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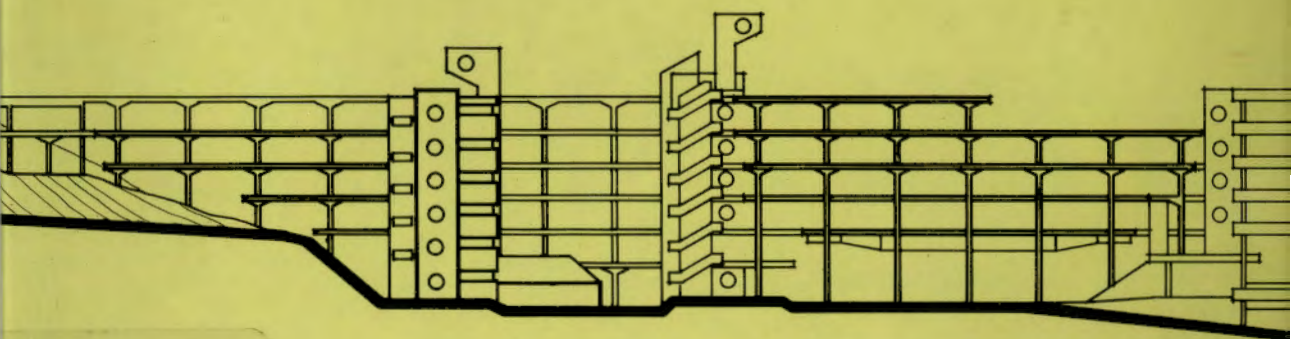
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UNIVERSITY LIBRARY BUILDINGS IN SOUTHEAST ASIA

*Proceedings of a Workshop
held in Singapore, 22-26 November 1976.*

Editor: Peggy Wai - Chee Hochstadt

Assisted by: Maria Ng Lee Hoon



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Published by the University of Singapore Library

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CONTENTS

	Page
FOREWORD	V
EDITOR'S NOTE	vii
PROGRAMME	ix
WELCOME ADDRESS, by Jingjai Hanchanlash	1
WELCOME ADDRESS, by Wang-Chen Hsiu Chin	2
INTRODUCTORY REMARKS, by H. Arthur Vespary	3

PART I (PRINTED TEXT)

ABSTRACTS OF PAPERS	5
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Introductory Session

BARRY L. BURTON Planning an Academic Library Building	6
BARRY L. BURTON The Hong Kong Polytechnic Library	7
ROBIN GIBSON University Library Buildings: Planning and Methodology	8

First Session: Malaysia

EDWARD LIM HUCK TEE The Universiti Sains Malaysia Library Building	9
CHE SHAM H.M. DARUS Planning a New Library Building for the University of Technology Malaysia at Kuala Lumpur	10
BEDA LIM The University of Malaya Library	11
SYED SALIM AGHA The Planning of the Library Building at the Universiti Pertanian Malaysia	12

Second Session: The Philippines

MARINA G. DAYRIT The University of the Philippines Main Library Building	14
LEONOR GREGORIO Visayas State College of Agriculture (VISCA) Library Building Plans	17
GORGONIO D. SIEGA The Proposed Silliman University Library Building	18

	Page
<i>Third Session: Thailand</i>	
KNID TANTAVIRAT Chulalongkorn University Library	20
DARUNA SOMBOONKUN Kasetsart University Main Library	21
APHAI PRAKOBPOL Planning for the New Central Library, Khon Kaen University	22
UTHAI DHUTYABHODHI Siriraj Library, Mahidol University	23
<i>Fourth-Sixth Sessions: Singapore</i>	
ROSEMARY YEAP The Planning and Design of the New Library at the Singapore Polytechnic, Dover Road Campus	24
PEGGY WAI-CHEE HOCHSTADT The Central Library, University of Singapore, Kent Ridge	26
KOH THONG NGEE Nanyang University Library	27
<i>Seventh Session: Indonesia</i>	
A. RAHMAN RAHIM The Hasanuddin University Library	28
GORDON HAZELDINE The Proposed Library Building for the Institut Teknologi Bandung	29
REPORTS OF SESSIONS	31
Introductory Session (Morning)	32
Introductory Session (Afternoon)	34
First Session: Malaysia	37
Second Session: The Philippines	39
Third Session: Thailand	41
Fourth Session: Singapore (The Singapore Polytechnic Library at Dover Road)	44
Fifth Session: Singapore (The University of Singapore Central Library)	46
Sixth Session: Singapore (Nanyang University Library)	48
Seventh Session: Indonesia	49
SUMMARY OF PROCEEDINGS, by Wang-Chen Hsiu Chin	51
TABLE OF STATISTICS OF UNIVERSITY LIBRARY BUILDINGS IN SOUTHEAST ASIA	56
GROUP PHOTOGRAPH	58
LIST OF PARTICIPANTS	59

PART II (MICROFICHE TEXT)

PAPERS: Microfiche

Introductory Session

- BARRY L. BURTON 1B — 1C
Planning an Academic Library Building — a Librarian's Experiences at
the Hong Kong Polytechnic
- BARRY L. BURTON 1C — 1D
The Hong Kong Polytechnic Library
- ROBIN GIBSON 1D — 1E
University Library Buildings: Planning and Methodology

First Session: Malaysia

- EDWARD LIM HUCK TEE 1E — 2B
The Universiti Sains Malaysia Library Building
- ABDUL AZIZ BIN SHAIK MYDIN 2B — 2E
Library Building Projects of the Universiti Kebangsaan Malaysia
(The National University of Malaysia)
- CHE SHAM H. M. DARUS and HAMZAH MAHMOOD 2E — 2F
Planning a New Library Building for the University of Technology Malaysia
at Kuala Lumpur — a Brief Description
- BEDA LIM 2F — 3A
Planning a University Library (University of Malaya)
- SYED SALIM AGHA 3B — 3C
The Planning of the Library Building at the Universiti Pertanian Malaysia

Second Session: The Philippines

- MARINA G. DAYRIT 3C — 3D
The University of the Philippines Main Library Building
- LEONOR GREGORIO 3D — 4A
Visayas State College of Agriculture (VISCA) Library Building, Baybay,
Leyte, Philippines
- GORGONIO D. SIEGA 4A — 4B
The Proposed Silliman University Library Building

Third Session: Thailand

- KNID TANTAVIRAT 4B — 4C
The Central Library, Chulalongkorn University
- DARUNA SOMBOONKUN 4C — 4E
The Librarian's Role in Planning the Library: Kasetsart University
- APHAI PRAKOBPOL 4E
Planning for the New Central Library, Khon Kaen University
- UTHAI DHUTIYABHODHI 4E — 4F
Siriraj Library, Mahidol University

Fourth-Sixth Sessions: Singapore

ROSEMARY YEAP	Microfiche
The Planning and Design of the New Library at the Singapore Polytechnic, Dover Road Campus	4F — 5A
PEGGY WAI-CHEE HOCHSTADT	5B — 5D
The Planning and Development of the Central Library, University of Singapore, Kent Ridge	
KOH THONG NGEE	5D — 5F
Nanyang University Library	

Seventh Session: Indonesia

A. RAHMAN RAHIM	5F — 6A
The Hasanuddin University Library	
TATY NURDJAMAN	6A — 6B
Institut Teknologi Bandung Central Library	
GORDON D. HAZELDINE	6B — 6D
Report on the Proposed Central Library Building (ITB)	

FOREWORD

Few librarians have the opportunity to be involved in the planning and designing of a new library building. And when the opportunity does arise, the librarian is often faced with problems for which he is ill-prepared, and must need go back to texts and journal articles to know about the basic and current technology.

The universities of Southeast Asia have been growing and expanding at such a rapid pace that in many, the library buildings have been outgrown by increasing student population and book collection. So much so that, in thirteen institutions in five countries of Southeast Asia, new library buildings at a cost of over US\$14M were in the planning stage or already under construction. The problems that academic libraries face are similar, and especially in a period of tight money, librarians must know how to plan for the demands for new services and the rapid increase in publications within the space the available money will buy for them.

Among architects also, few can claim much experience in building university libraries. They too must go back to their early school experience or depend heavily upon the librarian for guidance. Not many of the architects nor the librarians have facilities to travel, to visit foreign universities and colleges and to see library buildings outside their own environment. Both architect and librarian may well be working in isolation, unaware that in the region their immediate neighbours are also thinking and working on solutions to similar problems.

Responding to the need to ameliorate this isolation, the International Development Research Centre (IDRC) sponsored a workshop that brought together the chief librarians and the architects of the major universities in the region: those planning new libraries; those with new libraries under construction; and a few with completed libraries but whose buildings afford lessons that could be of assistance to their colleagues.

The workshop enabled the architects and librarians to discuss their building plans in detail, to consult one with the other, and to seek solutions to the problems of space utilization. To assist and guide the group in their discussions during the five-day meeting were two resource persons: one, a librarian who had just completed a new library building, and the other, an architect who has had extensive experience in designing several university libraries under tropical conditions.

This meeting has provided solutions to some problems. The participants had the opportunity to consider not only spatial solutions of expanding seating and shelving capacity, but alternative methods of storage and retrieval; of increasing use of microforms; and of supplementing their collections through increasing emphasis on national and regional interlending.

Many of the participants, both librarians and architects, on leaving Singapore, took the opportunity of visiting various libraries on their route home. While in Singapore, they were able to visit the almost completed new campus of the University of Singapore at Kent Ridge and the highly functional, modular, older library at Nanyang University. The assistance and gracious hospitality of our co-sponsors, the University of Singapore, in making local arrangements for this workshop is very much appreciated.

This workshop resulted directly from comments made by University librarians from Chulalongkorn, Kasetsart and Universiti Sains Malaysia. I am grateful to these librarians for their encouragement. Also I would particularly like to thank the architects, who spent so much of their valuable professional time and who brought along their plans, charts, diagrams and slides which were discussed in a free and open fashion to the enlightenment of all.

H. ARTHUR VESPRY
Asian Regional Liaison Officer
Information Sciences
International Development Research Centre

EDITOR'S NOTE

A few words of explanation about this publication are necessary.

