

INTELLIGENT LIBRARY BUILDINGS

Proceedings of the tenth seminar
of the IFLA Section on Library Buildings
and Equipment

The City Library of The Hague (Netherlands),
Sunday 24 August 1997 to Friday 29 August 1997

edited by Marie-Françoise Bisbrouck and Marc Chauveinc

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PROGRAM

- Sunday August 24, 1997**
17.00 Registration delegates
- Monday August 25, 1997**
9.30 Opening session
Welcome by Marc Chauveinc, Chairman, IFLA Section on Library buildings and equipment, Anke van Kampen, alderman for Education, Social services, Employment project, Integration and Emancipation of the municipality of The Hague and Wim Renes, director of the City Library, The Hague
- 10.30 Chairperson: Piet Schoots
Building with intelligence, by Harry Faulkner-Brown, architect/consultants, Anick, Hexham, United Kingdom
- 14.00 The City Library of The Hague, by Wim Renes, director City Library of The Hague
Intelligent buildings, by Jacques Mol, Valstar Simonis consulting engineers, Rijswijk, Netherlands
Is an intelligent building automatically a functional library by Hanke Roos, manager Central Library of The Hague
Guided tour of the City Library of The Hague
- 15.00
- Tuesday August 26, 1997 :**
9.00 Chairperson: Rick Ashton
Niedersächsische Staats- und Universitätsbibliothek, Göttingen, by Reimer Eck, Head librarian, Niedersächsische Staats- und Universitätsbibliothek, Göttingen, Germany
- 11.30 Die Deutsche Bibliothek at Frankfurt-am-Main, by Ingo Kolasa, building expert/coordinator, Die Deutsche Bibliothek, Frankfurt-am-main, Germany
- 13.00 TThe new headquarters of the Venezuelan National Library, by Elvira Muñoz Gimenez, architect and director of the Design project, Caracas, Venezuela
- Wednesday August 27, 1997**
9.30 The University Library of the future today (Video), Towards the digital library by Hans Geleijnse, librarian Katholieke Universiteit Bibliotheek Brabant, Tilburg, the Netherlands
- 11.00 New information services for academic staff and students, by Solke Veling, director Rekencentrum KUB
- 12.00 Guided tour of the Katholieke Universiteit Bibliotheek Brabant, Tilburg
- 14.00 Departure for Rotterdam City Library
- 15.00 Transforming the library into a public information center, by Franz Meijer, director City Library, Rotterdam
Guided tour of the library

Thursday August**28, 1997**

9.00

Chairperson: Piet Schoots

San Francisco Public Library (SFPL), New Main Library: a case study, by Kenneth E. Dowlin, distinguished visiting professor, School of Library and Information Science, San Jose State University, USA

11.00

A beautiful, useful machine for service: the Denver Public Library, by Rick Ashton, City Librarian Denver Public Library, USA

14.00

The New York Public Library's Science, Industry and Business Library (SIBL) as a smart building, by Paul LeClerc, president of the New York Public Library, USA

The NYPL's SIBL, slide presentation, by David Walker, Director Research Libraries, New York Public Library

16.00

The Adsetts Learning Center, Sheffield Hallam University, by Graham Bulpitt, director Learning Center, Sheffield Hallam University, UK

Friday August 29,**1997**

9.30

Chairperson: Marc Chauveinc

A new library with a new building, a new network and a new computer system, by Jean-Marc Czaplinski, Head Division Études et Développement, Direction des systèmes informatiques, Bibliothèque nationale de France, Paris, France

11.30

Closing session by Marc Chauveinc and by Wim Renes

INTRODUCTION TO THE SEMINAR

by Marc Chauveinc
Chairman of the Section on Library Buildings and Equipment

First of all, I would like to welcome you to this IFLA 10th pre-seminar on « Intelligent library buildings ». The large number of participants gathered in this room, far beyond our expectations, shows that the chosen theme is of great interest to you and will contribute to the success of this seminar.

My name is Marc Chauveinc, and, until next week, I am the chairman of the IFLA Section on Library Buildings and Equipment.

IFLA is the International Federation of Library Associations and Institutions which groups together librarians from all over the world. Its Headquarters are in The Hague, close to this place.

The annual meeting of IFLA will take place next week in Copenhagen.

The Section on Library Buildings and Equipment holds its 10th seminar on « Intelligent library Buildings » here in The Hague from today to Friday, allowing you to fly to Copenhagen for the IFLA Conference.

This means that this seminar is not isolated but, with other pre-seminars held in different places before or after the main IFLA Conference, is organized in conjunction with it and as part of it.

It is one of the activities of the section, with study tours of several libraries in one country and annual meetings during the IFLA Conference.

Most of the time, these meetings present new library buildings in the country where the conference is located. Last year, we listened to Chinese speakers describing new library buildings in China. This year, we will have four speakers presenting new national libraries in Finland, Denmark, Sweden and Norway.

These explanations are given just to show you that this seminar is not a one time activity but is part of a continuing work on library buildings, carried out by the section. It is the continuation of several seminars held in conjunction with annual IFLA meetings.

I am not going to start on « Intelligent library buildings » now. I just want to say that this theme was chosen by the Section in conjunction with the tremendous progress made by new technologies in the world of libraries and with the impact of these technologies on our work and on the building of our

libraries.

We will learn from our speakers how library buildings can be adapted to computer technology and to new communications means. I am sure you will enjoy their presentations and learn a lot from them.

Before starting, I would like to thank those who have made this seminar possible.

First of all, the Mayor of the City of The Hague who has accepted to sponsor the seminar, so it can take place in the beautiful surroundings of the city hall and in the library. We will benefit from this modern environment. He will tell us some words of welcome.

Mrs. Marie-Françoise Bisbrouck, secretary of the section, who has, in addition to her normal work, taken the responsibility and the charge of sending the invitations and collecting your registration forms. It was not easy to connect the registration forms to the bank transfers which often had no names. Even when we had names, it was not always obvious to know if they were for a man or a woman! She also has contacted most of the speakers, explaining them what we expected and discussing the topic with them. Marie-Françoise has done a marvellous job.

Mr. Wim Renes, past chairman of the section, has accepted to hold the seminar in his library which we will visit this afternoon. This implies a lot of tedious but important activities, such as finding sponsors, places to stay, places to eat, hotel reservations and bus renting for a visit to Tilburg and Rotterdam. We thank him for organizing everything so smoothly.

I want also to thank every one of you for attending this seminar. Some of you have come a long way and travelled long distances from your countries very far from the Netherlands, like China, Namibia, Singapore, Thailand, Malaysia or Peru. It is a wonderful surprise to see participants from so many countries represented at this seminar. We are 74 participants coming from more than 30 countries.

I am very grateful to the speakers, chosen among the most prominent librarians in their countries and responsible for new and innovative buildings, who have accepted to spend one week with us to discuss our theme. I am sure that they will share their experiences and give us good advice on how to build an « Intelligent library building ».

As you know, nothing can be done without money. This seminar would not have been possible without the generous support of some sponsors. Of course, IFLA is one of them, but the others are coming from the private sector, business companies interested in libraries: Schulz Bibliothekstechnik GmbH from Germany, Automated Library System from Great Britain, Nederlandse Bibliotheek Dienst from the Netherlands. They should be thanked for their co-operation and support.

I hope you will have a good and stimulating seminar.

I now give the floor to the Aldermam for education and social services

of the city hall of The Hague.

WELCOME

by Anke van Kampen

Alderman for Education, Social Services, Employment Project, Integration and Emancipation of the Municipality of The Hague.

Dear ladies and gentlemen, librarians, architects and library-furnishers.

I am pleased to welcome you on behalf of the municipality of The Hague on this tenth seminar of the IFLA Section on Library Buildings and Equipment in The Hague, which goes by the title of "Intelligent library Buildings".

During this seminar you will be informed on this subject by several speakers.

For many of you this will be your first visit to The Hague.

Therefore I will confine myself to a short impression on the city of The Hague.

The Hague has 450.000 inhabitants, it is a multicultural city where people of different cultures live, work and relax.

