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## **Library buildings in the 1990s: St George's Library at The University of Sheffield**

**by Michael Hannon, *University Librarian*  
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### **Current trends in UK Higher Education**

The University of Sheffield is one of the UK's larger civic universities which were built in the late 19th and early 20th Centuries and are traditionally referred to as 'red brick'. Justly proud of their local roots and civic heritage, the 'larger civics' soon developed as regional centres of excellence in teaching and research: collectively they became the backbone of the UK Higher Education (HE) system. In the 1960s and 1970s they enjoyed considerable expansion in student numbers, alongside a new generation of 'green field' universities.

While the 1980s saw considerable reductions in central funding for the universities, with very little finance available for new buildings or for the maintenance of existing buildings, the last five years have brought major changes to the HE system. The Government's policies are based on the following principles:

- the need to expand HE to a 1-in-3 participation rate
- the need to encourage more participation by 'non-traditional' students: more mature, part-time and distance learning students
- the introduction of market principles to HE:
  - competition between universities for students and for research funding
  - publication of league tables of teaching quality, research ratings and quality of services
  - re-designation of the old polytechnics as universities
  - more diversity in courses offered, giving students greater choice
  - modularisation and credit transfer schemes between HE institutions
  - consistent underfunding by application of an annual 'efficiency factor'
- mass education with greater efficiency - no additional teaching or support staff
- freezing of student grants, with increasing dependance upon the national student loan scheme

Against the background of these radical national policies all the larger civic universities face the same challenges:

- to maintain and develop their reputation for research excellence at the top of the national league table
- to win more students in competition with the ex-polytechnics, who have a reputation for good teaching at low cost, without having to carry the overheads of expensive research
- to develop new strategies for teaching large classes without losing quality or human contact

The implications for academic services are clear:

- major increases in demand for traditional library services: books, periodicals and user-education
- new demand from academic departments and students for purpose-designed 'courseware', as a basis for effective 'student-centred learning', and for networked information services
- heavy demand for greater access to all services with longer opening hours in the evenings and at weekends
- demand for much more responsive support for research: access to networked information services from the end-user's desk, with effective document delivery
- greater selectivity in levels of support for research: reward the successful, reduce support for the weak
- separate support for teaching from support for research

### **Implications for new library design**

The Faculty of Engineering at Sheffield has a record for excellence in research across the whole spectrum of engineering disciplines, from the traditional civil, mechanical and electrical to the new specialisms of fuel technology, automated systems and materials. However, it was not until 1992 that the Faculty had a Library to match its research excellence and to support its new approaches to teaching.

After the first and most important battle had been won - to secure funding for a new library building - the next challenge was to prepare an Architect's Brief for consideration by the University's Project Team. Our vision for the new library was to provide the very best in traditional library service in a building which also incorporated very high specification Information Technology (IT). We wished to offer our academic staff and students a 'one-stop-shopping' approach to academic services, with access to library, computing and audio-visual services under one roof, and staffed throughout extended opening hours.

Our first task, however, was not so much to educate the Architect as to persuade our academic, administrative and computing colleagues that this integrated approach was an appropriate solution to the new challenges faced by the Faculty in enhancing research and developing student-centred learning. It was clear to us that if we did not have a vision of what an integrated service had to offer, no one else would have such a vision for us!

After many meetings and visits to other new libraries in the UK, our vision prevailed: the Architects commented that it was the best prepared brief they had worked with on a new building - so we knew we were off to a good start!

Flexibility was the keynote of the Brief, but in addition to its application to traditional layout and structural considerations, we emphasised its importance in power and data cabling: we envisaged that one third of the 300 study places would have the potential for IT-related work (including audiovisual tasks) and the architects were set the challenge of integrating these into

the library in terms of furniture requirements, services provision and environmental issues such as noise, lighting and heat generation. As the project progressed, it was interesting to see the architects – Building Design Partnership – going through a learning period in relation to IT provision, and discussing their findings with the Project Team to ensure that the best overall design was achieved.

Because in a separate branch library its overall management and security are particularly important, the Brief specified a centralised, open plan staff area to maximise the use of the relatively small staffing complement and to provide safety in small numbers for evening and weekend duties. A number of security measures were also included.

### **Cost considerations**

At the outset we persuaded the Project Committee (and the Architects) to allocate a higher proportion than normal (some 25%) of our total budget to IT, furniture, equipment and shelving. Our agreed design philosophy was to build a relatively inexpensive building, but with very high specification furniture, equipment and fittings. We therefore agreed that there would be no 'wet finishes' or suspended ceilings: the internal walls would be built with high quality concrete blocks and simply painted, and all lighting, ventilation ducts and other services would be exposed; however, all the furniture would be purpose-designed and constructed to the highest quality, with natural finishes wherever possible.

### **Design into practice**

#### **Cabling**

The flexibility specified in the Brief has been largely achieved through the installation of three-compartment dado trunking running along all perimeter walls at waist height providing access to power, Ethernet, data cabling for the automated library system, telephone wiring and video. After consultation between our Academic Computing Services and the architects, the original metal specification of the dado was changed to rigid PVC to allow new power and data points to be more easily added as required. The dado trunking does not provide access to island areas, for which three-compartment cableways have been mounted into the floor screed. Such a 'concrete' solution does limit flexibility but these cableways have been positioned to allow good access to existing and foreseen island positions in staff and study areas and it seems unlikely that future needs would require an expansion of the IT study area into the book stacks. Infinite flexibility for cabling to island areas could have been obtained if the cost of the new building had not been closely limited by our agreed design philosophy.