The Papers (Microfiche Text)

To save time and reduce production costs as well as the bulk of the finished product, it was decided to microfiche the original papers as delivered at the Workshop, with minimum editing. Although this policy was generally adhered to, a number of papers still had to be retyped on account of the illegibility of the typescripts, or of major editing that had been found necessary. As the supplementary material accompanying many of the papers was excessive, it was necessary to sift through and select for microfiche only what was of direct relevance to the subject discussed. Hence, each paper is usually followed by the library brief and a set of 3 plans selected to indicate respectively the entry floor, a typical stack and reading floor and a sectional view of the library presented. The microficheing was undertaken by the Asian Mass Communication Research and Information Centre (AMIC).

Abstracts of Papers (Printed Text)

Except for one paper for which no abstract was submitted, all papers were summarised in the form of abstracts which appear in the order of their presentation at the proceedings. For those who cannot afford the time to sit at the microfiche reader and plough through the details of the various papers, the abstracts will acquaint them with the main points of the papers delivered.

Reports of Sessions (Printed Text)

Every attempt has been made to render the method of reporting as uniform as possible. To avoid repetition, reports are generally confined to the *discussions* which followed the presentations of papers. However, points which authors emphasized in their papers or new points which were brought out at the presentations but had not been mentioned in the original papers have also been included in the reports. Except for two papers which dealt with the general topic of the *planning and methodology of university library buildings*, all papers presented *individual library buildings*. Each presentation was usually illustrated by colour slides.

For a complete picture, the reader is therefore advised to read the respective reports of discussions in conjunction with the respective microfiche papers delivered at the various sessions or the printed abstracts as well as with the questionnaire on the statistics of buildings presented.

The Questionnaire on University Library Building Statistics (Printed Text)

Coordinating the questionnaire in the form of a comparative table has been one of the most time-consuming tasks for the editor. Discrepancies, inconsistencies, ambiguities and at times, what seemed rather incredible data cropped up as statistics were gathered, compared and coordinated. These had to be counter-checked with the librarians concerned.

For ease of comparison, the metric system has been adopted as the common unit of measurement and the United States currency as the common currency unit in this questionnaire. However, no attempt has been made to standardise the units of measurement and currency in the papers, the abstracts of papers as well as in the reports of discussions themselves. This is understandable as Southeast Asian countries adopt different systems of measurement and currency.

Concluding Remarks

To the best of our knowledge, these published proceedings are a pioneer effort in documenting the very specialized subject of *university library buildings in Southeast Asia*. As such, the information contained and the problems discussed in the proceedings should be helpful to those librarians and architects in the region who are or will, for the first time, be engaged in similar projects. It is for this reason that the University of Singapore Library has undertaken to publish the proceedings. Thanks are due to the International Development Research Centre (IDRC) for initiating and sponsoring the Workshop and for meeting part of the publication cost of the proceedings.

All who have been involved in the Workshop have been given due mention in the contents of this publication. It remains for me, however, to thank Mr. Stephen Tham of the Asia Regional Office Library, IDRC, for typing the questionnaire, Mrs. Judy Or and Miss Hoong Mee Nguek of the University of Singapore Library for their patience and hard work in typing and retyping the manuscripts for the printed text.

Peggy Wai-Chee Hochstadt
Editor

PROGRAMME

MONDAY, 22 NOVEMBER 1976

- 9.00 am — 9.30 am Registration
- 9.30 am — 10.00 am Welcome addresses by representatives of the International Development Research Centre (IDRC) and the University of Singapore
- 10.00 am — 10.30 am Tea break

Introductory Session:

- 10.30 am — 11.30 am Chairperson: Wang-Chen Hsiu Chin
Rapporteur: Maria Ng
Speakers: H. Arthur Vespry, Barry L. Burton,
Robin Gibson
Topic: Workshop Guidelines
- 11.30 am — 12.30 pm Chairperson: H. Arthur Vespry
Rapporteur: Maria Ng
Speaker: Barry L. Burton
Topic: University library buildings: planning and methodology, with emphasis on the Hong Kong Polytechnic Library building
- 12.30 pm — 1.30 pm Lunch
- 1.30 pm — 2.30 pm Chairperson: H. Arthur Vespry
Rapporteur: Manijeh Namazie
Speaker: Robin Gibson
Topic: University library buildings: planning and methodology
- 2.30 pm — 5.00 pm Group Sessions:
- Group 1 Architects session
Convenor: Robin Gibson
Rapporteur: Manijeh Namazie
- Group 2 Librarians session
Convenor: H. Arthur Vespry
Rapporteur: Jill Quah
- 7.30 pm Buffet dinner hosted by IDRC at Ladyhill Hotel

TUESDAY, 23 NOVEMBER 1976

First Session: Malaysia

- 9.00 am — 9.25 am Chairperson: Leonor Gregorio
Rapporteur: Lim Hong Too
Speaker: Edward Lim Huck Tee
Topic: Universiti Sains Malaysia Library building

9.25 am — 9.50 am	Speaker: Topic:	Abdul Aziz bin Shaik Mydin Universiti Kebangsaan Malaysia Library building
9.50 am — 10.15 am	Speakers: Topic:	Che Sham H.M. Darus and Hamzah Mahmood Universiti Teknologi Malaysia Library building
10.15 am — 10.45 am	Discussion	
10.45 am — 11.00 am	Tea break	
11.00 am — 11.25 am	Speaker: Topic:	Beda Lim University of Malaya Library building
11.25 am — 11.50 am	Speaker: Topic:	Syed Salim Agha Universiti Pertanian Malaysia Library building
11.50 am — 12.30 pm	Discussion	
12.30 pm — 2.00 pm	Lunch	

Second Session: The Philippines

2.00 pm — 2.30 pm	Chairperson: Rapporteur:	Daruna Somboonkun Sng Yok Fong
	Speaker: Topic:	Marina G. Dayrit University of the Philippines Library building at Diliman
2.30 pm — 3.00 pm	Speakers: Topic:	Leonor Gregorio and Jerry Ascalon Visayas State College of Agriculture Library building (VISCA)
3.00 pm — 3.30 pm	Speakers: Topic:	Gorgonio D. Siega and Renato Sindiong Silliman University Library building
3.30 pm — 3.45 pm	Tea break	
3.45 pm — 4.30 pm	Discussion	

WEDNESDAY, 24 NOVEMBER 1976

Third Session: Thailand

9.00 am — 9.30 am	Chairperson: Rapporteur:	Edward Lim Huck Tee Michael Cheng
	Speakers: Topic:	Knid Tantavirat and Vira Buranakarn Chulalongkorn University Library building
9.30 am — 10.00 am	Speakers: Topic:	Daruna Somboonkun and Songkoon Attakorn Kasetsart University Library building
10.00 am — 10.45 am	Discussion	
10.45 am — 11.00 am	Tea break	
11.00 am — 11.30 am	Speaker: Topic:	Aphai Prakobpol Khon Kaen University Library building

11.30 am — 12.00 pm	Speaker:	Uthai Dhutiyabhodhi
	Topic:	Mahidol University Library building
12.00 pm — 12.30 pm	Discussion	
12.30 pm — 2.00 pm	Lunch	

Fourth Session: Singapore

2.00 pm — 2.30 pm	Chairperson:	Abdul Aziz bin Shaik Mydin
	Rapporteur:	Patricia Gaw
	Speakers:	Rosemary Yeap and Ang Choon Kiat
	Topic:	Singapore Polytechnic Library building
2.30 pm — 3.00 pm	Discussion	
3.00 pm — 3.15 pm	Tea break	
3.15 pm —	Free	
7.30 pm —	Buffet dinner hosted by the University of Singapore at Eusoff College	

THURSDAY, 25 NOVEMBER 1976

Fifth Session: Singapore (continued)

9.00 am — 9.30 am	Chairperson:	Songkoon Attakor
	Rapporteur:	Judy Low
	Speakers:	Peggy Wai-Chee Hochstadt, Tan Lien Seng and Meng Ta Cheang
	Topic:	University of Singapore Central Library building
9.30 am — 10.30 am	Discussion	
10.30 am — 10.45 am	Tea break	
10.45 am — 12.00 pm	Tour of University of Singapore Central building site, Kent Ridge	
12.30 pm — 2.00 pm	Lunch at Nanyang University Library Canteen hosted by Nanyang University	

Sixth Session: Singapore (continued)

2.00 pm — 2.30 pm	Chairperson:	Abdul Aziz bin Shaik Mydin
	Rapporteur:	Judy Low
	Speaker:	Koh Thong Ngee
	Topic:	Nanyang University Library building
2.30 pm — 3.00 pm	Discussion	
3.00 pm —	Sight-seeing	

FRIDAY, 26 NOVEMBER 1976

Seventh Session: Indonesia

9.00 am — 9.30 am	Chairperson:	Beda Lim
	Rapporteur:	Lim Bee Lum
	Speakers:	A. Rahman Rahim and S. Winardi
	Topic:	Hasanuddin University Library building
9.30 am — 10.00 am	Speaker:	Taty Nurdjaman
	Topic:	Institut Teknologi Bandung Library building
10.00 am — 10.15 am	Tea break	
10.15 am — 11.00 am	Discussion	
12.00 pm — 2.00 pm	Lunch	

Closing Session:

2.00 pm — 3.30 pm	Chairperson:	Maria Ng
	Speakers:	Wang-Chen Hsiu Chin and H. Arthur Vespy
	Topic:	Summary of proceedings

WELCOME ADDRESS

Jingjai Hanchanlash

Director, International Development Research Centre (Asia Regional Office)

Let me just say that it is indeed a pleasure and an honour for IDRC to be able to co-host this workshop with the University of Singapore.

As most of you are more familiar with the functions of the University of Singapore than with the IDRC, I would like firstly to say a few words about the IDRC. The IDRC was established in 1970 by the Canadian Government. Although we receive funds from the Canadian Parliament, we have an international Board of Governors as well as staff from many different countries. The objective of IDRC is to promote research skills and technology in developing countries. In line with this policy, we fund researchers in developing countries in their various projects. From time to time, we also convince our Finance Division and our associates that workshops such as the present one, symposia and meetings are important for the exchange of experiences and ideas.