It is the Queen's residence, the centre of government and the green city by the sea, but it is also the library city par excellence. Here you will not only find the municipal library and the city archives, but also the Royal Library and the National Archives and many specialized libraries, like for instance that of the International Peace Palace.

Berlin is often called the building site of Europe, but The Hague also counts! The Hague is building a new city centre, you will be able to see and hear that this week. This creation of a new city centre really started after the completion of this city hall/library complex.

When in 1975 the city hall Council developed plans for a concentration of cultural and recreational provisions in the city centre, the public library of The Hague made sure to be in the forefront of things. The building that housed the library at that time was far too small and not suited to present the materials in an orderly way to the public. The building of the central library did not comply with the standards set to a city library and could not be remedied to do so.

In 1988 the decision to build the city hall/library complex was made.

It has taken twenty years before a good solution for the lack of space of the central library was realized. In 1995 at last there was the new central

library on the Spui.

The library is a very attractive institution in the city centre, which should be a meeting place par excellence.

If only because the library is an institution that attracts visitors at all times of the day (61 hours a week) and on average sees approximately 3.500 visitors a day.

Also from another point the library is a focus.

Nearly 5 million books and other materials are lent every year.

Not only to readers belonging to one specific group, or of a specific level of learning, or of one specific religion, but to people from all layers of society. Can you imagine any other place where young and old, this and that, right and left, high and low, meet one another like they do in the library?

Starting point for the municipality of The Hague was to create a central library that would act as an information centre for all and would become a place for relaxation and meeting for all inhabitants of The Hague and now we can say we succeeded.

It has become a place where people come in as a matter of course and find themselves suddenly surrounded by books, open and inviting, not sterile but, on the contrary, full of life. A pulsing heart in the royal residence, pulsing rhythmically with the rhythm of the city itself.

Therefore I am pleased to invite you for a visit to this « intelligent library building »: to the central library, the city archives and the city hall.

I wish you an informative and especially a fruitful seminar and hope that your first visit to The Hague will lead you to another visit to us, if only to look at the new city centre of The Hague.

INTRODUCTION

*by Wim Renes
Director of the Central Library, The Hague*

Confusion over what makes a building intelligent is that probably the main reason for you to join this 10th IFLA seminar on the topic: intelligent library building ?

At least nearly 80 participants from 30 different countries all over the globe and from all the different continents made up their mind and booked for this seminar in The Hague, Netherlands.

The city as well as the library are very pleased that so many colleagues, librarians, architects, consultants and library suppliers take the opportunity to discuss the item on intelligent library buildings. I welcome you once again to The Hague, to this seminar.

For all types of libraries, national libraries as well as university and public libraries, the building has to be well designed and fully prepared to cope with the definition of the intelligent building: « as a building that maximizes the efficiency of its occupants while, at the same time, allowing effective management of resources with minimum lifetime costs ».

Let me give you another definition of intelligent buildings, which I came across reading a thriller:

« Ladies and gentleman, I have to tell you that the modern architectural scene presents us with the greatest adventure of all: architecture that uses the advanced technology of space exploration and the computer age. The building as a machine in which invisible micro- and nano-technology have replaced industrial mechanical systems. A building that is more like a robot than a shelter. A structure with its own electronic nervous system that is every bit as responsive as the muscles flexing of the body of an Olympic athlete.

No doubt there are some of you present here today who will have already heard of so-called smart or intelligent buildings. The concept of the intelligent building has been around for a while and yet there remains little consensus of what makes a building intelligent. » (Philip Kerr, *Gridiron*, London, 1995, page 7-8.)

There are many definitions to present.

The best solution however is to listen to and follow the various presentations of intelligent library buildings from all over the world.

Colleagues with recent finished projects are very pleased to guide us this week with their presentation and including our discussions into the world of intelligent library buildings. With far better results than in Philip

Kerr's thriller.

Projects of national libraries, university libraries and public libraries are scheduled this week. A greater variety is hardly possible.

I am sure that at the end of this 10th IFLA seminar there will be less confusion about what makes a library building intelligent.

I wish you all a week well spent: for your professional work in the field of libraries and personally here in The Hague.

SOME THOUGHTS ON THE DESIGN OF MAJOR LIBRARY BUILDINGS

by Harry Faulkner-Brown
Chartered Architect and library Planning Consultant

ABSTRACT

Library buildings of all sizes but, particularly large ones, should have the following purposes: - protection of books and collections; - housing of books and other collections; - housing of the various catalogues; - accommodation of readers; - provision for staff; - quarters for ancillary functions; - quarters for library administration; - study, research and writing quarters; - space to publicize resources; - structure to serve as a memorial.

These can be studied, agreed and communicated by means of both an initial and final brief. In it qualitative factors are of singular importance. Ten are suggested together with some British space standards. Ecological library buildings and architectural options are outlined.

INTRODUCTION

I was somewhat at loss when asked to stand in for the first speaker at this conference at a few days notice. Since I recently prepared a chapter for a publication dealing with the subject of my title, I am presenting you with substantial extracts from « Design criteria for large library buildings », chapter 19 in UNESCO World information report, 1997/1998.

This paper considers planning and design aspects of new library buildings, and extensions and major reconstruction of existing buildings.

So many factors influence these buildings that a rationalization of common features is presented, since there are many similarities in the functions of large buildings designed to meet the needs of academic and research institutions, historical societies, state and national libraries. The many similarities are balanced by differences caused by the unique nature of governmental, educational, cultural, geographical and urban philosophy and practice, and by the community they serve.

Some results are well illustrated in a recent publication (Melot, 1996). Several authors describe and illustrate many of the features of fifteen recent major library buildings. The variety is staggering; some are quite inspirational and cover regions as dispersed as the west and east coasts of the United States, Europe and Scandinavia, the Middle and Far East and parts of Africa. This is an important book of reference which can be of value to decision makers in any country contemplating a project for a major library

building.

FUNCTIONS

Keyes Metcalf, the doyen of library consultants, wrote his important book « *Planning Academic and Research library Buildings* » in 1965, the great guide on this particular subject. The revised edition (1986) contains the following statements of purposes:

- *protection of books and collections* of other records from the elements, poor environment and mishandling;
- *housing of books and other collections* in a variety of accommodations for ease of access;
- *housing of the various catalogues* and related bibliographic tools which enable the reader to find relevant materials in the local collections and supplementary holdings in other institutions;
- *accommodation of readers* and other clientele who need immediate or frequent access to collections and services;
- *provision for staff* who select, acquire, organize, care for and service the collections, and who aid readers in their informational needs;
- *quarters for ancillary functions* such as photocopy services, bibliographic instruction, audio-visual materials preparation, computer support facilities, etc.;
- *quarters for library administration and business offices*, such functions as personnel, finance, fund-raising, publications, graphics or signage, building operations, security, supplies, mail and delivery service, etc.;
- *study, research and writing quarters* for students, faculty and visiting scholars;
- *space to publicize* resources or services through exhibits, lectures, publications, etc.;
- *structure to serve* as a memorial to an individual and symbolism of institution's academic life in pursuit of scholarly achievement.

These physical provisions are designed to meet the present needs of the library building but at the same time must be arranged in such a way that it remains possible to adapt to inevitable changes in government or institutional policy, educational variations, social patterns and technological advances and which are difficult or impossible to predict.

BRIEF (PROGRAM)

It is important that the needs of a new, extended or reconstructed building should be clearly and unambiguously stated. This is one of the most important activities in the life of any building. It is formulated for

clarity of communication. It is important here to define what is generally accepted as the brief or program. The final brief is a comprehensive list of all the requirements necessary to inform the design team adequately, and is gradually developed over an extended period of consultation. (This sometimes undertaken at the outset by brief-writing specialists). It is based on the initial brief given by a client to an architect, usually when the building is first commissioned, and can form the conditions and rules of a competition. It can be defined as a short, concise statement of the problem, its objectives, organization, operation, technical requirements and schedule of accommodation, and sets out factors affecting the design standards and qualities required; it should be comprehensible to lay committees and be used for subsequent design evaluation. Prejudices and suggested design solutions should be avoided. Examples are given in Faulkner-Brown (1993).