#### **Furniture**

The study furniture was custom built to a concept formulated by the St George's Librarian, developed by Building Design Partnership and manufactured by HNB Furniture. The main design requirements were that the tables should:

- accept cables unobtrusively from either perimeter or floor trunking
- carry the cables in separate compartments for their complete run inside the furniture
- deliver the cables as unobtrusively as possible to the equipment while remaining reasonably vandal-proof *and* easy to connect

- provide a larger than normal working surface to permit the easy positioning of personal computers and associated working papers, books and journals
- closely resemble traditional library study furniture rather than open plan office furniture

For St George's Library, the last two items on the list were the most important, although solutions to the other technical issues obviously had to be incorporated into the overall furniture design. However, it was considered essential that the environment was welcoming, user-friendly and looked like a library, not an impersonal office. By choosing a table design with four legs and a central pedestal to house cables an openness and airiness was produced instead of the more closed environment that would have resulted from panelled units.

Various recommendations have been made for the space needs of those working with personal computers. In this case, through discussion with the architects, it was agreed that a working space of twice the conventional norm (600mm x 900mm) should be provided. This has permitted standardisation on a single design of study table that can be used for conventional study or IT-based study – a standard 4-place study table becomes a 2-place unit when equipped with a personal computer – and will allow the easy conversion of traditional to IT study areas in the future.

#### **Positioning of personal computers (PCs)**

Care was taken in the positioning of the tables fitted with PCs within the working environment of the library. The idealised and preferred arrangement would have been to integrate the IT and traditional study tables – essentially to remove the difference between the two types – but the potential management and noise problems resulting from such a move persuaded us otherwise. Accordingly, the IT area was positioned within a designated yet open area on the main study floor and separated by the bookstacks, and the mezzanine floor above, to reduce keyboard and other noise from spreading to the quieter areas of the library. Furthermore, the PCs are used on a North-facing wall which reduces problems associated with glare on screens.

At present, the library provides 13 Viglen 486 machines and 5 Apple Macintosh LCs for general use by students; in addition, a digitising scanner with optical character recognition software (OmniPage Pro) has recently been installed. All the machines are connected to file and print servers on the University Ethernet giving users the opportunity of using and gaining experience on a range of software applications such as: Microsoft Word, Microsoft Works, Microsoft Excel, FoxBase, dBase, CricketGraph, and AutoCad. The 'BIDS' system can also be accessed from these terminals, as can Inspec on CD-ROM. Support is provided, from a separate office in St George's Library, by the University's Academic Computing Services, with some library staff input, for the full opening hours of the library. This is an extremely popular and well-used facility.

#### **CD-ROM services**

In common with most academic libraries, Sheffield University Library subscribes to a wide range of databases and other services on CD-ROM. St George's Library has subscriptions to the McGraw-Hill Science and Technical Reference Set, the International Centre for Diffraction Data Powder Diffraction File, Compendex Plus, and Inspec subset on Electronic Engineering and Control. Since November 1992 the Inspec subset has been networked across the University and provides access to 10 simultaneous users.

**Video**

In the IT study area there are six video playback machines. Five of these are connected to a master player at the circulation counter to permit a single videocassette to be viewed at all machines and thereby encourage group use. NTSC, SECAM and PAL formats are supported.

**Library automation**

Sheffield University Library is a member of BLCMP (Library Services) Ltd and uses BLS for the usual operations such as issue and return of books, renewals, reservations, cataloguing, classification and book ordering. St George's Library makes full use of all these functions. In addition, terminals allowing library users access to STAR, the University's online catalogue, are available on the ground floor and first floor, as well as that access provided over the University network.

**Security**

All the security needs specified in the Brief were provided in the finished building, although in general it has proved a relatively easy library to supervise. Supervision of the floors away from the counter is aided by a closed circuit television (CCTV) system consisting of 11 cameras, three monitors for viewing, and a video recorder: the monitors are clearly visible to Library users from the main ground floor circulation area. A public address system is available to enable messages to be transmitted easily to Library users, particularly when the library is closing. Deliveries can be made from the main street or alternatively at the rear door in the basement, which is viewed on one of the CCTV monitors and may be remotely opened from the circulation counter. A new 3M book security system was also installed.

**Design awards**

We were very pleased that the excellence of St George's Library has been recognized in two design awards, both presented in September 1992: a commendation from the Yorkshire Region of the Royal Institute of British Architects in their White Rose Awards for Architecture 1992; and a commendation from Sheffield City Council in their Design Awards 1992 'for a contribution to the quality and appearance of the environment'.

**A blueprint for future academic library design**

St George's Library has been an extremely important development in the University of Sheffield: it has set new standards for our whole Library system and raised expectations of what an integrated approach to academic services can provide. This, of course, has raised important issues concerning strategic planning for the development of academic services and their future management: does the integrated delivery of academic services under one roof signal the necessity for integrated management? We await developments with interest.