This workshop, if I am not mistaken, is the first one that deals with university library buildings in Southeast Asia. As you are all aware, we are now faced with problems of a tight money situation on the one hand and an increasing demand for space to house publications and new library services on the other. In this respect, countries in Southeast Asia are worse off than their western counterparts. Some universities which you represent, are in the process of building or planning new university libraries. This workshop aims to bring all of you together to exchange views and to find out how you can maximise the use of library space.

In addition to finding physical solutions, you may be able to come up with solutions for other common problems. I am sure the discussions that ensue will be fruitful.

May I wish you a successful meeting, and thank you.

WELCOME ADDRESS

Wang-Chen Hsiu Chin

Librarian, University of Singapore

Friends, fellow librarians, ladies and gentlemen. It is my great pleasure, on behalf of the University of Singapore, to add a few words of warm welcome to all of you attending the Regional Workshop on University Library Buildings in Singapore.

As practitioners in librarianship, we are keenly aware of the importance of three basic ingredients in providing good library service. They are: collection, staff and building. In recent years, Southeast Asian librarians have gathered more frequently at conferences and seminars to get acquainted with each other and to discuss their common undertakings. At these gatherings, bibliographical control, library cooperation, and the education and training of librarians, their status and working conditions had been very much discussed. Yet the topic of library buildings seems to have escaped attention. Perhaps it is because buildings are of such a permanent nature that most of the time we can do little about them. Whatever renovations or alterations that may be necessary are more often than not conditioned by local settings and needs, and the construction of new library buildings may happen once or may not at all in our professional life time. It may, therefore, seem pointless to talk about it at conference level. Library buildings is also a very complex topic as it involves many technical aspects with which librarians are not all conversant. This workshop, then, is unique in a sense that it is the first ever regional workshop on library buildings in this part of the world. It is most encouraging and exciting to have so many chief librarians responding to the organization of the workshop, originated and sponsored entirely by the IDRC and co-hosted by the University of Singapore. This clearly indicates that much is going on for the betterment of library accommodation in the academic library scene in Southeast Asia.

It is said that, in the West, very few librarians, including chief librarians, would have the opportunity and challenge of planning a new library building in their life-long career. The situation is quite different, however, in Southeast Asia. Librarians, especially chief librarians, being experts in the field of library service, often need to involve themselves in library planning, irrespective of whether they like it or not or whether they have the aptitude for it or not. They have also often to do so without the benefit of experienced consultants — they just have to do the best they can. This workshop will therefore provide an unusual forum whereby ideas will emerge, problems will be discussed in a practical manner, and solutions may be found.

We have, of course, not forgotten the most important partners in any library building programme — the architects. Without the architects, there will be no library buildings. Without the understanding and cooperation of the architects, the librarians' ideas, no matter how brilliant, will not be realized in concrete form, combining functional efficiency and aesthetic appearance. It is most heartening and encouraging to see so many architects who have taken their time off to attend the workshop. To them, I would like to extend a special welcome to Singapore and to the workshop. Most of them, I understand, have been involved, or are presently involved, in library building projects in their respective countries. They will bring to the workshop their expertise and actual experiences during the next few days. This again is another unique feature of the workshop. May we hope then that it will be meaningful and fruitful.

INTRODUCTORY REMARKS

H. Arthur Vespary

The idea for this meeting arose from a conversation with Mrs Knid who had recently been appointed Chief Librarian, Chulalongkorn University, in Bangkok. As happens when librarians discuss their libraries, the topic shifted to library buildings and the difficulties involved in planning new ones. It seemed that many other university librarians might be facing the same problems. That this was so was soon demonstrated, as university librarians throughout the ASEAN (Association of Southeast Asian Nations) region enthusiastically supported the proposal for a meeting to discuss planning new university library buildings.

In Thailand: Chulalongkorn, Kasetsart, Khon Kaen and Mahidol Universities; in Malaysia: Universiti Sains Kebangsaan and Universiti Teknologi Malaysia; in Singapore: the Singapore Polytechnic and the University of Singapore; in the Philippines: VISCA and Silliman and in Indonesia: Hasanuddin and the Bandung Institute of Technology were all planning or building libraries.

The University of Singapore, with a multi-million dollar project now underway at Kent Ridge, accepted the IDRC's invitation to co-host the meeting, and we have them to thank for most of the local arrangements.

A new building demands careful and creative planning from both librarian and architect. You are here to talk about the job you are doing together; what you architects need from librarians, and what you librarians need from architects. As the required studies are prepared and planning progresses, professional rivalries must be put aside. You must concentrate on building up the sort of working relationships that permit you to benefit from each other's expertise, so that what is finally produced is something of which both architect and librarian can be proud.

Although our workshop will deal with concrete, glass and lighting systems, the heart of the problem has always been people. If you are building a pyramid, there will be no complaints from the tenant once he has moved in. However, you are not constructing mausoleums, nor are you erecting buildings to provide an ego trip for the university president, or its most generous contributor, or the librarian, or the architect. You are building a structure to serve a clientele, the faculty and students of your university, and in some cases, the general public as well.

We will be discussing the librarian's brief to the architect, how it should be written, when it should be written, and what it should contain. But even before the brief (which can be little more than a skeleton) there should be a meeting of minds between the architect and the librarian. They should be able to dream together, to work the wild, impractical ideas out of their systems, and to learn from each other what each expects and hopes the building to be. By now most of you will have slipped or struggled into such a productive relationship, and I need not labour the point further for you.

Before the building is built, before you present a brief to the architect, before you do anything else, you must first of all be clear on a few points. You must know the philosophy, and the policies which result from this philosophy, of the academic staff, of the administration, and of your library.

You must identify the objectives and priorities of your institution — are they academic or vocational education, technical training or teaching, applied or research? Once this is determined, you can then seek to assess the potential traffic flows within the building, for in the main, these will be governed by the type of library, its clientele and the librarian's philosophy of service.

Your next consideration may be the environment for books. We all know the problems of humidity and excess sunlight, but if a collection turns over in ten years, then does it really need expensive air conditioning? How long will you want to keep your books? Have you archival responsibilities or not, and for what portion of your collection?

Answers to this kind of question will influence the type and size of building you will want, and your probable needs for expansion. Do you wish to restrict growth? Have you considered alternate methods of reducing space requirements — microforms, compact shelving, extensive weeding, selling books to students, etc?

Another alternative that will certainly be advanced is decentralization of the collection. Which costs more, a faculty member having to walk ten minutes to reach the library, or a properly serviced collection in his own building? Once you have done your homework, and have facts and figures, you can seek, with some hope of success, to persuade the faculty to your point of view, be it for centralization or decentralization.

These are questions a librarian must answer, but there are others that should be placed before the architect. It is the architect who should decide where the service core should go. Let him defend the purpose and value of an air well in your environment, and then you decide if you can afford the price. Let him tell you the optimum covering for your floor, weighing the advantages of carpet, tile, or parquet; the cost of laying, maintaining, and replacing worn areas. He should consider stack placements, lights, windows, glare, pillars, and the costs of construction, and decide on the best module to answer your requirements.

You know your students and your campus. What is the age and level of maturity of the average student? What are his culture and traditions, his life style? Are there some buildings on campus to which he goes everyday? Once you have defined the external traffic flows, considered access for persons, vehicles, and mail, and weighed the safety of users and staff leaving late at night, the final siting of the building should be left to the architect.

We know that many students use the library as a place to study, but do not really use the collection. If this situation is indicated by your book-use statistics, then you may be considering cheap storage outside the main library, or cooperative storage of materials, either nationally, or even regionally.

You may well say that any regional activity is too difficult, because of censorship, shipping delays, and other impediments to the free flow of information. But governments are now spending massive sums on various information systems. Have the librarians approached them with suggestions for obtaining the same services for less money? Are you pointing out the advantages to be gained from telex linkages? Are you continuing to urge changes in laws and administrative procedures that will facilitate the free flow of scientific and technical texts? You should have the weight of your faculty and researchers behind you. It is surely worthwhile to persevere.

These are long-term goals, but so is the library you are building 'long-term'. It will be there as an expression of your philosophy for a long time.

ABSTRACTS OF PAPERS

PLANNING AN ACADEMIC LIBRARY BUILDING

Barry L. BURTON

Librarian, Hong Kong Polytechnic

This is a practical paper written from the point of view of a librarian — the objectives being to outline some of the problems encountered in practice, and to suggest possible solutions.

The first stage in planning a library building is to determine the capacity required. The two main factors governing the size of a library are the number of users and the number of books. For users, planning should be based on the ultimate population of the institution. When listing out the space requirements for the building, as many factors as possible should be included. The building should cater for the situation when the institution is fully developed.

It is best to have the building completed in one stage rather than have extensions added in future. Parts of the building surplus to initial requirements can be temporarily allocated for other uses.

Standards for converting growth figures of student population and bookstock into library areas are plentiful. A set of standards for space allocation that are relevant and advantageous to the particular institution should be chosen in order to achieve optimum building size.

The architect should be given a brief which includes the inter-relationships between the various facilities required in the building. As much detail as possible should be available to help the architect. It is important that there be direct dialogue between the architect and the librarian.

Before plans are forwarded for approval by higher authority, total agreement must have been reached between the architect and the librarian. Scale 1:100 sketches should be available with fixtures, fittings and furniture shown. This was not done in the case of the Polytechnic and, as a result, the layout of certain areas in the library was still being sorted out after the building was handed over by the contractors and minor changes which would have resulted in improvements to the building were not made.

To effectively plan layouts, it is useful to produce data sheets for each floor of the building and to follow these up by data sheets for each room. Lego models of the various floors with traffic patterns shown proved helpful.

To avoid disputes over colours of carpets, walls, chairs, etc. it should be clearly stated who is responsible for colour co-ordination. It is strongly advised that the librarian have an important say.

THE HONG KONG POLYTECHNIC LIBRARY

Barry L. BURTON

Librarian, Hong Kong Polytechnic

The library of the Hong Kong Polytechnic is part of Phase I of a four-phase development of a twenty-five acre site beside the Kowloon end of the Cross Harbour Tunnel. In the new buildings, workshops are located on the ground floor so as to avoid heavy loadings and also to allow relatively easy vehicular access. A large podium covers most of the site at an average height of 5.5 m above ground level. Plant rooms and car parks are situated below the podium, thus confining vehicular and service traffic to the ground floor level. Pedestrian traffic is mostly on the podium which is attractively landscaped with numerous planters and has several courts going down to ground level.

