ICONDA database on CDROM, can be searched is demonstrated with examples. Techniques in the use of the University's own on-line catalogue LIBERTAS, to maximise access to the information it holds, is also taught.

I am able to show during a guided tour of the collection, the range of reference material, the directories, encyclopaedias and bibliographies held and to demonstrate with examples the value these tomes hold for a new student of architecture as starting points in literature searches and to which it is hoped they will return later in their education.

For the first time, this academic session an exercise entitled 'The Library Project - adopting an architect' has been run for first year. The project required students to choose from a list of twentieth century architects, a subject for study.

The parallel selection of one significant house designed by the 'adopted' architect would provide the focus for an investigation of the philosophy and key architectural ideas characterising the architect. Students were also asked to access what importance the architect held for them and for the future of architecture.

Utilising working seminars conducted in the library, students had to present their projects in a paper of 800-1000 words incorporating a biography and description of the architects corpus, and an appraisal of whom the architect had influenced and been influenced by. The house was to be visually documented using plans, photographs, sections and illustrations which identified and communicated the architectural ideas. Students were also asked to present any quotations by or about the architect which encapsulated the architect's beliefs and contribution.

I have brought with me a selection of student projects which represent the generally high-standard that the exercise produced, which I welcome anyone interested to view. Apart from my enjoyment in running it and a parallel interest shown by the students, the project has achieved the dual purpose of demonstrating to the first year the range of architectural information and the means by which to tap this knowledge, using books, directories, periodicals, newspapers and audio-visual material, both within the School's collection and beyond.

The analysis of the house has provided the opportunity to investigate how the architect has combined objects and ideas into a complex whole and also it is hoped students have learnt something of tectonics by these examples. When R.Llewellyn Davies at the Oxford Conference on Architectural Education in 1958 said 'Knowledge is the raw material for design', he gave it due importance to both students of architecture and practitioners. Surely learning, in the architectural cradle, the methods to obtain this knowledge are vital, detective skills not only for the doing and enjoying the doing of architecture, but for life.

Sheila M.Klos, University of Oregon;
Kathryn M.Wayne, University of California, Berkeley:

THE ARCHITECT ASSEMBLED: INFORMATION LITERACY FOR THE NEXT GENERATION

Part I - Sheila M.Klos

An architecture faculty colleague remarked to me recently that too many architecture students view the library as an obstacle rather than a tool for acquiring the information they desire, even though they often only desire an image. Since this was the first time a faculty member had ever made such an honest assessment of what I regard as one of the biggest deficiencies of architectural education I pursued the idea.

Why do architecture students so often only desire an image?

Why don't they desire more?

Why aren't they required to find more than just images to support their design projects?

Where is the co-operative effort between instructors in architecture and architecture librarians to get the students to do more than make visual links to historical designs?

Where is the requirement to learn how to research a problem, be it design or structural or factual in nature? Are we turning out architects who literally cannot do research to support their creative work and make that work sell, or make it adapt to a client's wishes, or even sometimes to be structurally sound?

Are we turning out architects who are inflexible not because of a lack of creativity, but because of a lack of research ability?

I would like to say that it is primarily the undergraduate students in the first two years of their education who suffer from the attitude that the library is an obstacle to their work, but that's not true. It is possible to find graduate students, and even architecture faculty staff, in every university in the US, who avoid using the library or discussing a research problem with the librarian. A study conducted in 1975 showed that most architects will seek a librarian's help only as a last resort.¹ Nearly twenty years later not much has changed. In some cases it may be embarrassment that prevents a student or faculty member from requesting help; they feel that they ought to be able to locate the necessary information on their own. But in as many cases the failure to seek help with research (or even to use library resources independently) arises from a gap in architectural education: architects are not taught that they must research a problem fully. And they are not taught how to do research.

The emphasis in architectural education in the United States is on design competency. A glance at the current NAAB guidelines for accreditation reveals 44 "achievement-orientated performance criteria" which students receiving a bachelor of architecture degree must satisfy. Only one of these criteria addresses the need to conduct research, stating that "graduating students must be able to...do basic research as it relates to all aspects of design."² But can our students demonstrate this competency? In many cases they cannot.

