CHAPTER 19. CONCLUSION

> "Form follows function and function follows time. Libraries are planned to reflect what users do - or what librarians want them to do. But users change; and then librarians; and finally, the libraries' (1).

If attitudes, systems or environments are subjected to questioning and are found to be inadequate, change occurs. The libraries that are built today are a response to the turbulent developments of recent years. They have changed in order to meet the information needs of more demanding users, to utilise the technology available, and to survive as viable entities. Librarians have accepted the fact that books must exist on library shelves on equal terms with the newer forms of information storage, and that libraries may have to compete against a proliferation of commercial information retrieval activities in the years ahead. Adaptation to change is essential.

Planning and Design

Academic library architecture has evolved from the monumental excesses of the Nineteenth Century to the simple, functional designs of the 1970's and 1980's. The development of libraries and library buildings in South Africa has followed the same broad trends as those in overseas countries, specifically Great Britain and the United States, upon which South African library tradition is based. In this country too librarians have had to confront problems of space shortage, limited budgets, increased and increasingly varied demands from users, and outmoded systems which are not able to cope with workloads. The response to these

challenges has been to build more flexible libraries which are able to adapt to change, and which can accommodate the wide variety of materials and equipment necessary today. In addition, librarians have moved away from the traditional concept of what a library is and are now utilising modern technology to assist them in nearly all aspects of library service. Libraries are planned and designed not as depositories of books, but as sources of active information transfer.

The two most recent university libraries to be constructed in this country - those of the Universities of the Orange Free State and Stellenbosch, have been designed to keep pace with progress and in this respect they compare very well with modern libraries in America and Great Britain. They are open plan buildings with a high degree of flexibility, and both meet the requirements outlined by Faulkner-Brown (2) and accepted as desirable in libraries today e.g. accessibility, organisation, variation, comfort, economy and compactness. Not only are they efficient in terms of layout and the functional relationships of the various elements, but the needs of the user have been taken into account. Like successful academic libraries overseas, they integrate function, usability and attractiveness (3).

The importance of function is seen particularly in the design and layout of the main floor of an academic library. It is essential that the architect be aware of what users require of a library, how they use the services provided, how they relate with the library staff, and how the library staff relate to each other. Ease of use and efficiency are essential.

Considering the libraries discussed in this study, the following aspects are felt to be of particular interest to library planners:

1. The entrance area of the University of Northern Iowa Library is very successful. On entering the Library, users find themselves in an attractive environment, circulation and information services are immediately available, and major routes clearly defined. There is no feeling of confusion; on the contrary, the simplicity of the design combined with the colour and quality of finishes provide a welcoming atmosphere.

2. The circulation desk of the University of Stellenbosch Library is well planned in that the user may find circulation, short loan, and inter-library loan functions in one central location close to the entrance. This contains much of the traffic in one area of the Library, reduces noise and disturbance in other areas, and does not waste the time of the user who merely wishes to return or collect a book.

3. Where the short loan collection cannot be housed at the main circulation desk, it should be located within close proximity on the main floor. This is the case e.g. at the Universities of Denver and Nottingham.

4. The careful location of technical departments on the main floor provides accessibility of information for both staff members and users, and easy contact between the two when necessary. The spatial relationships of these departments has been excellently conceived in the Penrose Library, University of Denver, where the point of delivery of books, periodicals and other material is located alongside the Book and Serial Acquisitions Departments, and these in turn are adjacent to the Cataloguing Department. The passage of material to the shelves has been further facilitated by placing the Cataloguing Department alongside the Circulation Department so that new (or recatalogued) items may pass directly to the book trolleys and thence to display shelves or bookstacks.

Locating technical processing departments on the main level places these staff within easy reach of the catalogues, major reference collections and bibliographical sources, and reduces the amount of time spent by staff in obtaining or checking material. The University of Denver Library is in most respects a model of good functional layout, and reflects the design philosophy of modern library planning at its most simple and effective level.

5. Bookstacks and study areas should be located on levels other than the main level. This provides the serious student with quiet surroundings and a study station in close proximity to the subject material in which he is interested. This is the case in most academic libraries today. Student and other users of academic libraries vary in their seating preferences, and a wide variety of study stations should be provided. All the libraries discussed provide an assortment of environments, ranging from group study lounges to private carrels.

6. Locating the main floor at ground level with floors above and below appears to be the most efficient design. Traffic within the library and distances to be traversed are reduced to a minimum. This is evidenced at the University of Denver and the University of Northern Iowa Libraries, which both function extremely well.