FIXED-FUNCTION

For all practical purposes, before 1940, library buildings were fixed-function buildings. Each part was designed to do a specific, known and predictable function. This type of building was successful only while the function remained constant. By 1945, the function of academic libraries and others, including very large libraries with a legal deposit role, stopped being constant. Three principal items revolutionized library planning, resulting in massive changes to the building: the changing role of and expansion in education; new forms of communication and access to information; the massive development of all forms of relevant technology. However, in larger buildings requiring storage of considerable amounts of both book and non-book material, generally in closed access, bookstacks and specialist stores in fixed function accommodation form a large part of the whole. The rest of the building provides space which can be adapted, enlarged and changed to rearrange functions and activities easily, without undue disruption.

MODULAR

The flexible modular building is now a mature building type and is the result of several decades of development and refinement. Some buildings have not managed to cope with the changes which have taken place in activities and access to information, although many have - but will they and new unborn schemes continue to cope in the future when needs and activities are changing so rapidly and in such a unforeseen ways? It is difficult, or virtually impossible, to predict how library buildings will change in the future except that the only certainty is that they will change.

QUALITATIVE FACTORS

In examining what exists at the moment, an enormous range of solutions to the problem presents itself. To attempt to analyze or even comment on aspects of resolution and either to review or criticize building design solutions would require a volume on its own. Major buildings,

especially national libraries, are unique and some are so unusual that they should not be studied as role models. It is therefore more appropriate to try to establish common ground so that in making projections for the future a clear picture can emerge of what the library building of today and tomorrow should be like.

To attempt to illustrate an ideal library would ignore the many and varied basic factors affecting the buildings, such as national culture and education, user needs, patterns of use, the influence and constraints of the site, the financial climate and national pride. There is, therefore, justification for an examination of desirable qualities rather than theoretical details.

Although internal arrangements and user services vary from place to place, and from one type of library building to another, recent buildings of all sizes have several common factors, which have been crystallized into the following desirable qualities, or as some colleagues call them - « Faulkner-Brown's ten commandments ».

A library building should be:

1. **flexible**, with a layout, structure and services which are easy to adapt;
2. **compact**, for ease of movement of readers, staff and books;
3. **accessible**, from the exterior into the building and from the entrance to all parts of the building, with an easy comprehensible plan needing minimum supplementary directions;
4. **extendible**, to permit future growth with minimum disruption;
5. **varied**, in its provision of book accommodation and of reader services to give wide freedom of choice;
6. **organized**, to impose appropriate confrontation between books and readers;
7. **comfortable** to promote efficiency of use;
8. **constant in environment** for the preservation of library materials;
9. **secure** to control user behaviour and loss of books;
10. **economic** to be built and maintained with minimum resources both in finance and staff.

These are the broad outlines of ten important qualities. Irrespective of size, these qualities can be applied in varying degrees. It is worth examining them in more details. Several library buildings have adopted these qualities: National and University Library, Reykjavik (Iceland); Bibliotheca Alexandrina , (Egypt); Juma Al-Majid Centre for Culture and Heritage (Dubai).

FLEXIBLE

Flexibility of course does not mean that the structure is flexible and

will bend or move under stress. A flexible library building is one which permits flexibility in the layout of its planning arrangements, with structure, heating, ventilation and lighting arranged to facilitate adaptability. By arranging columns with regular spacing, or reducing the number of columns with long span beams, and by designing the floors to carry a superimposed live load of 7.2 kN/m^2 (150 lbs /ft^2) for bookshelf loading, it is easy to move departments, issue and service desks, bookshelves, reader places or other library functions to any part of the building.

Better flexibility is achieved when floors are level, without steps, and when the heating, ventilation and lighting are uniform and allow rearrangement without the need for any alterations and yet maintain an adequate environment. The planning arrangements are much more flexible if the number of internal walls are concentrated in certain areas to form « cores », containing immovable features such as stairs, lifts, toilets and ducts. Other walls, where security and privacy are absolutely essential, are not structural, and are designed to be demounted and erected elsewhere. The building and its components are designed to facilitate this. All other areas can be left open and, through applying the well-tried experience of offices designed on « *Bürolandschaft* » principles, visual and aural privacy are achieved very simply, with the bonus of much improved communications and supervision.

The necessary visual privacy is achieved by varied furniture arrangements with bookshelves providing indigenous screening, and movable indoor planting additionally providing colour, a variety of forms and life to the interior.

Aural privacy is achieved by acoustic material on both the floors and ceiling, plus the introduction of an even level of ambient noise in the ventilation system. These factors ensure that noise levels of normal library functions and conversations are absorbed in a satisfactory manner, and are not distinguishable at distances of beyond about four meters from sources.

In an open-planned building designed flexibility to cater for adaptations, the relocation of departments and activities are achieved without having to resort to expensive contractual alterations, and the librarian is not inhibited from making changes or instituting experiments - they are achieved merely by moving furniture and bookshelves. If, however, the furniture is fixed or built-in, or built of brick, steel or reinforced concrete, then it does present a more difficult problem. The furniture is immovable for all time, which assumes that needs will not change.

Furthermore it can be demonstrated that the open-plan flexible library can be economical in staff resources, since overseeing and informal control are facilitated by the openness rather than by dividing up the building into rooms or halls, thereby requiring fewer staff.

It can be seen therefore that the open plan has many advantages, that enclosed rooms disappear, or are drastically reduced in number, and that the departments are in loosely defined areas, informally arranged in relationship

to each other.

COMPACT

A compact building will assist the librarian in many ways. Theoretically, travel distances will be reduced to a minimum if the building is a cube and on entry users are brought to the centre of gravity. Books, staff and readers will need to move shorter distances in a cubic building than in a linear building or one extended by moving away from a deep plan. There is also a bonus in economy of consumption of fuel and energy.

ACCESSIBLE

The quality of « ease of access » to the building and to the books is one to which much attention needs to be paid. An easy and inviting route to the entrance should also be unambiguously defined. Once inside, the user should be aware of the location of the principal elements of the building - inquiries, the main desk, reference, catalogue and stairs - and the routes should be strongly stated without an overproliferation of signs and directions.

EXTENDIBLE

Until recently all librarians and some architects have maintained that library buildings especially academic libraries, are not finite. They should be capable of extension and land should be reserved for future expansion.

A significant development in British academic libraries was the report of a working party on Capital provision for university libraries - the Atkinson report. Among other things it recommended the adoption of a « self renewing library of limited growth », and established new norms. This meant that academic library buildings were to be finite with no provision for extension.

It is a commonly held view that every library building should be capable of extension, that the construction of the building will facilitate extension, and that, at each stage of development, the building should appear to be a complete entity. Naturally, the choice of exterior materials and construction will be heavily influenced by this latter factor. The exterior wall of a library building can consist of a series of simple repetitive units which can be removed from the facade and re-used in an extended building. If the library is not extended, it can stand in its present state as a finite, and apparently complete building. If the needs of the library change, the building can be changed reasonably easily. Some of the ten commandments can be bent, some diluted, but this one should not be abandoned.

VARIED

The variety of book and of user accommodation in a library adds interest to the interior but also provides for the many needs and preferences of the users. This will vary considerably depending on size, function and location.

ORGANIZED

Since it has been said that « the library is the principal means whereby the record of man's thoughts and ideals, and the expression of his creative imagination, are made freely available to all », then a principal quality in a library building is that the display of its library materials can be organized so that they are accessible and easily available. Simplicity in layout, arranged in an easily understood and inviting way, is vital in both small and large libraries.

COMFORTABLE

Before beginning the design of a library, the librarian and the architect together should visit a large number of libraries of all types. It is important to observe how libraries are actually used. Photographs and notes should diligently record this, and will probably include many cherished photographs of sleeping users. Almost without exception, they will have occurred in large libraries with antiquated and inadequate ventilation without air-conditioning. A fresh, constant temperature and humidity not only promote efficiency of use, they encourage use. In some climates, discomfort is caused if windows in a large library are opened - heat, cold, dirt and noise are offered « open-access » from the external environment.

In other climates, to achieve the desirable comfort conditions, it is important and economic to use the free facility nature offers from the external environment and induce it into the building with controls to regulate it according to need. Generally speaking, this applies to large library buildings, especially those with a deep plan, and to those where study conditions can be offered with a secure aural environment.