The library building has five floors in a terraced arrangement — the ground floor being the largest. The library building is faced in brick-sized ceramic tiles in a rustic colour scheme. The bronze anodized aluminium windows are glazed in bronze-tinted glass to reduce glare and heat penetration, with double glazing on the perimeter to reduce noise. The library is carpeted, air-conditioned and fitted with an acoustic suspended ceiling.

The library entrance is conveniently located on the podium near the main pedestrian access from buses, trains and ferries and on the main route between the Polytechnic's old and new buildings. One particular advantage of having the entrance on the second floor of the library is that it eliminates the need for a lift in the building for students or academic staff, since there are only two floors up or down from the podium and it is not a great inconvenience to walk. A lift is provided for library staff, who have to move trolleys filled with books and for disabled persons.

The podium of the library has an unusually high ceiling (3.88 m) and floor to ceiling windows which result in a pleasant, open atmosphere. Because of its aesthetic appeal, it was decided to feature this floor of the library. Low level timber shelving houses the reference collection and the new books display, and current newspapers are located on this floor. Other facilities on the podium floor include the information desk, accommodation for the library's computer produced book catalogue, a small conference room and a suite of administrative offices.

The first and third floors house the main circulating collections. There is an open access reserve room and a room for a standards collection on the first floor.

The ground floor houses the serials collection, a bindery, technical processing, together with library staff amenities such as toilets and a lunch room.

The library roof is an attractive recreation area for students and staff.

A number of minor problems were encountered, many of which could have been avoided if more time had been available for the design and construction of the building.

UNIVERSITY LIBRARY BUILDINGS: PLANNING AND METHODOLOGY

Robin Gibson

Robin Gibson & Partners, Brisbane, Australia

The paper outlines the processes basic to the planning and implementation of university library building programmes.

Emphasis is placed on the fact that library buildings are for people. It is therefore essential that the librarian should first determine the type of library organization and pattern of library service that will be most suitable for his or her user community before he or she embarks on any building programme. Once these have been determined, the librarian should articulate his or her requirements in the form of a brief to the architect.

The paper also covers the following points: the type of library brief that has to be prepared; the role of the architect in the interpretation of the librarian's concept and requirements and in the design process; the place of the library consultant; the selection of the building site; the environment for the accommodation of books; the user movement patterns between the faculty buildings and the library, between the students' centre and the library as well as within the library building; the relation of the building module to the stacks and the building materials and finishes used.

THE UNIVERSITI SAINS MALAYSIA LIBRARY BUILDING

Edward Lim Huck Tee

Chief Librarian, Universiti Sains Malaysia

Established in 1969 to meet the manpower needs of Malaysia, the Universiti Sains Malaysia offers courses in science, technology, the social sciences, humanities and education. To support the teaching and research programmes, centralized library services are provided. Currently, the library's activities and collections are housed in two buildings — one located at the Malayan Teachers' College campus and the other on the main campus in Minden. Both buildings occupy an area of nearly 40,000 sq. ft.

The Library's services are not confined to the university community. Members of the public in general and the commercial and industrial sector in particular have access to its collections as well as to its reference and information services. The library acquires not only books, periodicals and microforms, but also a wide range of audiovisual materials.

A new library building of about 125,000 sq. ft. is currently under construction and is scheduled for completion in March 1978. The shape and location of the building were determined by a number of development principles laid down by the campus planners. The library, together with the lecture theatres and great hall, would constitute the campus centre and would provide the link between the social science/humanities buildings and the science/technology complex. With student residences located on the periphery of the academic buildings, all staff and students would not be more than five minutes' walking distance from the campus centre. Environmental considerations have restricted all buildings to no more than four storeys in height. However, sufficient space has been allowed for the library to expand eastwards to twice its proposed size. The building is planned for the 1980 situation and will seat 1,800 students and house 300,000 volumes.

Because the World Bank provided partial financing of the building, it was responsible for determining the size of the building. Its approval had also to be obtained at every stage in the planning and design process — from the selection of consultants to the award of tender. This resulted in some communication problems and inevitable delays. Delays were also caused by the decision to experiment with a triangular module, problems in meeting standards established by the Economic Planning Unit, the decision to link the library structurally with other buildings and lack of funds.

While the World Bank was responsible for determining the size of the building, the arrangement of the internal areas was based on a brief prepared by the Librarian. The new building is rectangular in shape (approximately 202' x 292') and consists of four levels. Level one, the basement, houses the Receiving and Shipping Room, the Bindery, Reprographic Area, Staff Common Room, and two stores for books and other materials. Readers enter the library on level two where there are staff workrooms, the Circulation Counter, Reference and Bibliography Reading Room and stacks, the Bahasa Malaysia Collection, the Current Periodicals Reading Room and Newspaper Room. Level three houses the humanities, social sciences and education collections as well as the media and microform collections. A special feature of this level is the Music Listening Room for individual and group listening of recorded music. Other facilities include a theatre, faculty and post-graduate study carrels, microform reading and group study rooms. Level four houses the science and technology collections and some administrative offices. On this floor are duplicated the carrels, microform and group study rooms of level three.

The library building is extremely functional in conformity with Economic Planning Unit standards which do not allow much scope for aesthetic frills. The building is air-conditioned, and vinyl flooring is allowed in the public areas. Vertical communication is by means of two staircases with a small lift provided for book transport. A fire detection system using smoke sensors will also be installed.

PLANNING A NEW LIBRARY BUILDING FOR THE UNIVERSITY OF TECHNOLOGY MALAYSIA AT KUALA LUMPUR

Che Sham H. M. Darus

Librarian, University of Technology Malaysia

The two greatest generators of student movement are the Student Union complex and the Library, particularly the latter as it is planned as the Central Library to the University. Thus as a major pivot for campus and teaching activities, the library supplies a continuing service to a large moving population who expect quality operational performance measured by the speed with which their library needs are satisfied. Therefore, effective library planning demands precise definitions of organisation, methodology and goals.

Accelerating growth in enrolment and diversity of curriculum have caused the university authorities to recommend the building of a new library to be completed in 1978 at the existing campus in order to meet the academic demands of the university. In order to enable the architect to plan the new building effectively, various measures were taken such as visits to local university libraries; the study of building briefs of other libraries; comparisons and assessments of library and architectural literature and the study of present practices and limitations of the existing library at the Universiti Teknologi Malaysia. Based on researches, consultations and assessment of the library's present and future requirements, a brief was prepared by the Librarian in association with the architect. Based on the guidelines provided by the brief, a series of tentative plans were drawn up by the architect. After a series of discussions, the selected plan was amended and adjusted to accommodate various unresolved aspects of the library. Due to limitations of the site, the architect had to develop a plan to suit the site as well as to accommodate the library's requirements. The proposed building will be of modular design, will have a floor loading of 150 pounds per square foot, and will have a ceiling height of 9 - 11 feet.

THE UNIVERSITY OF MALAYA LIBRARY

Beda Lim

Librarian, University of Malaya

While the librarian is not an architect, and the architect is not a librarian, it is nevertheless possible for an attractive and functional library building to result from a meaningful interaction between the librarian and the architect. The first part of the paper delineates the role of the librarian in library building planning. This principally consists of making known to the architect the functions which the library has to perform, and working hand in hand with the architect so as to ensure that the ultimate building will enable the library to perform these functions.

The paper then proceeds to outline the method of planning, with special reference to the method employed in the University of Malaya Library. Beginning with a request from the Librarian to the Development Committee, the various stages of planning are discussed.

The paper then lists the various library buildings in the University of Malaya, and briefly describes the newest library building on the campus.

The appendix to the paper consists of the Librarian's brief to the Development Committee. This begins with a staff listing, and a table of projected graduate student numbers. Then it lists the various spaces required, stating the amount of square feet in each case. Finally, an estimated costing is provided.

THE PLANNING OF THE LIBRARY BUILDING AT THE UNIVERSITI PERTANIAN MALAYSIA

Syed Salim Agha

Librarian, Universiti Pertanian Malaysia

Introduction

With the impetus on agricultural development in Malaysia and the realisation of a lack of trained manpower in agriculture needed to implement the plans for agricultural development in the country, the Universiti Pertanian Malaysia was formed through the merger of the Faculty of Agriculture, Universiti Malaya and the Kolej Pertanian Malaya. This development further intensified the need for a central library large enough to meet the needs of the new University.

Role of the Library

The role of the library in the University could be summarised as follows:

1. To support the learning, teaching, research and information needs of the campus population and the agricultural community at large.
2. To promote the exploitation of the library resources.
3. To participate actively in the process of education and communication.

Role of the Librarian

The Librarian was appointed Project Manager of the library building project as soon as funds were made available. The Librarian was to report to the Development Committee of the University from time to time on the progress of the project.

Description of the Library

Situated centrally within the University campus, the library is easily accessible to students and staff from the faculty buildings surrounding it. Ample space all around it, particularly at the back, has been reserved for future expansion. The present building is to be considered as the first phase of the total library building plan. Adequate parking space on the sides of the building along with a fine lawn and trees and shrubs strategically placed add to the pleasantness of the place. The fenestration of this red brick building was planned to reduce glare within the library.

As can be discerned from the distribution of areas and the library building plans, the major service areas are located on the ground floor. The multipurpose room is strategically located to allow for direct access from outside as well as inside the building. This room has been used for seminars, lectures, exhibitions, film shows, meetings, official ceremonies, instruction in the use of library materials and would probably have other future uses too.

On entering the building, the user has no difficulty in locating the various services due to the easily comprehensible layout.

The first floor houses the entire book collection, which is located between the staircase and the reading hall to absorb as much as possible the visual and aural distraction to readers. Group discussion rooms, closed carrels and the Chief Librarian's offices are located at both extreme ends of the floor.

The second floor is similar to the first in layout except that it houses serial publications, audio-visual material and closed stacks. The serials collection was deliberately

located here on the assumption that only the serious reader needs to use the floor, as a result of which it would be relatively quieter.