7. In some respects, the needs of the user are taken into consideration to a greater extent in American libraries than in British or South African libraries. Drinking water fountains are a regular feature, public telephones for both external and campus use are conveniently situated; coat hooks are provided in study rooms; and typewriters, computers and calculators are readily available. Stanford University's Cecil H. Green Library goes to the extent of providing a Communications

Room' on each level, which contains microfiche reader and catalogues, internal and external telephones, directories, photocopy machines, dictionaries, library guides and plans of library layout. The University of Northern Iowa Library has a 'Tool Room' on the main level housing calculators, guillotines, staplers and punches. Facilities such as these are greatly appreciated by students

8 Another area in which many American libraries are superior to both South African and British libraries is that of interior decoration Despite financial limitations, the use of an interior design consultant is frequently part of the planning and building process, and the results are extremely positive. Expert advice on the use of colour, texture, type of surface, furniture design, graphics, signage, and creation of atmosphere, as well as attention given to details such as door handles and light switches, all contribute towards a pleasing coordination of elements No matter how beautiful the building may be architecturally, its real beauty lies in its interior, and success in this area encourages better use of library facilities, makes them more efficient and easier to work in, and more attractive to users and staff

The Penrose Library (Denver) has made good use of colour and graphics in its internal spaces. Wall graphics not only create cheerful study areas but assist in the location of subject fields by colour coding Staff offices have been transformed from small, windowless spaces into bright, attractive work environments through the use of coloured and reflective mirror tiles arranged in abstract designs on internal walls. Signs with letters 500 mm. tall direct users to information and service points. At the University of Northern Iowa Library, special care has been taken with colour and texture The combination of gleaming red ceramic tiles, rust carpeting,

bright fabric chair covering and the soft beiges of large wall tapestries provide an attractive background to library activities.

Space Standards

There has been increased activity in library planning in South Africa in recent years. Many librarians have had to make substantial changes and alterations to existing library buildings; others have built new libraries; and some are in the process of planning new buildings e g the University of South Africa and Pretoria University. However the future is uncertain. The South African Post Secondary Education system of space and cost norms is expected to have a negative effect on physical development, especially in those older universities where sizeable collections already exist or where decentralized systems, which are wasteful of space, have developed. In relating size to numbers of students, the Government has effectively put an end to the natural growth of academic libraries.

British university libraries are restricted in a similar way by the University Grants Committee, which has recommended self-renewal as the solution to reduced expenditure on physical facilities. The newer university libraries, including those predominantly devoted to technology and therefore able to concentrate on a relatively small part of the spectrum of knowledge, are still under-provided as regards library stock, and will not be affected by the restrictions for some time (4). However, many established universities are having to cope with overcrowded shelves and relegation of lesser used material to storage.

In the United States, library space standards are used as guidelines, especially where financial limitations are placed on the construction of a new building, or where standardised information

is required for comparative purposes. The procedures are not rigid, neither are they compulsory.

Many involved in the education process e.g. the Association of University Teachers, and the Standing Conference of National and University Libraries in Britain, have expressed concern regarding limitations on size. The university library is not a static tool but a dynamic part of the teaching process It cannot be of constant size if it is to build up research collections (5). Ellsworth (6) is of the opinion that space formulae usually become a barrier to good planning for an institution that wishes to experiment with new instructional concepts and innovative library programmes. However, the bibliographic, economic and enrolment situation today is such that most libraries will have to make fundamental changes in the way they operate. The solution to growth in these areas is not more books, more buildings and more librarians. It is new service patterns, new concepts of collection management, and co-ordinated utilization of technological resources (7).

Centralization versus Decentralization

The diverse uses and immense possibilities of the new technology combined with limited financial resources and rising costs have caused librarians to reconsider policies with regard to future development. The issue of centralized versus decentralized facilities remains a major management problem In planning new buildings and considering changes in existing space utilization, university librarians must decide whether it is more efficient and effective to centralize or to decentralize operations. The decision taken will be influenced by local circumstances, and developments such as online access to local and national catalogues and information systems, automated circulation systems, changes in the resource needs of academic programmes, and the nature of knowledge itself as interdisciplinary subject fields become more common. The trend

on large campuses appears to be away from fragmentation of the collection and resources in small branch or departmental libraries towards fewer branch libraries organised on a broad subject basis and large enough to be economically viable. This eliminates unnecessary and expensive duplication while retaining accessibility.

The linear library is a form of decentralization Although it exists in a few universities (New University of Ulster, University of Bielefeld and University of Cape Town), the arguments in its favour are inconclusive. As a concept of library service or a solution to lack of space in the central library, a linear library system is likely to be less successful than either centralization or planned decentralization. The problems experienced in multiple branches such as duplication of stock and staff, lack of security, inadequacy of the collection, and lack of administrative control, are all present to some degree in the linear concept. In addition, there is little flexibility regarding location and expansion if the logic of the system is to be preserved. Accessibility is an advantage of the linear system, however, that cannot be achieved to the same extent in a central library.