What is the solution? A required research component in their educational experience which includes bibliographic instruction from the architecture librarian is the solution. The librarian is the professional best qualified to instruct students in bibliographic tools and research methods. The nature of library research is changing at a rapid pace and architecture faculty cannot be expected to keep up with every aspect of that change. They should be expected to refer their students to the professionals most involved in coping with the information explosion we are experiencing. We should be teaching students to seek out complete information on a design problem, not allowing them to settle for whatever information they can discover through browsing. Don't misunderstand; I see the value of browsing, especially for creative stimulation, for maintaining an awareness of current design projects, for inspiration. Browsing is legitimate and has undeniable value, but not as a substitute for thorough research.

We no longer live in a browseable world. Yet every architecture librarian I know has had the experience of helping a student who was unaware that there are specialised indexes to the professional literature, highly specialised indexes from which they must choose the one most appropriate for their particular problem. We have all had the experience of helping a student who was referred to an inappropriate research tool by their design instructor and who insisted to the librarian that even though that book or index was not meeting their needs it was the book they should be using because their instructor told them to use it. This happens more and more often as the sphere of information increases in size. Even faculty who received their graduate education as little as five years ago are now behind the times when recommending appropriate library resources to their students. The resources have changed and they have grown too fast for architects to fully keep up. And they should not have to; that's the librarian's role.

Academic architecture librarians are keeping up with the information explosion. They are in a position to advise students and faculty alike on their research needs. Furthermore, the instructional role for bibliographic research methods properly resides with the librarian. At the University of Oregon the art and architecture librarians offer specialised bibliographic instruction lectures for any class offered on campus - if we're asked. We prepare unique bibliographies for each class we teach. We offer small-group tutorials on the use of computerised databases after the full-class meeting. So why aren't faculty requesting this kind of instruction more often? And why, in the architecture department, is it most requested for undergraduates rather than graduate students? The trend for faculty to introduce bibliographic instruction to first and second-year design

studios may be linked to an observation made by the 1989 AIA Education Honors Program jury. The jury noted that the most innovative changes in architectural education seem to occur in the design studios. They speculated that faculty place more emphasis on innovative teaching at the beginning level because they recall all too clearly how dreadful their own experiences were in beginning studio classes.³ Whatever the reason, involving the librarian in teaching students successful information-seeking behavior in early studio classes is a good idea.

At the University of Oregon, multi-lecture instruction in research methods by the librarian is a required part of our programs in landscape architecture, historic preservation, and art history. The faculty in those allied disciplines seek out the assistance of the librarian to instruct the students. Why don't the architects do the same? So much of what the students and faculty need to know cannot be found in our libraries' outline catalogs, the one tool most researchers can be counted on to use on their own. It often cannot be found in indexes or any other sort of reference publication. However, a dialogue with the librarian may reveal that the answer can be found in another library on campus or, perhaps, through use of a computerised database located at another university but accessible through the Internet.

Today the academic architecture library is becoming less and less a collection of all the necessary information and more and more a directory to information resources, some of which may be located thousands of miles away but which are easily accessible through new technologies. Still, these libraries which are becoming information directories are complex and it is the librarians who must teach students how to use them. Bibliographic instruction became a regular part of our students' architectural education they would graduate our programs better prepared to face the information gathering challenges they will meet head-on in their professional practice. Once they leave campus and no longer have an architecture library's collection at their immediate disposal, how will the next generation of architects cope with locating information required for a potential design commission? Architecture students must exit our programs with a competency in research that ensures that they can not only ask the right questions, but actually find the answers or find the expert who can provide the answers.

I'm always encouraged when I lecture to first year design students and I see their instructors taking notes on research tools as intently as the students. I feel I've made progress on training the next generation of architects and at the same time updated some of the skills of those already in practice. But what about the students in the other studios who never have a lecture in the library? Are those students being cheated out of the opportunity to successfully compete in professional practice because they lack the competency in researching a problem, be it design-orientated, or code-related, or structural in nature? Without an acknowledgement that the profession of architecture is changing and becoming ever more complex and competitive, and without an acknowledgement that information literacy is a part of successful practice, we are dooming our graduates to work harder and achieve less in their careers.

My colleague, Kathryn Wayne, will discuss innovations in bibliographic tools and instruction which we believe will increase our students' ability to compete successfully in the architecture marketplace of tomorrow.