The building is fully airconditioned with the exception of the printing and binding areas. Vinyl floor covering is provided only in the public areas of the library, the other areas having a cement screed floor. At the extreme right of the building, as one enters it, is a tower block of toilets and escape staircase at every floor. A goods lift in the work area is used for the transportation of books. The lighting is sufficient and emergency AC powered DC lights are located strategically to come on in case of power failure. No special fire detection system has been installed purely because of a lack of funds. However, the normal range of fire fighting equipment is placed all over the building as required by law.

Highlights of the Building

Attention is drawn to the following features:

1. From the outside, the building does not look as large as the total area it encompasses. The blockish design is probably the reason for it.
2. The multipurpose room helps the library to play its role as the centre of varied activity in the campus with minimum disturbance to the users within the library.
3. The tower block of toilets and escape staircase provide for economy in plumbing. It has also helped to make the building architecturally aesthetic.
4. The modular counter has been designed to be flexible.
5. Easy access is provided from the entrance of the building to all parts of the library.
6. There is variation in the provision of reader space to give a freedom of choice to the readers.
7. The organisation of stacks and reader space allows for a fair degree of interaction between books and readers.
8. The building is compact for ease of movement of readers, staff and books.
9. The building is extendible to permit future growth.

THE UNIVERSITY OF THE PHILIPPINES

MAIN LIBRARY BUILDING

Marina G. Dayrit

Librarian, University of the Philippines

Rarely does a librarian have the opportunity to participate in planning his own library. I am sure those of us here who are currently involved in planning new library buildings for our universities realize how very fortunate we are in this.

We who simply inherited the buildings we now occupy can offer you something. This is our experience with the strengths and weaknesses of our respective buildings, experience which you will surely find of use in your own preparations.

Background: The University of the Philippines

The University of the Philippines stands at the apex of the country's educational system as its leading institution of higher learning. It was established by special charter by the colonial Philippine Legislature on June 18, 1908.

Since then, enrolment has grown from 50 students in 1909 to 25,729 in 1975. At the time of its founding, the University had only two academic units. By 1910, it had seven units with 1,000 students and 94 faculty members. In 1975, sixty-seven years after its founding, the University had 47 degree-granting colleges, institutes, and centers, with around 3,000 faculty members including lecturers, 1,791 academic non-teaching staff members, and more than 3,000 administrative personnel.

The University of the Philippines Library System is a network of 36 libraries comprising 24 units in the Diliman campus, 8 in the Manila campus, and 4 in the regional branches, excluding the libraries of the two autonomous units. The Main Library is one of the libraries located in the Diliman campus. It is the library for the College of Arts and Sciences, which has a total enrolment of about 8,000 in its undergraduate and graduate programmes, including all Diliman-enrolled freshmen and sophomores. The Main Library also serves as the headquarters of centralized library administration.

The Building

The Main Library building was the first building to be constructed after the University transferred from its original site in Manila to the Diliman campus. Construction of the building was started in May 1949, four months after the transfer, and finished in June 1950, with occupation completed by January 1951.

The Main Library building stands in the very midst of the academic buildings in Diliman. It is rectangular, measuring 102.75 m. long and 20.55 m. wide, with 4 floors including the basement. It has a stacks unit jutting to the rear from the center, measuring 27.40 m. long and 20.55 m. wide, with provisions for 8 decks of which only 5 are complete to date.

The decision to construct the Main Library at the center of the academic square accounts for its poor geographical orientation. In order to align it with the other buildings, its entire length runs from north to south, so that the building faces east and west, exposing it to the glare of the sun the whole day.

The building is modular in design and function. The structural bay measures 6.85 m. x 6.85 m. Internally, its fixed elements consist only of the stairs, elevator, booklift and

toilets. Maximum flexibility of physical lay-out is provided by the absence of load-bearing partitions, the continuous ceiling, and modular lighting. Due to this functional design, we have been able to transfer or change the location and arrangement of the various library functions as needed. There is also sufficient expansion potential within the building, which at present also houses three units of the University (the College of Fine Arts, the Institute of Library Science and the University Press). Moreover, should the building reach its capacity of readers, books and staff, its location and design provide for easy expansion.

Physical Defects

1. Physical details we consider defective in the building are its high and wide windows of clear glass, measuring 4.20 m. x 4.20 m. which compound the problem of glare from the sun introduced by poor geographical orientation. The clear glass wall facing the centre porch and enclosing the stairwell creates the most acute problem with respect to glare. Greater wall space could also have been gained by reducing the size of the windows. We tried to remedy the problem of glare by painting with aluminum paint all the glass windows and fixed glass panels, but new problems have been created because of this. The outside view is blocked and the building interior becomes darker, forcing us to turn on the lights even during daytime.

2. The height of the ceiling, measuring 5 m. on all floors excluding the basement, which measures 4.45 m. has precluded the air-conditioning of the entire building. However, this ceiling height as well as the tall wide windows have made the Main Library one of the most naturally-ventilated buildings on campus. With the recent ban on air-conditioning in government buildings due to the energy crisis, this particular problem has become immaterial for all purposes.

3. The porch and entire frontage area is wasted space. Useable space could have been gained had the walls been extended up to the frontage balustrade and porch stairway. Also, use of the frontage as a passageway used to create noise and disturbance that bothered the readers inside the library's first floor. We solved this problem by installing iron grilles at both ends of the porch to seal off the rest of the frontage.

4. The eighteen steps of the stairway to the main entrance unduly fatigue library patrons, and do not encourage library use by students who are not particularly studious.

5. The elevator in the building is not directly accessible to the public. Also, the toilets could have been better located through more careful planning.

6. The only access to the third floor is by the main stairway, making it a veritable trap in case of fire and earthquake. The building also lacks a fire detection system, and there was no provision for fire escapes until three years ago.

In spite of its defects and deficiencies, we have a good building because of its functional design. We have maintained the flexibility of the building and have installed minimum and temporary partitions only in the administrative and technical processes offices. These may be removed easily if relocated later on. Even after 25 years, the building is still adaptable to our changing and expanding needs. However, some renovations and improvements in its facilities are long overdue.

Layout of Library Functions

May I mention here that we are still not very satisfied with some features of the present allocation of functions, which continue to be limited by two constraints already mentioned. First, the entire third floor, including the stack deck adjoining it and half of the basement floor (north side) are still occupied by three other units of the University. Second, three decks of the 8-deck stacks unit are still unfinished. As a result of the first constraint, there is a big problem of exit control to the building.

The first floor layout follows the logic of having the locators or keys to the library on this floor, where the main entrance is located. In the main lobby are found the card catalogues with a catalogue information desk, behind which is a location board showing where the various types of library materials may be found in the reading rooms.

In the middle of the lobby facing the main entrance is the Circulation Desk. Flanking the main lobby are two open-shelf reading rooms — the General Reference Room and Humanities Reading Room on the south side. The more recent books in these subject areas are available in these open-shelf rooms near readers stations.

Behind the Circulation Desk is the stack deck for little-used books in the various disciplines, where carrels are provided for faculty members and graduate students with stack permits.

One level below, on the basement floor (south side), are located the most heavily used materials — reserve books. Mass seating is provided in this Reserve Book Room, which is accessible through the main stairway. This room can be sealed off for late evening service, with access transferred to a south basement doorway. Also located on the basement is the stack room housing the duplicates and library publications for exchange.

On the north wing of the second floor are located the Librarian's Office, the administrative offices, technical services, and microfilm laboratory and microfilm room. Location of technical processes on this floor is not very satisfactory, for two reasons: Acquisitions is far from the receiving area, and the cataloguers are far from the card catalogue. However, the proximity of Acquisitions to the Librarian's Office is useful because of our active involvement in the acquisitions programme of the University Libraries.

The special collections room (Filipiniana and Rare Book Room) occupies the south wing of the second floor. The collections here are served through a request desk.

The third deck of the stacks unit, which is contiguous to the second floor, is being used temporarily as the Science/Serials reading room. This serves on open shelves the current journals, periodical indexes and abstracting services, and the books in the natural sciences. Back issues of journals, shelved one deck below this floor, are available here through a request desk.

Among the other services available on this floor is the photocopying room, which is adjacent to a small printing room. Staff lounge, staff room, and staff locker rooms are also located on this floor. Location here of these last three rooms, however, remains unsatisfactory. We have plans to move them elsewhere and convert this area into an exhibits area.

The fourth floor of the stack unit houses the University Archives and Records Depository, created two years ago and also under the administrative supervision of the University Librarian.

VISAYAS STATE COLLEGE OF AGRICULTURE (VISCA)

LIBRARY BUILDING PLANS

Leonor Gregorio

Librarian, University of the Philippines at Los Banos, Laguna, the Philippines

The Visayas State College of Agriculture, one of three agricultural colleges recommended by the Philippine Government to serve as regional colleges, has been the recipient of both government and World Bank assistance in its development projects.

One such project is the library building to be built at an estimated cost of 4 million, (about US\$500,000.00) by early 1977, near the old campus site in Baybay. The building, approximately 2,500m² is meant to serve 5,000 students by 1985. It has two floors and is designed along modular lines. On the first floor are the General Reference and Reserve Sections, the Librarian's Office, the Technical Services, Stacks and the Bindery. On the second floor, the Serials Reading Area and Stacks, Filipiniana Section, Microfilm Room and a Graduate Study Area. Although the stacks may eventually be airconditioned, the rest of the building will not. Present building plans, however, are still tentative. In fact, about three weeks before this seminar was to take place, another site was chosen closer to the Students Union and the Administration buildings than to the academic buildings.

The absence of a librarian on campus is a drawback. Consultations by the Project Architect with the Librarian of the University of the Philippines at Los Banos were arranged but assistance has been limited to discussions on floor layout and related aspects.

THE PROPOSED SILLIMAN UNIVERSITY LIBRARY BUILDING

Gorgonio D. Siega

Librarian, Silliman University

Background Information

Founded in 1901 as the Silliman Institute, it was granted a university charter in 1938. A private, non-stock, non-profit co-educational institution of higher learning, Silliman University is located in the City of Dumaguete, Negros Oriental, approximately 600 miles south of Manila, Philippines. Its campus site is by the sea, with an area of 67 hectares.

Silliman offers baccalaureate degrees in the arts and sciences, agriculture, business administration, divinity, education, journalism and communications, music and fine arts and nursing. It also maintains a graduate school and offers both masters and doctoral degrees in education and in other selected fields.