In any library system, whether centralized, decentralized or linear, rapid communication is of prime importance today. Online information at all enquiry and circulation points as well as in academic departments will assist in reducing distance between the library and its users and the central library and its branches, and will increase the efficiency and effectiveness of library service.

Automation

It is certain that the next decade will see automation spread to all aspects of library work in almost all large libraries. Acquisitions decisions will be based on extensive management information

about collections and users, and ordering and accounting will be done automatically. Cataloguing will be the by-product of shared bibliographic databases. Online user access catalogues and circulation control functions will be commonplace because they have the greatest potential value for users. The user will be able to access both the holdings and current availability status of materials in the entire library system from a terminal in any library location, his office, or perhaps even home. Almost all bibliographic data, as well as a significant percentage of statistical, scientific and directory data will be accessed through computer terminals (8). Given these service conditions, librarians will have to be skilful in both the printed and electronic media if they are to provide an effective service.

Many would agree with Lancaster (9) that paper will not be as important in the information systems of the year 2000 as it is today. There would simply be too much paper, and retrieval of information would be too cumbersome. However, it is unlikely that computer technology will lead to the demise of the library in the foreseeable future. Sales of personal computers are flourishing, but a computer in every home is still far from a reality. Similarly, although basic computer literacy is on the rise, relatively few people will have the skills needed for sophisticated information retrieval. Libraries and librarians will not be discarded so easily. New technology is not necessarily desirable just because it is innovative. As O Connor (10) rather humourously states:

> "...twenty years ago the output of a retrieval service consisted of references, perhaps accompanied by abstracts. Since then there have been three revolutions in retrieval hardware: computers, online retrieval, and telecommunications networks. In addition there have been several revolutionary changes in retrieval software, such as text searching and thesauri. Now, after all these advances, the

output of a retrieval service consists of references, possibly accompanied by abstracts".

What one must consider of course is the speed with which the information is obtained. The use of technology is the only way ultimately to manage large, diversified library collections and the overwhelming proliferation of published information.

Planning for Automation

The impact of automation on the physical organisation of space and facilities within the library is important. New technology has already had an effect on concept and design, the use of space, the physical environment, and building costs, and these developments and challenges will continue to determine the planning of libraries in the future. The fully electronic library will have sophisticated air conditioning and power requirements, electrical flexibility and extensive ductwork. It will provide reader stations able to accommodate a wide variety of hardware, and storage systems for a diverse collection of software. It will be conceived as a learning and information centre rather than a collection of bookshelves and study spaces.

Greater consideration will have to be given to the library user than in the past. Any application of technology to library activities must be engineered, designed and located so as to be humanly acceptable, since there will be resistance to them all - to console-typed texts instead of print, to engaging in complicated interaction with a machine, to reading in a fixed place without moving around. The machines breed their own resistance to the extent that they place restrictions on people. Now more than ever it is important to design library buildings which will be inviting and comfortable for people to use. The challenge to planners and

architects will be to ensure that space, colour and visual beauty exist in these electronic spaces.

The increasing need for individual study space is becoming apparent to those concerned with planning the automated library of the present and the future (11). Space norms for study stations will have to allow for more space than in the traditional library. A larger area per reader on an individual basis, either at carrels or tables equipped with electronic or audiovisual devices, will be required to achieve the same overall capacity as the four-, six- and eight-place tables did in the past. Difficulties could arise if the standards determining study space in academic libraries (approx. 2,5 m^2 per station at present) do not keep pace with developments. In order to counteract this, it is likely that libraries in the future will be forced to favour reader space over materials space, with the relegation of lesser-used stock to store.

Change can overtake any library almost overnight. However, modern libraries are not condemned to early obsolescence by technological developments. These changes will modify buildings, and will involve trade-offs in space as well as demands for additional space, and for these reasons there will be an even greater emphasis in the future on designing libraries which are adaptable. Library planners need to be alert to innovations and developments. The constant accumulation of these experiences will determine the future of libraries (12).

The final appearance of the library, both inside and out, and the way in which it functions, are of concern to both librarian and architect. The university library is a structure which for many decades will remain an example of the architect's work, and he should be encouraged to create a captivating design. In an age where architectural symbolism is outdated and economic strictures place great inhibitions on his work, he deserves sympathetic

treatment (13). Aesthetic standards are a matter of opinion, yet the personality of a building is only likely to be created in an artistic mind which can imaginatively perceive. The building must survive the developments of the future, providing a physical environment that is functional and efficient. What is required is the full cooperation, support and imagination of everyone involved in the planning process.

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