In all libraries, a good standard of lighting is necessary - there is a lot to be said for an evenly maintained level of minimum of 400 lux at the working plane throughout the public areas. This will be adequate for most needs, including the illumination of the book title on the lowest shelf.

CONSTANT IN ENVIRONMENT

Research into the preservation of library materials indicates that a constant environment is necessary, and when this requirement is linked to the former - comfort of the user - an unvarying level of illumination, heating, cooling, ventilation and acoustics will give the type of environment needed in a library. The external wall should be considered to be an environmental

filter or regulator. It should reduce heat loss in winter and solar gain in summer. It should keep out intrusive external noises yet provide windows for prospect.

Temperature and relative humidity (RH) standards, which are generally acceptable in a library, are:

- 18.5 ° C to 21 ° C;
- 50 % - 60 % RH (never to exceed 65 % RH).

SECURE

Security of the collections has always been of prime importance in libraries. The reduction of public access and egress to a single point well controlled by electronic book detection systems or other means, and the openness of planning to assist automatic overseeing of most areas, goes some way to reduce the loss of books and to control the behaviour of users in many instances, so that vandalism is reduced.

ECONOMIC

The energy crisis has hit all of us. Libraries can be expensive buildings to build and they can be expensive to run; in fact, running costs have become a major financial consideration to librarians. In large libraries, the deep compact plan requires long hours of artificial illumination and air conditioning to create an even and constant environment. Every acceptable method must be examined to minimize cost without impairing service.

In first instance, when designing a building, economy in running costs can be affected by reducing the surface of the exterior skin of the building (walls and roof) as much as possible, so that the ratio of wall area to floor area is low. A building form with a cube shape is ideal, but may not suit the library planning needs. However, it is important that the building shape is as close to a cube as possible.

Secondly, windows allow heat to pass out of the building in winter and to pass into the building in summer from solar penetration. Window openings should be as small as possible and as a guide the recommended total area of window should not exceed 25 % of the total wall area. Shaping the exterior of the building to provide shading for the windows can keep out solar penetration at the hottest part of the year, thereby reducing the cooling load in summer. There is no need to stress the importance of wall and roof thermal insulation.

Contrary to widely held belief, the great consumer of energy in a deep plan building in temperate climates is not the heating requirement in cold weather. Well insulated walls of minimum area are the only substantial source of heat loss. The centre part of the deep plan is not losing heat, since it is surrounded by a cocoon of warm air in the perimeter bay. In addition to the lighting, the major consumers of energy are the fans to circulate air

through the building and the refrigeration equipment to reduce the temperature in warm weather. The period when maximum energy is required is in hot weather with a full library, when the air conditioning plant has to deal with outside temperature, and with permanent artificial lighting to a high even standard.

SPACE REQUIREMENTS

The Standing conference of national and university library (SCONUL) co-ordinates the results of investigations and experiences in British academic libraries. In one of its recent papers (McDonald, 1996) attention is drawn to the inadequacy of the need British norms for the size of libraries and to the need for increasing the allowance.

According to what have become known as the Atkinson Norms, the appropriate net size of a university's central library should be assessed by the following formula:

- 1.25 m²/student numbers FTE (full time equivalent);
- 0.2 m²/student numbers FTE in ten years' time;
- + assessed provision for special collections;
- + adjustment for special circumstances.

The gross size of the library can be derived by adding the balance area (for toilets and staircases, etc.) to this net figure. Depending on the shape of the building, this balance area is commonly about 25 %. The figure of 1.25 m² was based on 0.40 m² for seating and 0.62 m² for bookstacks, with an additional 20 % allowed for administration (library staff). It is also suggested that there should be one reader place for every six students (FTE) on average, and the space required for each reader place was 2.93 m². It was recognized that different provision was appropriate for different academic disciplines; for example, one place for every two law students was recommended. These norms have been widely adopted not only in the United Kingdom but also around the world, and have been used by many universities in planning their libraries and bidding for the necessary resources. On the other hand, some universities have never achieved the level of funding necessary even to approach these minimum standards.

The existing space norm was based on a reader's module with a table measuring 900 mm x 600 mm. It has become increasingly clear that this was an absolute minimum even in print based libraries; but as the use of equipment, especially computing equipment, has grown, this table size has become grossly inadequate. In order to provide space for books, computers and reader's papers, a table size of 1200 mm x 800 mm is necessary. As a result of increasing information technology provision, the old space norm of 2.93 m² per reader space has therefore been found insufficient, and in recent projects universities have found it necessary to make a more generous space allowance of between 2.5 m² and 4 m² per reader space.

SPECIAL TECHNICAL REQUIREMENTS

In large library buildings, storage accommodation for either books, pamphlets, maps, sheet music, slides, records, compact discs, audio and video tapes should be available as appropriate on open access. But a large part of the collections inevitably will be housed in closed access stacks. There is merit in considering furnishing the stores with static shelving initially, with the physical provision to convert to compact mobile shelving when necessary.

As a guide, the parameters given in the brief for the Bibliotheca Alexandrina for special technical requirements were summarized as follows:

Reading rooms and offices:

- sound reduction factor 43 - 45 dB; - natural lighting as far as possible; - artificial lighting about 500 lux at table level; - finishing designed to avoid glare; - temperature 21 - 24° C; - relative humidity 55 - 65 %; - air change 2 V/h.

Lecture rooms, classrooms in the International school of information science (ISIS):

- sound reduction factor 45-55 dB; - finishings designed for acoustic absorption; - natural lighting for classrooms; - artificial lighting about 500 lux at table level; - temperature 21-24° C; - air change 10V/hr.

Closed access book storerooms:

- artificial lighting about 300 lux; - temperature 18 - 20° C; - relative humidity 45 - 55 %; - floor load 13 kg/m². Laboratories and workshops; - designs ensuring acoustic absorption; - variable artificial lighting about 500 lux; - temperature 18 - 21° C; - air change 2 V/h; - own air extraction system; - de-ionized water supply; - uninterrupted power supply for computer; - standby power source.

MAJOR RECONSTRUCTIONS OF EXISTING BUILDINGS

The great difficulty encountered in conversions or alterations to buildings to make them suitable for use as up to date libraries buildings usually lies with the existing structure and services. If the structure has a floor loading capacity of 13 kN/m², from a structural point of view it should be reasonably flexible since it can carry static bookstacks. A floor loading

capacity of 13.5 kN/m² will permit the use of compact mobile bookstacks. If the building is a historic or architectural national monument, then problems of interference with parts of the building fabric might be overwhelming.

A major cause of interference can be ductwork for a ventilation system. There is a wide experience in this problem in most parts of the world. The new problems which are showing themselves are generally concerned with the proliferation of communications and information technology. So much cabling needed in public parts of a library building are difficult to conceal. However, new techniques could be helpful. Digital cordless communication technology is developing. This eliminates the need for horizontal wiring, has minimal space requirements, causes little disturbance to the fabric of an existing building and is quick to install. Generally it is in its infancy - it will be most interesting to see how it develops.

ECOLOGICAL LIBRARY BUILDINGS

Library buildings protect the contents and occupants from the external environment and phenomena such as rain, wind, temperature and humidity. Indigenous and intelligent design make use of naturally occurring materials and works with the environment. Examples of man-made materials for building which work with the environment, in addition of those occurring naturally, are concrete, brick and tile. Those which do not are glass, steel and plastics.

In the 1960's, the style of building was in conflict with ecology. Glass boxes and lightweight structures made huge demands on energy supply (and therefore costs) and, among other disadvantages, contributed to the « sick building syndrome ». Fortunately, there is a steady move towards reducing wasteful expenditure on energy by maximizing the use of ambient, renewable sources of energy in place of generated energy by:

- providing a thermally massive structure (which to a large extent is needed for floors substantial enough to support bookshelves) and gaining free night-time cooling;
- achieving an effective balance between the use of advanced automatic controls on building plant and the opportunity for users to exercise direct control of their environment;
- improving natural ventilation;
- maximizing the use of daylight and sunlight with the possible introduction of an atrium, provided it does not impair the acoustic environment.