The system of libraries at Silliman consists of the Main Library and five branch libraries located in the different schools and colleges within the university. Its present book collection is approximately 125,000 volumes, serving a student population of over 5,000 and nearly 300 faculty members.

The Main Library is housed presently in a two-storey concrete building which, unfortunately, was not designed for library purposes. Hence, structurally, the building is not as functional as a library should be.

In his 1964 Annual Report, the University Librarian formally presented to the University Administration the need for better library quarters. However, it was not until 1973 when the idea of constructing a modern library building was vigorously pursued. The University Librarian, in cooperation with members of his staff, prepared a project proposal for an integrated library development program which consists of (1) the construction of a modern university library building, (2) the strengthening and expansion of the library resources, and (3) the development of the library personnel. This proposal was approved and adopted by the University Administration on October 8, 1973.

The Role of the Librarian

From its inception, the University Librarian played and continues to play a significant role in the planning of the proposed university library building. As a matter of fact, he was the principal author and the brains in the preparation of the project proposal. Perhaps it is significant to mention here that Silliman University has its own resident architect. With the blessings of the President of the University, the University Librarian together with the University Architect and the Chairman of University Buildings Committee, met from time to time to discuss the proposed university library building. Using the detailed description of the proposed library building and the functions it is expected to accomplish as contained in the project proposal, the University Architect started to make preliminary drawings of the proposed library building.

In addition, with the approval of the University President, the Architect and the University Librarian travelled together to observe new academic and research libraries in the greater Manila area and Los Banos. Our observation trip broadened our insight. Based on our observations, we decided to adopt some of the best features of the libraries which we observed, consistent with aims and purposes and the clientele that we are committed to serve.

In the meantime, the University Administration submitted the project proposal to the Office of American Schools and Hospitals in Washington, D.C. (affiliated with the U.S. A.I.D.) for possible funding. The proposal was coursed through the United Board for Christian Higher Education in Asia, a supporting Board of Silliman University. Fortunately, after more than two years of negotiations, the library building aspect of the proposal was approved on August 28, 1976. The total grant is US\$1,275,000.00.

To give a push to the library building project, the University President constituted a working Library Building Project Committee composed of a project architect, project engineer, project accountant, project coordinator, and a chairman. The University Librarian has been designated the project coordinator. This seems to be a happy arrangement. It is projected that the actual construction of the library building might start in May 1977 and hopefully, completed in October 1978.

Basic Considerations in the Proposed Library Building

As the planning of the proposed university library building progresses, the basic considerations which will govern our thinking and decisions are as follows:

1. The Library structure should incorporate in its design provisions for (a) maximum utilization of space, (b) maximum flexibility, (c) maximum provision for individual study, (d) maximum ventilation for tropical climate, and (e) integration of the audio-visual services and the Instructional Development Center (IDC) with the library services for a more effective and dynamic support of the teaching and research needs of the University.
2. The proposed university library building shall be modular in design, a 3-floor concrete structure, plus a basement. In addition, there shall be a one-level library annex for the Audio-Visual Center and a multi-purpose room. The total floor area shall be approximately 75,000 sq. ft., with a seating capacity of 1,350 (approximately 25% of the library's clientele).
3. Some special function rooms aggregating some 20-25% of the total floor area shall be provided with unitized mechanical airconditioning.
4. Modern library and audio-visual equipment shall be installed for a more effective library service.
5. The proposed site of the library building should be as central as possible, close to the area of heavy academic instruction and almost equidistant from the dormitories (since approximately 25% of the student population reside in the dormitories).

Role of the Library in the Development of the University

At Silliman University, the University Administration views the library not as a luxury but a necessity, an indispensable tool for effective instruction primarily and, secondarily, as a dynamic center for scholarship and research.

CHULALONGKORN UNIVERSITY LIBRARY

Knid Tantavirat

Librarian, Chulalongkorn University

Chulalongkorn University is in urgent need of a new library since the architectural style of the present building creates a serious space problem. The new library will be a core section of the University Instructional Resource Center which consists of the Central library, the Audio-Visual Center and the Thailand Information Center. First stage space requirements of the library, A-V center and the T.I.C. are 6,800 m², 800 m², and 400 m² respectively. The Central Library will occupy the basement to the fourth floor; sixth to ninth floor will be reserved for the future expansion of the library. Besides the assistance of the Planning Committee, the Librarian has found the experience gained from her library-study visits very helpful in planning a new library building.

A distinctive feature of the building will be its butterfly shape, selected on the basis of a form evaluation. This shape is considered to serve best in terms of function, circulation, natural lighting and ventilation. The first stage (1977-1981) construction will be completed at a cost of US\$1,662,591.50. It will serve some 12,248 undergraduate students, 3,251 graduate students and 2,500 instructors. It will have seating accommodation for 2,500 people and storage space for over half a million books in its total net area of 6,800 m². The site of the new building will be at the center of the university campus where it can be conveniently reached.

KASETSART UNIVERSITY MAIN LIBRARY

Daruna Somboonkun

Librarian, Kasetsart University

Kasetsart University, Bangkok, Thailand, now plans a new main library on its present campus, and a branch library on its new campus which is some 100 kilometres away. The two libraries will serve about 10,000 faculty members, students and officials of the Ministry of Agriculture and Cooperatives. Site selection for the main library was difficult due to the sprawling campus and scattered buildings. But in the early stage, the campus planner was able to assign the location for all new buildings and the library was placed in the center of the whole campus. Because of the limited budget, the initial sizes of both libraries were roughly estimated from the start — a total area of 6,670 m² for the main library and 1,474 m² for the branch library. In planning the libraries, a consultant was employed to work closely with the Librarian for two months. Besides studying the problems of the present library building, the Consultant and the Librarian visited other modern libraries to examine their plans and facilities and discussed problems with the chief librarians. Metcalf's *Planning Academic and Research Library Buildings* was used as a basic reference. Library design, the number and layout of floors, all unit sizes and other necessary specifications for both buildings were prepared and presented in the architects' briefs. The main emphasis was on a sufficient reading area and a sizable reserve book room. In conclusion, the main library was designed to house approximately 200,000 volumes and to seat about 1,000 users at one time. Drawbacks to the present plan are insufficient seating capacity and the need for expansion in less than ten years.

PLANNING FOR THE NEW CENTRAL LIBRARY, KHON KAEN

Aphai Prakobpol

Librarian, Khon Kaen University

Khon Kaen University is located at Khon Kaen province in Northeastern Thailand. It consists of six faculties. They are: Science, Agriculture, Engineering, Nursing, Medicine and Education. The prominent characteristic of Khon Kaen University is that it is residential for both students and lecturers.

Because the Central Library is very far from the buildings of the various faculties and dormitories, it has to move to a new site between the Faculty of Science and the Cafeteria.

The Committee appointed to prepare the primary plan of the new Central Library building consisted of the Librarian, the Architect, and the Engineer. It took the following steps in the planning process of the new building:

1. Obtaining information on the projected planning and development of Khon Kaen University, the parent institution.
2. Visiting major university libraries in Bangkok.
3. Studying the literature concerning university library buildings.
4. The drawing of the primary plan by the Architect.
5. Study and analysis of the plan.

The new Central Library is a five-storey rectangular building, with a basement. Basic details are: area: 12,050 m², book capacity: 500,000 volumes; seating capacity: 1,000; and cost of building: US\$1,200,000.

SIRIRAJ LIBRARY, MAHIDOL UNIVERSITY

Uthai Dhutiyabhodhi

Librarian, Siriraj Medical Library, Mahidol University

The Siriraj Library located at Siriraj Hospital, Faculty of Medicine, Dhonburi, is the Central Library of Mahidol University. It provides overall library services to the 12 faculties under Mahidol University. The four-storey building is equipped to house 120,000 volumes and has a seating capacity for 350 persons. The Library has a collection of over 70,000 volumes of books and receives about 600 periodical titles. The collection is geared towards the curricular and research needs of the faculties of Mahidol University. Hence interlibrary loan services are available at the unit libraries of the faculties, which are located some distance from the Central Library.

Books are arranged according to the National Library of Medicine and Library of Congress Classification System to facilitate effective use of the facilities and other resources of the Library by the University's 1,700 faculty members, and over 5,000 undergraduates.

According to the Mahidol University development plans, a new library building is being planned to serve the Salaya Campus for the undergraduate students in the Health Sciences. When this new library unit is completed, it will have a seating capacity for 750, microform facilities, audiovisual aids and other non-book media.

THE PLANNING AND DESIGN OF THE NEW LIBRARY AT THE SINGAPORE POLYTECHNIC, DOVER ROAD CAMPUS

Rosemary Yeap

Librarian, Singapore Polytechnic

The Singapore Polytechnic has been developed as a tertiary institution for the training of technicians to meet the manpower needs of the industries of Singapore. Courses are conducted in civil engineering, building, electrical and electronic engineering, mechanical and production engineering, marine engineering and shipbuilding, chemical process technology, and nautical studies.

The student enrolment in the current 1976/77 Session is 8,500 students, consisting of 4,718 full-time students, 1,582 day-release students, and 2,200 evening students.

The Polytechnic is situated at present on three campuses, at Prince Edward Road, Ayer Rajah Road and Dover Road, with a library at each campus.

In September 1971, the Singapore Polytechnic acquired an area of 81 acres in Dover Road, to be developed as the new Polytechnic campus, and a Development Unit and New Campus Development Committee were formed. The Development Unit was charged with the preparation of a new Master Plan for the campus, and a central library was designed.

The new Campus Development Plan has been carried out in two stages, with the workshops, teaching blocks, laboratories and lecture theatres under Stage I, and the Administration Building, the Library and the Students' Centre under Stage II. Work on Stage I of the project has almost been completed, and the Department of Civil Engineering and Building, and Department of Electrical Engineering and Electronics, have moved into the new campus. The site for the new library building has been cleared, construction work will begin soon, and the building is expected to be completed in early 1978.

The Library was designed as a central library, providing services for approximately 5,000 full-time students, approximately 3,500 part-time students, a teaching staff of about 300 full-time lecturers, and a library staff of approximately 40.

The Library was planned with open access areas on all floors, for the convenient use of the reference and lending collections, which now contain 90,000 volumes.