Part II - Kathryn Wayne

The pedagogical role of the architecture librarian within the curriculum should be to provide students with both access to and an awareness of the countless number of resources available to them. Termed "bibliographic instruction" by librarians, BI is most successful when the professor and librarian work together to design an assignment that ensures the use of essential resources necessary to solve a particular problem. If you have never heard of "BI" before, it would not surprise me. Librarians have done little in the past to market their specialised

services to faculty. In fact, a thorough examination of the architectural literature finds almost nothing written about the library, the librarian, or their place in architectural education. Today, I hope that I can provide you with a new perspective on how the librarian can be instrumental in teaching both students and faculty about the effective use of the library and its vast amount of resources.

Traditional forms of bibliographic instruction include general library tours, one-time introductions to online catalogs and databases, answering particular questions on a one-to-one basis, specialised bibliographies, and classroom lectures. At the College of Architecture, University of Arizona, I provided in-class lectures for the architectural programming course as well as individual design studios. For the programming course, I provided a one-and-a-half-hour slide lecture that introduced basic reference and technical sources and outlined the steps for performing architectural research. Students were then responsible for completing an assignment entitled "Information Gathering" that required them to perform a literature search to collect information needed to program the design of a small commercial facility. Students worked in pairs and were responsible for researching building and planning standards, government documents, professional publications, research and trade literature, manufacturer's publications and codes and ordinances. This exercise proved to be an effective way to introduce second-year design students to a variety of resources that they would systematically use for the next three years of their five-year undergraduate progression degree program.

For design studio courses I was routinely invited during the first few weeks of the semester to describe, through a series of slides, a variety of ways to find information on a particular building type that has been assigned to them. These lectures emphasised basic references such as Time-Saver Standards for Building Types, how to do subject searches for books, and how to locate periodical articles in indexes such as the Index to Periodical Literature, Architectural Periodicals Index, and Art Index. It also provided me with the opportunity to emphasise the importance of exploring sources within the disciplines for which they were designing a building. For example if the building type was a library, I would introduce basic indexes such as Library Literature, or identify major reference works that might provide the user's perspective. It was always surprising to me that the majority of the students were completely unaware that design-related articles existed within the literature of these other disciplines.

At the College of Environmental Design at the University of California Berkeley, I have instituted a similar BI program in the Departments of Architecture and Landscape Architecture. At the beginning of the Fall and Spring semesters, I provide faculty with forms to fill out that identify the specific topic that the students will be researching. When a lecture is requested, I sit down with the professor and we discuss the assignment, usually a research paper, in greater detail so that I can tailor my presentation appropriately. Class sizes range from six to 300 students, and course content from graduate level research seminars to introductory architectural history as well as design studios. Based on my own experience, I have seen most of these students became very interested in what the library has to offer them. Professors of these courses have also remarked that the overall quality of design projects or history papers has improved when students begin to utilise the library effectively. Students themselves have repeatedly provided their own testimonials as to how helpful a BI session proved to be.

Like my colleague Ms Klos, I don't think I've ever given a lecture where the teaching assistant, or the professor didn't come up afterwards and admit that they were unaware of a particular resource that I had mentioned. Keeping up with what is new has become a full-time job, even for a librarian. In his book, Information Anxiety,⁴ architect Richard Saur Wurman provides advice on how to cope with this new world of increasingly sophisticated information technology. He

says, "Information frustration and hence information anxiety results when you know what you want, but not how to get it." This is why it is even more important that the faculty begin to rely on the librarian to identify and make students aware of what is available so that they can take advantage of this plethora of information in satisfying their educational requirements, but also so they can continue to rely on this information foundation once out of school. From the times of the Beaux Arts to as recently as ten years ago the major sources available for architectural research were limited and existed primarily in printed form. Today's architecture student has a much broader information infrastructure that includes a variety of formats, not unlike those available to students in the sciences.

For example, major periodical indexes such as H W Wilson's Art Index,⁵ Columbia's Avery Index to Architectural Periodicals,⁶ and the RIBA Library's Architectural Periodicals Index⁷ are available on compact disc or via online vendors such as Dialog Information Services.⁸

Dialog, one of the largest online vendors in the United States, offers fee-based access to hundreds of databases such as Alternative Energy Digests, Commerce Business Daily, Dissertation Abstracts, Dun's Electronic Business Directory, Energy Conservation News, Engineering News Record, Enviroline, GeoRef, Harvard Business Review, PAIS International, as well as major newspapers worldwide.