The above suggestions when applied in differing climates will produce quite different solutions. It is a complicated technology but can produce a simple energy and cost saving solution.

ARCHITECTURAL OPTIONS

For several decades, the design of large library buildings generally followed the pattern of this building type in the USA which evolved as a deep plan squarish building, with open access bookstacks in the centre and reading spaces on the perimeter. In some instances, sometimes for good visual reasons, large windows occupied substantial areas of the facade.

Technically the buildings were similar in a variety of climates since they were sealed, without opening windows. Heat gains due to solar effects on both the structure and in many cases unshaded windows, caused problems which could only be relieved by artificial cooling. In addition the centre bookstacks, because of their remoteness from the perimeter daylighting, needed to be artificially illuminated during opening hours.

Damage to the biosphere has become an increasing concern of all those involved in construction. The energy crisis of the 1970's has made us recognize the critical effect on human and economic costs. There is an increasing realization that many of the problems can be avoided by designing for natural light and ventilation.

Human response to daylight indicates that most people value the variety of daylight, enjoy its presence and at least want a view of the world outside. There is a subtle benefit that occupants' metabolic rhythms are synchronized properly with the time of day and night.

Natural and artificial heating, lighting and ventilation of buildings are interdependent and there has been a noticeable move towards replacing the totally artificial internal environment with a more natural system.

In large library buildings, it is difficult to bring the benefits of daylight to all parts of the floor areas used for human occupancy. A new pattern is appearing where the introduction of an atrium allows natural daylight to reach parts which were previously inaccessible. Too much or too little glazing, of the wrong kind or in the wrong place, will produce heat losses or heat gains, which may have to be counteracted by artificial cooling or heating. This has to be balanced with the avoidance of glare, down draughts, lack of privacy, severe temperature variations or ultra-violet damage. Examples can be seen in Copenhagen, both in the extension to the Royal Library and in the university library at Amager.

The emerging style of library buildings towards the end of this century seems to indicate that the needs of the users are paramount, and that the consideration of using natural daylight, heating, cooling and ventilation is a pattern that must be followed.

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THE CENTRAL LIBRARY OF THE HAGUE

IN THE MOST PROMINENT PLACE IN THE CITY

by Wim Renes,
Director of the City Library of The Hague

1. INTRODUCTION

The moment of completion of the new building in The Hague was and is one of great importance to the city, its library and its citizens.

It was not just the final culmination as the result of many, many years of discussions and planning: with different plans to look at, and to be discussed, but the city has finally got a new and greatly improved library to serve the clients of the city library up to date.

Everyone who was familiar with the distressing accommodation of the central library of The Hague on our previous location on the Bilderdijkstraat, eagerly looked forward to the developments of the new location on the Spui. There, in the « slipstream » of the new city hall, a new central library has been erected and completed in September 1995 ¹.

The complex process of planning this specific new central library in the city centre of The Hague, as part of the much greater city hall/library project, took nearly nine years.

From the remarkable day of the memorable brainwave of alderman Adri Duijvestein on the terrace of a hotel in Kijkduin in May 1986 up to September 2, 1995 - the first day of opening for the public - the library staff was fully involved in this planning- and building process.

30.000 visitors on that first day of opening gave the staff already that same day the intense feeling that the decision to build in combination with the city hall, and specially on this specific location, was exactly right.

At the general IFLA-Conference in Havana, Cuba, August 1994, I presented a paper called: « *From brain-storm to the new central library of The Hague, Netherlands* », in which the first years of detailed planning was described. ²

It was already clear in the sixties that a new central library complex was needed. It is surprising that the first serious administrative initiative for

¹ Duijvestein, Adri. *Het Haagse stadhuis, bouwen in een slangenkuil*. Sun, 1994

² Renes, Wim M. *From brain-storm to the new central library of The Hague, Netherlands*. Cuba, Havana, august 1994

a new construction was not actually taken until 1982, when the city council reserved a location for it in a zoning plan in the centre of the city and that determined the programme of requirements.

2. THE THEME: INTELLIGENT BUILDINGS

Recently, there has been considerable fanfare advocating the merits of the « intelligent building ». Numerous articles and publications have been presented and published, promoting this « new-age » technology.

Admittedly, the concept is very enthralling: a state of the art library building with the latest and greatest in design and constructural technology, offering the clients systems that once only existed in the imagination of futurists. It is a dream of engineers, designers and librarians, a forum to marry new technology with creative design applications and a heavily used library building.

Main criteria for me to qualify the building as intelligent is the fundamental objective of meeting the needs of the end user: the visitors of the central library. Keyword therefore is functionality.

Perhaps for the librarian the problem lies in the fact that the building should be utilized according to the requirements of its mentioned end use. It should not be the governing factor for the design only. A really intelligent building is a building with an intelligent owner and an intelligent preparation team, for instance: architects, technicians, consultants, interior lay-out consultants.

« Creation of a new library cannot be the work of one man, or one firm. It requires the co-operation of a whole team, each member with its own contribution to make » is the conclusion of the well-known librarian and library consultant Godfrey Thompson.³

The intelligent building of today is, however, not exclusively the work of specific experts: architects, contractors and constructional and technical advisers/consultants.

In practice every staff member of the library will be involved in its long-term developing process.

An executive summary of the report « The intelligent building in Europe » defines an intelligent building as: « one that maximizes the efficiency of its occupants while at the same time allowing affective management of resources with minimum lifetime costs ».

3. INTELLIGENT LIBRARY BUILDING IN THE HAGUE

For our library project in The Hague concerning the new central library as an intelligent building we were fully focused on:

³ Thompson, Godfrey. *The efficiency of the vertical and horizontal organization*. Bremen, 1977.

- adequate funding of the project
- location of the new central library
- the program of requirements
- the spacebook
- the datasheets

4. FUNDING

« The building budget plays an extremely important part in the final realization of a new library building. On the one hand it constitutes the limits of what is attainable in terms of price and quality, while on the other hand the aims the library wishes to achieve, within the possibilities the building offers, set a clear task for its financing and yearly cost-effectiveness. The building budget for a new library facility is, at least for public libraries in the Netherlands, tightly constrained by the funding capability of the local city council ». ⁴

In preparing the new central library according to the definition of an intelligent building as one that maximizes the efficient management of resources with minimum lifetime costs, proper funding of the project was essential and could be realized. For the library to find and locate the separate funding for the interior layout and the furnishing of the library with extra money from the city was important. At the library disposal the city agreed for a total budget for interior layout, furniture and equipment was app. NFL 5.200.000. For extra staffing the library employed more than 22 full time staff members.

5. LOCATION

The new central library, spacious, clearly structured, in a sparkling white building, has indeed the desired strong visual impact within the city and for all the visitors of the city centre and for those who are coming for the library itself.

The library is for the greater part situated in a circular shaped building of eight floors, standing at the busiest corner in the city: called the Spui and the Kalvermarkt, right in the city centre.

Within 100 meters there are all the important and huge department stores of the city: no better place to create and build the new central library for The Hague.

The location of the central library, within this huge city hall/library complex of approximately 115.000 m², is the very best solution in and for the city and the central library.

⁴ Renes, Wim M. *The library view on controlling construction and running costs of the planned city library of The Hague, Netherlands*. Bordeaux, August, 1989.

To quote Godfrey Thompson for a second time: « the best location for a new building is next to Woolworth ».⁵

6. CREED

Certainly from the very first moment that there were discussions on the building of the library combined with the city hall, the city library wanted to do everything in its power to prevent the new central library building from getting into a tight corner of the complex. My creed was and still is: don't wait but let's take the initiative ourselves. Which means for instance be as clear as possible about the central library and the services from the very first moment of the beginning of the project. Which means already in the competition phase with the five architects.

7. PROGRAM

The five architects in the 1986 competition received two documents from the library:

- the brief or program of requirements;
- an initial brief in which the philosophy and the necessary facilities of the library were clearly stipulated.⁶

The initial brief from August 1986 of the library served requirements which had already been prepared in the original brief dated 1982.⁷ The initial brief primarily served to single out the main points again, and, as far as necessary, to adjust them to the new situation.