The following is a summary of the layout of the new library building and special features:-

The Library building contains five storeys, is fully air-conditioned, with the main entrance on the first floor level. There will be two lifts and three staircases in the building.

Ground Floor : Reserve Book Collection, Reading Room, Media Resources Room, Photocopying Facilities, Bindery and Store room.

First Floor : Main Entrance Hall, Information Desk, Catalogue Hall, Technical Services Department (Cataloguing and Acquisitions), Reference Department, Singapore/Malaysia Collection, Exhibition and Display Area, and Locker Room.

Second Floor : Reading Room, book stacks (Science and Technology), Librarian's Office, Meeting/Seminar Room, and Staff Common Room.

Third Floor : Reading Room, Serials Department, and Periodicals Reading Area.

Fourth Floor : Reading Room, bound volumes of journals, and a Tutorial Room.

A feature of the design is the "open" circulation between all reading areas on the various floors of the building, and there is a clerestory between the second and third floors.

The ground floor is designed to allow a separate entrance to the Library to cater for extended evening hours, if required, such as during examination study periods.

The Library building fronts the paved and landscaped concourse, a focal area for student activity. The rear of the building looks out to a large open space with a pleasant prospect. This space can also be used for the future expansion of the library building. The Library is centrally located in relation to the other buildings in the campus, and is adjacent to the Administration building.

The total area of the building is 42,101 sq. ft. There will be seating capacity for 850 readers.

THE CENTRAL LIBRARY, UNIVERSITY OF SINGAPORE, KENT RIDGE, SINGAPORE

Peggy Wai-Chee Hochstadt

Librarian, University of Singapore

The paper discusses the planning of the Central Library at Kent Ridge on the basis of three main points:

- (1) The concept of the Central Library building reflects an attempt at incorporating two distinct approaches to library organization within the context of the University of Singapore.

Elaboration on this point reveals in detail how the final organizational pattern adopted (a compromised centralized/decentralized system) dictated the design, form and internal layout of the building. The basic library concept gave rise to a six-level, two-wing building of approximately 15,000 m² interlinked by common user and work areas at three levels. Planned for a book capacity of 800,000 volumes and a user population of 10,000 — 12,000, the building may be extended upwards by another floor. Distinct characteristics of the structure can be seen in its somewhat elongated shape and in the irregularity of its floor areas.

- (2) The Central Library building is part and parcel of the total planning for a new university campus incorporating four existing separate campuses.

Both the advantages and constraints arising from planning within the concept of the Kent Ridge Campus Master Plan are indicated. A definite advantage lies in the Central Library's site, both from aesthetic and functional viewpoints, while constraints imposed are mainly technical.

- (3) The Central Library is one of a total of three planned new libraries at the Kent Ridge campus under a common central library administration.

The other two libraries being planned are: the Biomedical and Law Libraries. The former will be located within the Biomedical Complex on the eastern sector of the campus and will replace the present Medical Library. In addition to the Medical and Dental Faculties, it will also serve the Departments of Botany, Chemistry, Chemical Engineering, Pharmacy and Zoology. A separate Law Library to be sited within the Faculty of Law building has also been advocated in view of the special nature of use of the Law Collection, about 75% of which may not be loaned out.

NANYANG UNIVERSITY LIBRARY

Koh Thong Ngee

Librarian, Nanyang University

The present library building was occupied in October 1966. It was donated and built by the Government. This six-storey building is located on a prominent hillock in the central area of the 500-acre university campus. It is accessible by a metalled road and a covered stairway which links it with the Administration and other faculty buildings at the foot of the hill. Within a perimeter of about 200 metres are quarters for all grades of the university staff and dormitories for about 90% of the total student population of 2,200.

It is a rectangular building, 114 ft by 95 ft, oriented to the north. Each floor consists of 30 modules of 19 ft square making a total gross area of 10,830 sq. ft. The ceiling is about 9 ft 6 ins. high. Fluorescent lighting and vinyl-asbestos tiles are generally used. No air-conditioning is provided except for the Rare Book Room and the Photo-duplicating Room on the fourth floor. The first five floors are designed for library use whereas the top floor provides for a canteen for the library users. Altogether about 50,000 sq. ft. of floor area are assignable for library purposes.

Entrance is by the ground floor which houses most of the essential library functions such as Circulation Control, Loans Counter, Public Catalogue, Reference Service, Technical Processes, and Offices. The infusion method of floor arrangement is generally used throughout the library. The main collection is arranged by three broad subjects, namely, Science and Technology, the Social Sciences, and The Humanities, on the first, second and third floors respectively. There are seats for more than 1,200 readers. There are also 12 seminar rooms and 36 carrels.

The building took barely 24 months to plan and build. It was designed by architects of the Housing and Development Board which had hardly any previous experience in projects of this nature. The total building cost was S\$1 million which included expenses for the demolition and reconstruction of a huge water tank away from the site, and the construction cost of the covered stairway running down the south slope.

The modular design was preferred for giving greater flexibility for future adaptation to meet the changing needs of the University which was then expected to make radical changes after receiving full appropriation from the Treasury. Over the past 10 years, several changes had in fact been made without incurring much expenditure or interrupting normal library services. However, it has been felt that a modular building in our climatal conditions is gravely handicapped by not having been provided with suitable air-conditioning. Hence, we are now seriously planning to air-condition the building and also to convert the top floor for library use.

THE HASANUDDIN UNIVERSITY LIBRARY

A. Rahman Rahim

Director, Hasanuddin University Library

Among the changes in Universitas Hasanuddin under the Rector Professor A. Amiruddin is the centralization of the library system. The present building, equipped to seat 300 persons, consists of the administration complex, the library proper, and the conference complex. The current collection was started in 1958, and has now reached over 50,000 volumes and 150 current periodicals. The library is supervised and managed by a staff of over 25 persons.

The entire University is moving to a new campus. The projected plans for the organization of the new campus include a centralized library building. Many distinguished librarians from Australia, England, and America have also reviewed the plans for the library system.

The new Central Library will (1) service all undergraduate studies, (2) house appropriate research materials, (3) provide available qualified library staff to assist the teaching and research staff, (4) compile a complete catalogue of all university collections in Sulawesi and Eastern Indonesia, and (5) will maintain close communication with other major libraries in Indonesia and abroad. Faculty collections will be absorbed into the Central Library collection.

The new library building will be of ferroconcrete and of modular design, with 15,000 square metres of floor space. The library staff rooms, Reference Collection, Public Catalogues, Loan Desk, the photocopying and microfilm reading equipment as well as the Periodicals and Research Collection will all be on the ground floor. The Undergraduate Collection will be on the second floor.

Further details will be provided as the planning of the Central Library of Universitas Hasanuddin progresses.

THE PROPOSED CENTRAL LIBRARY BUILDING FOR THE INSTITUT TEKNOLOGI BANDUNG

Gordon Hazeldine

Library Consultant

The paper proposes a subject divisional plan for the library, according to which all publications on a subject, or group of related subjects, are grouped in the same area. A reason for this is economy in spatial requirements. A library should be planned with a view to economical administration.

The proposed Central Library should have space for 300,000 volumes and should provide 1,200 reader places on a central site within the teaching area with other buildings grouped around it. The building should also be able to accommodate 10 years of growth (1977 — 1987).

Owing to the nature of the site, the main floor may be on the ground floor. The height of the building ought not to be lower than three storeys.

It proposes that a Library Building Sub-Committee, consisting of the following be appointed:

The University Librarian as Chairman

Two senior members of Library staff

Two student representatives

Two members of the ITB Planning Board

The Rector and/or Administration and Finance Rector.

The Scheme: The whole building should be planned on a *module* related to stack and reader space.

Common Library Building Deficiencies

Common deficiencies of badly planned library buildings are enumerated as follows:

1. Insufficient space for books, readers and staff.
2. Unsatisfactory location.
3. Inadequate ventilation.
4. Inadequate size to carry out all functions.
5. Failure to foresee the rapid growth of parent institutions.
6. Lack of unity between the librarian and architect.

Requisites for Satisfactory Library Planning

The Committee should draw upon the experiences of other libraries by studying plans of existing buildings, consulting with librarians and building committees of other institutions, visiting recently constructed libraries in Indonesia and other South East Asian countries.

In the case of university libraries, the range of factors which affect the design of building is extensive. It is suggested that the proposed architectural plan be designed by the ITB

or the Government's Ministry of Works. University library planning is technically very new in Indonesia and the design of a library building has to be approached with considerable caution and understanding.

The inclusion of some teaching accommodation which could be used for seminar work in connection with library held material assembled for the purpose as well as small group discussion rooms are recommended.

Similarly, the paper suggests a university bookshop to be incorporated in the library building and possibly a cafeteria built on the ground floor.

On the question of air-conditioning, this is ruled out as being too costly, although it will certainly help to reduce the problem of mould, fungus and pests.

REPORTS OF SESSIONS

REPORT OF INTRODUCTORY SESSION (Morning)

Chairperson: Wang-Chen Hsiu Chin

Rapporteur: Maria Ng

Discussion

Buranakarn asked what floor materials were used for the Hong Kong Polytechnic Library and whether the triangular form of the building was a functional design. Burton replied that the Library used in-situ reinforced concrete and grid waffle floors. The triangular shape of the Library was determined by the shape of the site. He had had no problems in utilizing this triangular floor space as all the floor areas were large and the number of stacks to be accommodated was not too great. Thus seats could be placed in the awkward areas caused by the triangular shape. Should the floor area be small, problems in space utilization would arise, particularly in the accommodation of stacks.

Gibson commented that on the question of floor materials, carpeting would be preferable to vinyl floors as trolley wheels running over the latter would result in a lot of noise. Carpet tiles would give acoustical control, although the carpeting of heavy traffic areas like the foyer might wear out within a short time and create an untidy appearance. Burton added that it would be better to use carpet tiles as they were easily changeable. The experience of the Hong Kong Polytechnic Library showed that the entrance wore thin and unsightly too quickly, despite the presence of a ceramic tile barrier.