Other international databases available through online vendors include the Australian Architecture Database,⁹ Sweden's Konstdok,¹⁰ the Netherlands VROMDOC,¹¹ Descripcion del Patrimonio Historico-Artistico Espanol¹² from Spain, and ICONDA Bibliographies¹³ from Germany, to name only a few. Most academic architecture libraries have online catalogs with sophisticated search commands that not only provide access to their own collections but to numerous others all over the world through electronic "gateways".

The Internet, a worldwide network of computer networks, has fostered a new unparalleled degree of communication, collaboration, resource-sharing and information access, useful even for architects. The Consortium of Art and Architectural Historians has established an electronic discussion list, or "listserv", that enables architectural historians to communicate easily and economically with colleagues in both the US and abroad. Beginning in June 1993, abstracts of articles and the table of contents of forthcoming issues of the Journal of the Society of Architectural Historians will be posted on this listserv two months prior to printed publication. Other related listservs include F ACXCH-L for Art, Architecture, Design Faculty Exchanges; GCE Computer Graphics Education; GEODESIC on Buckminster Fuller's work; IDFORUM - the Industrial Design Forum; and STUXCH - the Art, Architecture, Design Student exchange. Kent State's School of Architecture and Environmental Design recently published the first architecture electronic journal entitled Architronic. Many databases are also searchable through the Internet such as ADA Accessibility Guidelines; Arizona State's Solar Energy Index; and Carnegie Mellon's ARCHPIC as well as a variety of useful inter-disciplinary databases in the areas of education, government documents, and the sciences. The American Institute of Architects is about to launch their own electronic information, communications, and marketing network for the building industry.

AIAOnline¹⁴ will provide quick access to a wealth of resources and reliable, up-to-date information to aid in research and decision-making that will be invaluable to both professional business aspects of practice management. Many schools of architecture within the United States are working to create their own databases to be used in a variety of applications. The Avery Library at Columbia has produced AVIADOR,¹⁵ an interactive system that links videodisc images of 41,000 architectural drawings from their collection to RLIN, the information network of the Research Libraries Group.

A user has the capability of browsing through the architectural drawings of Frank Lloyd Wright, McKim, Mead & White, and Philip Johnson, to name only a few, using a PC workstation that includes an IBM PC AT, a monitor, mouse, printer, an analog videodisc player and a videodisc monitor.

Telecommunications software connects a system to the RLIN database. The Frances Leob Library and the Computer Resources department of the Graduate School of Design (GSD) at Harvard are working on a joint imaging project called DOORS (Design Orientated Online Resources System).¹⁶ The primary goal of this project will be to provide structured online access to a broad variety of digital visual information tools. The project will serve as a mechanism in which to utilise these information tools in order to gather visual information; analyse images and information; alter or change the images as part of the design process; and create presentations for use in classes, in papers, in outside lectures or in group evaluations for studios.

Architecture students and faculty can no longer keep abreast of the information that is available to them. Up-to-date comprehensive bibliographies similar to Valerie Bradfield's 1983 publication, Information Sources in Architecture,¹⁷ simply do not exist. Lois Swan Jones' Art Information: Research Methods and Resources¹⁸ is useful for identifying the steps in doing research, but doesn't come close to including the entire gamut of sources, due to its "antiquated" copyright date of 1990. Architecture librarians will be the ones to lead the effort in keeping students and faculty aware of new electronic resources and traditional printed sources, both architecture-specific and inter-disciplinary in nature. Of the different ways librarians use to teach students about the library, the classroom approach to bibliographic instruction seems to be the most effective simply because the material students are learning is directly related to an assignment.

I hope you will go back to your schools and invite your librarian to institute a formal bibliographic instruction program that will become a regular, or better yet, a mandatory part of the design curriculum. I am convinced that if you do so, you will ensure that the future generation of architects will be information literate and therefore well-prepared to be competitive and solve the problems they are faced with as professionals.

NOTES:

1 See Christine Snow, "Architects' Wants and Needs for Information, Demonstrated Through a University-based Service," Aslib Proceedings, 27 (March 1975): 112-23.

2 1991 Conditions and Procedures. New York National Architectural Accrediting Board, Inc., 1991, p.19.

3 1989 Education Honors. Washington, D.C. American Institute of Architects, 1989: p.viii.