Principal elements in this initial brief were:

- The library must develop itself into a social/cultural and information centre which works in close co-operation with the city hall and the city archive;
- Unnecessary duplications of facilities must be avoided. For example, there will be a communal restaurant as well as an exposition hall. The brief also proposes an activity room and adjoining theatre which can be used by both the city hall and the library;
- As you can imagine flexibility was one of our most important requirements.

⁵ Thompson, Godfrey. *Planning and design of library buildings*. 3rd ed. Butterworths, London, etc., 1989.

⁶ *Architect's brief central library*, 2nd version. The Hague, 1986.

⁷ *Architect's brief central library*. The Hague, august 1982.

8. SPACEBOOK FOR THE LIBRARY

Finally, in July 1989, the city Council opted for the architectural plan of the well known American architect Richard Meier. Construction started later, the following year.

In the meantime, the arrangements for the library floors crystallized themselves. In a very detailed « Spacebook DOB »⁸ (see also appendix A) the library described, per floor and per room, what activity should take place where, and what technical standards the space must meet.

Nearly everything was summarized: the functional relations of the room/area, the internal transport, floor covering, floor loading, the required temperatures and humidities, the light requirements and the technical engineering data for the automation processes within the library.

The aim of the library as end user was to provide all participants in this project with sufficient information so that they would know exactly what had to be done.

The building process may have become more complicated in this way, but the timely involvement and deeper concern of all participants in the project made it, at the same time, more controllable and easier to plan.

Later in this process this « library » approach would also be followed for the city hall sections of the complex.

9. DATASHEETS

During the process of preparing the detailed lay-out of all public departments, together with the product description and the exact measurements of all different parts of the furnishing, the interior lay-out company has drawn up datasheets.

All types of shelving for books, magazines, video-tapes and compact discs, including height, width and depth measurements, shelves and other parts of these shelving are described in full detail, together with the product description and the detailed measurements of all other parts of the furnishing.

So all elements of the interior lay-out of the central library were further developed into their final form.

For the library, that was very important as in this way it became possible to get a clearly structured overall view of all different materials.

In drafting these datasheets first of all a firm ground was laid for the contract with the supplier of the library furnishing. A very important side effect was that these datasheets could be used as a important source of information within the own library organization.

⁸ *Spacebook DOB, city hall/library complex*, third version. The Hague, December 1991.

10. INTELLIGENT BUILDINGS ARE ALL ABOUT INTELLIGENT PEOPLE

Libraries all over the world exist in order to bring their users, in a friendly and efficient way, a full range of sources of information, education, recreation and cultural activities provided from their funds and managed for their benefit.

The rate of social, cultural changes is ever increasing. The advent of new technology for library use and development of new building types to satisfy the new scenario for all library customers will have its impact on the libraries in the future.

What do people want from their (public) library?

- they are looking to libraries as more than a source of books, they want information in whatever form it is available. Relevance and fast access are the most important factors;
- they are looking for human contacts, to « network » with others who share their interest, either related to business or hobbies or recreation and culture;
- the most valuable source of information is often providing information that is most relevant to an individual's needs and interest.

Or to quote Marylyn Gell Mason, director of the Cleveland Public Library: « libraries do many things. They collect, organize and preserve; they make knowledge accessible - not books - but knowledge. Knowledge requires organization, context ». ⁹

Without a well designed intelligent building, the result would be disappointing for the users.

11. CONCLUSIONS

Within the many discussions which took place between the library and the architects and between the city and the library, and concerning the intelligent building within the given definition, the following propositions were and still are essential:

- Over a long range of years thousands of satisfied visitors daily determine the success of the always developing library;
- The library - and this may well be one of the most important challenges to the librarian within the process - must have the knowledge and courage to make decisions - towards its own organization, as well as towards the decision-making authorities and the architect, even though there remains a

⁹ Mason, Marylyn Gell. « The Yin and Yang of knowing ». In: *Deadalus*, Fall, 1996, page 169.

chance of making mistakes. Success is by no means certain, but the final result will only improve in that way;

- The direct and intensive participation of the library staff within a team is essential for the functional, architectural and technical quality of this project. Only by working in teams it can become an intelligent library building;
- The intensive participation of the library staff has resulted in, among other things:
 - direct, regular and very intensive contacts with the city council, the architect and all others involved in this project,
 - reaching the best possible compromises;
- Finally, an important element, maybe one of the most important elements, in this complex planning process is the time involved for the total staff of the library. In The Hague, we were working on this project, since 1986, with three full time staff members. They worked together with more than 30 internal working groups (e.g. working groups on furnishing, the removal, the data communication infrastructure, the signposting of the public department). This, together with the frequent consultation and information of all staff through general meetings, was time consuming and costly. But it was also more than worth the effort and thus the investment was well spent.

The close co-operation of all participants: architect, city council, library authority, construction companies and all other organizations and companies involved, as a result of the awareness of each other's specific functions and responsibilities in the process, was essential for the final result.

The central location of the library on the busiest spot in the city centre and the prominent place of the library within this complex, allowed this new central library of The Hague to take a huge step forward in presentation to its citizens and in intelligent planning.

APPENDIX

DESIGN DATA SHEETS: CITY LIBRARY

THE HAGUE, NETHERLANDS. 1991

ACTIVITY DATA:

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- 12 Number of persons involved
- 13 Relationship
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DESIGN:

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- 23 Walls
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- 42 Air changes
- 43 Humidity
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THE NEW CENTRAL LIBRARY OF THE HAGUE

FACTS & FIGURES

1. Why a new central library
2. Improvements
3. General facts and figures
4. Suppliers of furniture

5. Technical facts:
 - 5.1 General
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6. Removal
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8. Departments of the central library
9. Special collections
10. Communication during the building process

1. WHY A NEW CENTRAL LIBRARY

Since the start of the public library work in The Hague in 1906 the housing of the central library has been a recurring source of anxiety. The problems caused by the growth of and the developments in the public library work led to repeated requests to the municipality for adequate housing, preferably a total new building, in the city centre. At last, in 1982, an extensive programme of requirements was drawn up and early in 1987 a revised version followed.

In 1986 the board of burgomaster and aldermen of The Hague proposed the plan for a combination of a new city hall together with a new central library. Five internationally famous architects were invited to join a competition. They were: Rem Koolhaas (The Netherlands), Richard Meier (USA), Helmut Jahn (USA), Saubot/Julien/Webb/Zerefa/Menkes/Housdon (France / Canada) and Hans Boot (The Netherlands).

The jury opted for the plan of Rem Koolhaas, but the municipality strongly preferred the plan of Richard Meier. Therefore both architects received the task to adjust and detail their plans, especially for the library part. After rounding off this phase, a final choice was made for Richard Meier.

Many discussions, between the library and the municipality as well as between the architect and the library followed. At last on July 6, 1989 the council decided to realize the city hall/library complex.

The library is on the most striking location of the total complex: the corner of the Spui and the Kalvermarkt.

On this corner you find the circular facade of the library. The library also occupies almost the whole of the facade on the Spui, with exception of the furniture store on the ground and first floors and the floors eight and nine, where there are offices and technical areas for the city hall as well as the Haagse Salon: a representative area that will also serve as activity area for the library.

2. IMPROVEMENTS

The most important improvements are:

- central location

The new central library is located on the Spui 68: in the city centre, amidst department stores, offices and theatres. An ideal location, close to the central station, on cross-roads of almost all tram- and bus services and thus within optimum access for all.

- extended opening hours

With the removal to the Spui the opening hours have been extended from 39 to 61 hours a week. From now on the central library will be open from Monday till Friday from 10.00 till 21.00 hours and on Saturday from 11.00 till 17.00 hours.

- all materials in open access

In the old library about 75% of the collections were placed in stock-rooms. In the new library almost all materials are in open access, directly accessible to the public.

- integrated collections

In the old library, books, magazines and reference works were dispersed over several areas. Moreover several departments were located on other premises, because of lack of space. In the new library all public and supporting departments are re-united under one roof. The different types of materials are placed integrated on the departments. This means that all materials on a certain subject, whether books, magazines, reference works or videotapes, are placed together.

- more study places

Scattered over all floors are 600 study places. Besides the tables and chairs there are half open study-carrels and 24 closed study-carrels, on floor 3, 4 and 5. Moreover there is a closed study-carrel with a piano on floor 4.

- reading cafe

On the ground floor of the new library will be a reading cafe. Here you will find papers and magazines and of course you will be able to have all kinds of beverages and snacks.

3. GENERAL FACTS AND FIGURES

Commissioner:	National Civic Pension Fund (ABP)
Architect:	Richard Meier & Partners, New York
Project architect:	Rijk Rietveld, New York
Contractor:	Wilma Bouw BV
Owner:	Municipality of The Hague
Sub contractors:	Croon, electro-technics Gartner, facades Schindler, elevators and escalators ULC, heating and air-conditioning
Advisors:	Ingenieursbureau Grabowsky & Poort Adviesbureau Peuts associés Bureau Valstar & Simonis BV
Construction period:	
- work begun	21 December 1990
- completion	22 June 1995
- first open to the public	2 September 1995
- official opening by Queen Beatrix:	8 September 1995
Surface area:	14.486 m ² gross 11.750 m ² net
Dimensions:	length 100 meters breadth 15 to 40 meters height 40 meters
Number of floors:	6 public floors 2 office floors basement
Height of floors:	4,25 meter
Costs of furnishing:	f 5.200.000,-

4. SUPPLIERS OF FURNITURE:

- ALS, Welwyn Garden City, United Kingdom (automation hard- and software))
- AMK, Apeldoorn (conveyor belt, circulation desk)
- Bouter, Zoetermeer (apparatus reading-café)
- Engels, Eindhoven (transport appliances circulation desk)
- Lensvelt, Breda (office furniture)
- NFGD, Zoetermeer (audio visual apparatus)
- Point 3, Haarlem (signposting)
- Schulz Bibliothekstechnik GmbH, Speyer, Germany (library furniture)
- Sensormatic, Bunnik (protective devices library materials)

5. TECHNICAL FACTS

5.1. General

Heating and air-conditioning

The public and office areas are connected to an air-conditioning system.

During the summer surplus cooling is provided by ground water that has been cooled during the winter.

For heating radiators are placed in the public as well as in the office areas. On the ground floor convection heaters are lowered into the ground.

Lifts and escalators

In the library are 3 lifts: two for persons and one for goods. The goods lift is also used by library staff for the transport of book trolleys.

Besides the lifts there are escalators linking the public floors (floor 0 to 5).

Library materials returned by the users to the lending centre on the ground floor are transported to a sorting room in the basement by means of a specially designed conveyor belt.

Sunscreens

The building is provided on the outside of the façade with so-called sunscreens. The screens are activated by certain temperatures and the intensity of the light. In the offices it is possible to manipulate the screens manually.

Lighting

All areas have energy saving fluorescent lighting in the ceilings. The required light level is 450 Lux on the lower shelving.

Ceilings

In the ceilings are fitted: fluorescent lighting, sprinklers, speakers for the public address system, ventilation grids and emergency lighting.

5.2. Security

Burglary alarm

The burglary alarm consists of a number of door contacts, video cameras and alarms signalling broken windows. The alarms are all linked to the central control area.

Fire alarm

The fire alarm consists of dry extinguishing conduits (in case of a fire to be used by the fire brigade), fire hoses, automatic smoke detectors and automatic and manually operated fire alarms.

The building also has a sprinkler installation.

Public address system

The public address system enables the library to make announcements or calls from the security desk to all linked-up speakers. All calls are preceded by an attention signal. Number of speakers: 115.

Protective devices library materials

The library materials are protected against theft by a magnetic strip. Near the entrance/exit detection gates by the firm Sensormatic are placed.

Entrance control

The library has made a very strict separation between the public and staff areas. This means all staff areas are accessible only by means of a facility card. All staff members have been given a coded facility card. Each card can be coded to give the bearer access to certain or all parts of the building at certain or all times, as the case may be.

5.3. Automation

Computer apparatus

All hardware has been placed in a separate, completely conditioned room.

The hardware consists of:

- a ALS file-server SV900 for the library automation with 6 function modules type Pentium, 90 MHz processors, total 96 megabytes RAM;
- 12 disk drives, total capacity over 25 gigabytes;

- back-up ALS SV900, 1 function module type Pentium, 90 MHz, 32 megabytes RAM, 2 disk drives, total capacity 8 gigabytes;
- 6 tape drives for the back-up/restore of the disk drives, total capacity 30 gigabytes;
- a file-server for the office automation with Pentium 90 MHz processor, 64 megabytes RAM, 2 x 2 gigabytes disk drive (disk mirroring) and a 5 gigabytes tape back-up unit;
- two CD-ROM file-servers with Pentium 90 MHz processors, each with 120 megabytes disk drives, 1.44 megabytes floppy disc, 32 megabytes RAM and 3 x 9 gigabytes disk drives, 28 CD-ROM drives in 19" racks, 2 multi-disk drives for in total 12 cm disks;
- a WWW Domain Name Server 486DX2/66 MHz with 8 megabytes RAM, 540 megabytes disk drive;
- a Internet WWW server, Pentium 90 MHz, 16 megabytes RAM, 540 megabytes disk drive;
- UPS (uninterruptable power supply); guaranties power supply to the computer room for 30 minutes in case of main power failure.

Connections

- 21 datalines to external locations;
- 1 x 64 KB dataline to Surfnet/PICA: X.25;
- 1 x 64 KB dataline to Surfnet/Internet: IP;
- appr. 100 terminals of external locations are connected to the library system;
- in the central library over 165 personal computers and workstations are connected to the local area network.

Local area network

The new central library has created a local area network (LAN) to support the different automated business processes. The connections from the personal computers and workstations to the concentration points (satellite equipment rooms - SER's) within the building are realized by means of a standard cabling system of the foiled twisted pair type. The SER's are inter-linked by means of glass fibre cabling. For the library automation the Transmission Control Protocol/Internet Protocol (TCP/IP) is used. For the office automation, the communication protocol IPX of the network managing system Novell, version 3.12, is used. The network managing system of the CD-ROM server is Windows NT. For the automated signposting for the public Windows 95 is used.

Signposting

For the public there are 7 automated signposts, each with a Pentium 90 MHz processor, 32 megabytes RAM and 1 gigabyte disk drive.

5.4. Furnishing

Floor covering

The ground floor has granite tiles (Bianco Sardo) in a light grey colour. All other areas have a grey mixed linoleum floor covering. The so-called « wet areas » have floor tiles.

Colours

The basic colour of the furnishing is white, RAL 9010.

The furniture of public as well as office areas is in this colour. Accents are in natural beech.

Upholstery is in black.

Signposting

Signposting consist of signs by the firm Point 3. Signs are in clear hardened glass. Between the two layers of glass is a clear foil, with lettering in black.

Signposting in the public areas consists of a simple, functional plan of the specific floor. On the ground floor there is also an over-all survey.

These plans are also available in print and obtainable from the information desks on the different floors.

The indications on the shelving consist of a text on the top shelves.

Furthermore the Public Library The Hague, in close co-operation with the firm of ALS, has designed a unique automated signposting system. This system enables the user to browse on subject as well as on title. On the screen of the catalogue terminals and on a number of specially designed terminals, the so-called pedestals, the location of the material looked for, can be shown in graphical three-dimensional form.

6. REMOVAL

In the new central library on the Spui fifteen kilometres of shelving had to be filled. A logistic operation in which five hundred thousand books, fifty thousand items of sheet music, fifty thousand compact discs, six thousand videotapes and thirty five racks with reference materials, dispersed over five locations, had to find their place within the new central library.

For the removal of the collections the automation department of the Public Library The Hague developed a special computer programme. A plan was drawn up, dividing all library materials, being part of the automated library records, over the shelving (addresses) of the new library. The materials were then coded by means of these addresses and subsequently merged on the right shelving.

Besides the library materials also approximately 125 workplaces had to be removed. This meant that, apart from the above mentioned library collections, also 1 250 removal boxes had to be relocated.