4 Wurman, Richard Saul. Information Anxiety. 1st ed. New York: Doubleday, 1989.

5 Art Index. H. W. Wilson Co., 950 University Ave., Bronx, NY 10452. TEL: 800-367-6770

6 Avery Index to Architectural Periodicals. G. K. Hall, 70 Lincoln St., Bronx, MA 02111. TEL 617-423-3990

7 Architectural Periodicals Index. RIBA Publications Ltd., Finsbury Mission, 39 Moreland St., London EC1V 8BB, England. TEL 071-251-0791

8 Dialog Information Services, Inc., 3460 Hillview Ave., PO Box 10010, Palo Alto, CA 94303. TEL 800-334-2564

9 Australian Architecture Database, Stanton Library,
234 Miller St., North Sydney, NSW 2060, Australia. TEL 02-9555889

10 Konstdok, Svensk Konstvetenskaplig Bibliografi,
Bastionsplatsen 2, S-41108 Goeteborg, Sweden. TEL 031-7734700

11 VROMDOC, Netherlands Ministry of Housing, Physical Planning and
Environment, PO Box 20951, NL-2500 EZ, The Hague, Netherlands

12 Descripcion del Patrimonio Historico-Artistico
Espanol, Ministerio de Cultura de Espana, Secretaria General Tecnica, Plaza del
Rey 1, 28071, Madrid, Spain. TEL 01-4292444

13 ICONDA, Fraunhofer-Gesellschaft, Informationszentrum RAUM und BAU
(IRB) Nobelstr. 12, D- 7000, Stuttgart 80, Germany. TEL 0711-9702500

14 AIAOnline, American Institute of Architects, 1735 New York Avenue, NW,
Washington, DC 20006. TEL 202-626-7300

15 A VIADOR, RLIN Information Center, Research Libraries Group, 1200 Villa
St., Mountain View, CA 94041. TEL 800-537-7546

16 DOORS Project, Graduate School of Design, Harvard University, 48 Quincy
St., Cambridge, MA 02138. TEL 617-495-2591

17 Bradfield, Valerie. Information Sources in Architecture. London & Boston:
Butterworths, 1983.

18 Jones, Lois Swan. Art Information: Research Methods and Resources. 3rd ed.
Dubuque, Iowa: Kendall/Hunt, 1990.

NEW COMMITTEE MEMBERS REQUIRED!

No nominations were received before last year's AGM for new committee members to replace Catherine Tranmer and Karen Latimer, who were the first two due to stand down as specified by the ARCLIB constitution (2 members per year stand down or for re-election). It was suggested at the AGM that the lack of response was due to satisfaction with the current committee rather than lack of interest or commitment elsewhere; this is very gratifying but we do feel that new blood is needed and both Catherine and Karen have indicated that they are determined to relinquish their positions this year.

So please start thinking and talking about this now! The next issue of the Bulletin will include nomination forms for this year's elections. We know there are interested and capable people out there (and we know who you are)! There are normally three Committee meetings a year, one of which is at the annual conference, so the burden need not be too great. On the other hand you may be unwilling to serve on committee but willing and able to help in other ways: for example with the Bulletin, or with collecting and organising information in support of the different projects in progress. If you are interested, please contact Catherine Tranmer (0865 819139).

DISSERTATIONS DATA WANTED

In the last issue of the Bulletin we asked for any record of your dissertations which you hold in electronic form. The response was a deafening silence! This may be because of pressure of work, or it may be that no-one has any form of electronic record of their dissertations. However, it occurred to the committee that it may on the other hand be that you, the members, are thinking of a more sophisticated form of record than we actually have in mind. If you have ANY

record of your dissertations stored on a computer, even if it is simply a list stored on a word processor, we would like to have a copy. If the information is appropriately structured, it may be possible to transfer the records automatically into a database; if not, there remains the possibility that we can coerce or bribe someone to key the data in for us, perhaps with the aid of COTAC funding (see Committee News in issue 1 and elsewhere in this issue). Please help - you may represent the Great Leap Forward we are looking for in compiling a union database of dissertations.

Contributions please to Ian Mayfield at the University of Portsmouth. ASCII, MS Word or WordPerfect (PC or Mac) formats acceptable; other formats please discuss with Ian on 0705 843239.

ARCLIB BULLETIN

is free to ARCLIB members; others, £5 p.a. (2 issues)

This edition of the Bulletin was edited by Ian Mayfield and published by him at the University of Portsmouth. Enquiries, comments, complaints and copy for future issues to Ian, please, at the Frewen Library, University of Portsmouth, Cambridge Road, Portsmouth, Hants., PO1 2ST.

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