This gigantic removal operation was, in close co-operation with the removal firm of Voerman/UTS, realized in a period of fourteen days, in which the library was closed for the public for no more than eleven days.

7. LIBRARY FURNISHING

Parties involved

Three parties were closely involved in the process of furnishing the library:

- the Municipal Library The Hague;
- the firm of Schulz Bibliothekstechnik GmbH as supplier and designer;
- the architect as advisor and - for a number of items - as designer.

In close co-operation with these three parties the lay-out and detailing of the furnishing were decided upon.

Starting points for the furnishing

Starting points for the division of the several library functions over the floors have been:

- an attractive and inviting ground floor
- the lending centre on the ground floor
- departmentalization
- materials in direct accessibility for the public (open access)
- no separate reading room
- the information centre on the first floor

Division of library functions

These starting points have led to the following division over the public areas:

- Ground floor: circulation desk, daily papers and opinion magazines, general interest magazines, exhibition facilities, reading cafe, library shop;
- First floor: information department;
- Second floor: children's department, fiction department;
- Third floor: departments of literature and linguistics, ethnography and geography, Antillian collection, history

- Fourth floor: departments of music and arts, video feature films
- Fifth floor: departments of technology and natural sciences, social sciences, law and economics.

Furthermore on each floor: information desks, terminals to consult the catalogues of the Public Library of The Hague as a whole, including the branches, and over 100 CD-ROMS, individual reading- and studying places, exhibition facilities and photocopiers.

On floors 6 and 7 you find the Project Bureau Maatwerk (groups orientated services) and the staff offices.

8. DEPARTMENTS OF THE CENTRAL LIBRARY

In the **basement**, you find:

- bicycle parking for public and staff;
- locker room for the staff;
- first aid and accident precaution service;
- expedition;
- stockroom for historical and valuable materials;
- sorting room: here library materials brought back by the public are checked and sorted, before being returned to the departments;

On the **ground floor** you find:

- entrance/exit;
- the circulation desk, incorporating the security desk, users administration and customer services;
- papers and opinion magazines;
- general interest magazines;
- the reading cafe, seating fifty-two, where besides beverages and snacks, you will find papers and magazines;
- the library shop;
- over sixty-five reading places;
- a photocopier.

On the **first floor** you find:

- the information centre with:

- reference materials on much used subject, plans, address and telephone directories, encyclopaedias, reference works, dictionaries;
- information on The Hague (local papers, clipping files, municipal information such as the Council information system;
- cutting files on topical subjects and authors;
- microfiches;
- CD-ROM's;
- over eighty-five reading and studying places;
- a photocopier.

On the **second floor** you find:

- the fiction department, with materials in more than ten languages;
- the children's department, with materials for children and youths, but also materials on children's and youth literature on behalf of adults;
- an activity room;
- over fifty reading and studying places for adults and over forty for children/youth;
- photocopier.
- public toilets

On the **third floor** you find:

- the literature and linguistics department;
- the history department;
- the ethnography and geography department;
- the Antillian collection, a large collection of books, reference works, magazines, cutting files, videotapes, music, compact discs and plans on the Dutch Antilles and Aruba. The languages are Dutch, English, Spanish and Papiamento. The materials are directly available for the users, but are not for loan;
- over one hundred and twenty reading and studying places and eight closed study carrels;
- a photocopier.

On the **fourth floor** you find:

- the music department with collections of music scores, compact discs, videotapes and books and magazines on music;
- the art department with collections on art, dance, film and drama;
- the collection video feature films;
- over eighty reading, studying, listening and viewing places, plus nine closed study carrels, among them one with a piano;
- a photocopier;
- public toilets.

On the **fifth floor** you find:

- the technics and natural sciences departments;
- the social sciences, law and economics departments;
- the psychology and education departments;
- the departments on religion and philosophy;
- the departments on medical sciences, sports and plays and handicraft;
- over one hundred reading and studying places, plus eight closed study carrels;
- a photocopier.

On the **six floor** you find:

- the groups oriented services: this department lends collections to institutions for the elderly and mentally handicapped, children's centres and primary schools. Besides the department supports the library work in these institutions. Moreover the department is responsible for the co-ordination of the library work for ethnic cultural groups, with as ultimate objective the complete integration of activities in the regular services of the public library;
- computer room;
- offices for director and management;
- conference room.

On the **seventh floor** you find:

- offices for support departments, public relations and domestic services;

- reproduction department;
- conference room;
- staff canteen.

9. SPECIAL COLLECTIONS

The new central library has an Antillian collection: an extensive collection on the islands of the Dutch Antilles and Aruba and on Antillians and Arubans in the Netherlands.

The basis of the collection was formed by the former Sticusa-library (Sticusa was a foundation for cultural co-operation between the Antilles and the Netherlands). On the liquidation of the Sticusa in 1988 the Municipal Public Library of The Hague was given the free loan of this collection by the Dutch Government. The Municipal Public Library of The Hague extended the collection and now it contains about 4.000 items: books, reference works, magazines, clipping files and video tapes. The languages are Dutch, English and Papiamentu. You will also find sheet music and compact discs. The materials are directly available for the users, but are not for loan. Duplicated titles are integrated in the collection of the Municipal Public Library and are on loan.

The Antillian collection is one of the three features of the Municipal Public Library of The Hague as part of the regional support function for scientific literature on behalf of non-university students. The other two features are European and Northern American architecture since 1960 and Dutch history since the Second World War.

In the youth department, the Municipal Public Library offers, besides materials for the youth itself, a large collection of specialist literature, consisting of materials on youth literature, writers and illustrators of children's books.

Furthermore there is a collection of historic and colonial children's books, award winning books, Pinocchio-books, youth bibles and children's books by Hague writers and illustrators. These parts of the collection are directly available for the users, but are not for loan.

10. COMMUNICATION DURING THE BUILDING PROCESS

During the whole of the building process many staff members have been actively involved.

The director was supported by an assistant to the building project (40 h a week was available) and several working groups.

Externally the Municipal Library The Hague was directly involved in the consultations with the commissioner, the architect and other users of the total complex.

Internally the consultations were organized as follows:

- a « kernteam bouw », consisting of the director, the manager central library, the controller, the assistant to the director and the assistant to the building project. The decisions of the 'kernteam' were based on the information and advice of the different working groups and co-ordinated the building process;
- the working groups researched all kinds of different subjects and recommended solutions to the 'kernteam', solutions based on inventories of possibilities. The most important working groups were:
 - working group on security;
 - working group on signposting;
 - working group on collection building;
 - working group on documentation;
 - working group on information desks;
 - working group on infra-structure;
 - working group on furnishing;
 - working group on internal transport;
 - working group on cleaning;
 - working group on lending centre;
 - working group on removal.

During the whole of the process of building, furnishing and removing, much information was given by means of informative meetings, a monthly column of the assistant to the building project in the staff magazine « *Dobber* » and a special removal paper.

IS AN INTELLIGENT BUILDING AUTOMATICALLY A FUNCTIONAL LIBRARY?

by Hanke Roos
Manager Central library, City Library of The Hague

INTRODUCTION

The theme of this seminar is « Intelligent library buildings ». The subject of this afternoon: The City Library of The Hague.

I will try to connect these two themes and to answer the question that I chose as the title for this lecture. Is an intelligent building automatically a functional library?

PARTICIPANTS

In realizing the central library building as part of the city hall/library complex three participants were involved:

1. the principal, the city of The Hague;
2. the architect, Richard Meier;
3. the library, the team of staff members involved in the preparation of the library, headed by the director.

Of course there were more parties involved, for example the financier, the contractor, the advisors and Hulshoff, the owner of the furniture store, that was located on the site were now the library is.

But for this lecture I will restrict myself to the three main parties mentioned before. Only the furniture store will come up again.

How can three parties, each of course with their own demands and ideas, together arrive at an intelligent building and an intelligent library. And did they succeed for 100% in The Hague?

What did they want with the new building, the city of The Hague (the municipality), the architect and the library.

1. THE MUNICIPALITY

Ten years ago the municipality had two big problems. The first problem was to house the municipal apparatus which was scattered over twenty buildings in the city. An extremely undesirable situation from the