Edward Lim said that safety regulations stipulated that emergency exits should be easily opened at all times. This requirement conflicted with the library's need for security. He asked how the Hong Kong Polytechnic Library overcame this problem. Burton replied that they had installed panic locks with sirens which would sound very loudly when emergency doors were opened. Boxes at such doors carried the warning that sirens would sound when doors were opened, and this precaution seemed to be a sufficient deterrent for students. Gibson added that, funds permitting, the problem could be solved by having locks which were connected to the fire alarm system and would become operative when the fire alarm was activated.

Uthai asked Burton whether, from the point of view of internal layout, he had been bothered by the number of pillars in the Library. Burton replied that they had a grid of 7.8 m which was adequate and that he had had no problem of putting in seating and shelving. Gibson added that every building needed columns and some visible means of support despite the restrictions which they might impose as it would be too expensive to make wide-span buildings. The real exercise was to get back to module planning.

Uthai further asked whether an attractive building facade could be achieved by using materials other than the red brick that had been used for the Hong Kong Polytechnic Library building. Burton said that the materials used were actually ceramic tiles and they had been chosen because of their easy maintenance and attractive appearance. Syed Salim Agha said that, in Kuala Lumpur, there was an instance of tiles falling off a building. Gibson commented that low maintenance should certainly be a factor to be taken into account when considering materials. At the same time one should ensure that service elements should be placed away from the library, so that the usual library functions need not be interrupted when such units were undergoing repairs.

Commenting on Gibson's earlier remark that, if a librarian's brief was too detailed, it might hamper and frustrate the architect's imagination, Syed Salim Agha asked Gibson to elaborate on what the librarian should say in his brief to the architect. Gibson said that the

librarian should inform the architect of his needs, stating his main theme and leaving the architect to work out the details.

Hochstadt remarked that she noticed two lighting patterns were adopted in the Hong Kong Polytechnic Library and asked Burton how he decided on them. She mentioned that the University of Singapore Central Library would have a ceiling height of 8' 6" and a stack height of 7' 6" and would like to invite comments on how different lighting patterns could affect illumination. Burton replied that the first floor of the building had non-directional lighting and the next three floors directional lighting patterns. He did not know how these patterns were arrived at, but in practice, he had found the level of illumination the same.

Burton thought that stacks higher than 7 ft were impractical in the region where the average height of users was much shorter than that of those in the western world. Abdul Aziz said that higher stacks could help to solve space problems. Vespry said that one should be aware of the implications of deciding on higher shelves, e.g. shelvees would tiptoe and push books in, thereby mislaying the books. Also, high shelves would require many step stools which would be difficult to roll on carpeted floors. If floors were tiled, students would tend to misuse stools and treat them as footballs. Often, high stacks resulted in shelving at only the middle portions, leaving the top and bottom shelves empty.

Gibson commented that space needs should have been properly projected at the planning stage so that there would be no need to extend stack height to make up for lack of space.

Meng brought up 2 points further to Hochstadt's comments on lighting. He mentioned (1) that in the University of Singapore Central Library, 7'6" was the height of the top of the stacks but reaching height was in fact 6' 6" (2) that they had chosen a ceiling height of only 8' 6" for economic reasons — the lower the ceiling height the less the air-conditioning cost.

REPORTS OF INTRODUCTORY SESSION (Afternoon)

Chairperson: **H. Arthur Vespry**
Rapporteur: **Manijeh Namazie**

Robin Gibson presented his paper entitled *University Library Buildings: Planning and Methodology*. He concluded his presentation by showing a number of slides of the University of Queensland and of Griffith University.

After Gibson's presentation, the meeting was divided into two discussion groups with Group I forming the Architects Session and Group II the Librarians Session.

Group I: Architects Session

Convenor: **Robin Gibson**
Rapporteur: **Manijeh Namazie**

Gibson opened the discussion by pointing out that one fact that had been amply demonstrated was that those involved in the building of libraries faced common problems. It was therefore necessary to work together in order to solve these problems to the mutual benefit of both librarians and architects. In this respect, the library planning consultant could help bridge the possible communication gap between the librarian and the architect so that they could better understand each other and this, hopefully, would result in a building which would embody both the functional requirements of a librarian and the creative imagination of an architect. Gibson added that it was essential first to define objectives and to formulate ideas as to what data and information should be supplied by librarians to architects.

The importance of a well prepared brief and what it should contain were stressed. Data should be systematically listed and expressed in units of measurement capable of verification; information on all requirements should be provided with just enough details to assist the architect but not to curb his imagination. Librarians could and often did produce good briefs but usually with a serious omission — the lack of quantification in monetary terms of costing functions and services.

Next, the role of the library planning consultant was described. He would most likely be hired by the planning authority and he would be asked to set out in a document the requirements for the plan. He would, together with the library staff, examine library functions and processes thoroughly, analyse statistics and then document all this into a brief which would be handed to the planning authority. If the brief was approved, it would be handed to the architect who would translate it into a design. The consultant would do some of the research an architect was expected to do. The architect might disagree and even change some of the brief. What was important was that the brief would give the architect something to go by — a term of reference.

The discussion then moved on to the effect of heat and humidity on buildings in the tropics. The following questions were posed: Is air-conditioning the only solution possible, and what other methods have been explored? Has sufficient use been made of wind data and wind consultants? Have the spaces in between buildings been considered? How successful have attempts been to create shade and reduce the effects of the sun? Where budgetary restrictions existed, partial air-conditioning was one answer, such as isolating the bookstock and air-conditioning the collection but not the reading areas. Ascalon described in this connection a building which he had designed in the Philippines where the most important requirement was not to air-condition. His problem was to induce air into the building and eliminate humidity. This he tried to do by designing an open building and by the use of

dehumidifiers wherever necessary. He had, however, made a built-in provision for air-conditioning in the hope that at some future date this restriction would be lifted. Meng pointed out that the siting of buildings was of primary importance in tropical climates. He described the University of Singapore campus at Kent Ridge and stressed the fact that the choice of the site was made after a number of the factors were taken into account. He pointed out that although maximum space for air-conditioning had been provided it was also possible for the system to be used for partial and periodic air-conditioning.

The relationship between clients and architects was held to be different in Southeast Asian countries from Australia. Often clients were uncertain of what they wanted or should want. Sometimes clients were very influential and architects were forced to incorporate their decisions into their designs. Changes of personnel were also more frequent, with the result that there were shifts in emphasis and this made the job of the architect more difficult. Clients sometimes did not require architects to follow a project from start to finish and the implementation of the project might be delegated to others. Sometimes, architects might get caught in between disagreements amongst clients. The majority view was that the architect could minimise the effects of these problems by providing flexibility and interchangeability in his design. However, an example was cited of a project in Thailand which had to pass through the hands of numerous authorities before getting to the architect. The presence of a university architect who summed up the whole position and who liaised with the authorities removed confusion and helped smooth difficulties.

Another problem the meeting discussed was that of providing expansion facilities in a new building — how much space should be provided for initially, and what length of period should lapse before the first phase of expansion might start? Or, at what stage would it be uneconomical to continue extending an old building and should a new library building be considered? The meeting felt that no universal pronouncement could be made on this matter — it would depend on the demands of individual libraries and where the pressures were. Some of these questions might be answered by market surveys. Partial answers were also suggested, for example, controlling the collection by changing the objectives, weeding and microfilming. A solution of a more permanent nature had been established in North America where the applications of modern technology had made increased co-operation possible and the collection of one library was made accessible to the users of another. Under these conditions libraries would be able to afford to specialise in their acquisitions policies.

Similarly, it was not possible to answer the question of what the optimum size and height of buildings should be. There was no set pattern. It depended on a number of factors affecting the needs of individual buildings, that is, the needs of the community the building served. Here again, flexibility and interchangeability were strongly recommended. Architects were in a position to teach clients how best to use space and they should attempt to do so.

The function of a master plan was referred to and it was emphasised that no master plan should attempt to master an educational system — it should be the other way round, the education system should determine the master plan. No master plan should be so rigid as not to allow changes to be made when the situation warranted them. An architect should be able to go to a master planner to ask for adjustments to be made, either in relocation, or in other ways when necessary.

The conflict between librarians and the faculty as to the provision of branch libraries, and their relationship to the Central Library was not for the architect to resolve. The provision, size and expansion facilities of branch libraries would depend on library requirements and the economic use of facilities. The planning consultant and the librarian together should decide after an interchange of ideas with faculty members. This interchange of ideas, if documented, would provide relevant feedback to the architect. One way of maxi-

mising the use of a collection would be division by function and not subject, for instance, undergraduate versus graduate libraries.

In conclusion, architects were asked to listen to what the librarians had to say during the week and to formulate a common approach to the librarians. Librarians on their part should do their homework and be in a position to provide necessary information. It would be very fruitful for librarians to know what architects thought and required. Attempts to achieve understanding between architects and librarians, consultants and master planners would work to the mutual benefit of all concerned.

Group II: Librarians Session

Convenor: **H. Arthur Vespry**

Rapporteur: **Jill Quah**

Vespry told the meeting that the discussion for the Librarians Session could center on two topics, namely, library buildings and activities among libraries in the ASEAN region (interlibrary lending in the region, factors affecting collections in the region) or it could be confined strictly to library buildings.

The meeting decided to focus their discussion on the subject of cooperation among libraries. Vespry led the discussion by asking members of the meeting whether they would like to see something like the BLL (British Lending Library) operating within the region and if so, should it cover non-regional information or should it restrict itself to information within the region. Rahim said that the discussion should be confined to the publications in the region, and that the emphasis should be placed on the ASEAN (Association of Southeast Asian Nations) region. Vespry then invited comments on the idea of a co-operative lending arrangement somewhere within the ASEAN region. Many librarians felt that it was necessary to build up the national network before a regional network could be entertained. Even on a national level, many Southeast Asian librarians faced difficulties. The lack of union lists and the slowness to respond to interlibrary loans were some of the problems encountered. The meeting was informed that UNESCO had financed a pilot project for a national network in Malaysia, initially comprising the National Library of Malaysia and the five university libraries. Dr. J. Teil, Librarian of the University of Lund, an expert in library networking, would be submitting his report to the National Library of Malaysia. As a first step, UNESCO would provide free installation and maintenance and bear the cost for a telex link-up between the National Library of Malaysia and the five university libraries.

Vespry informed the meeting that Mr. Abraham Liebowitz would be visiting Singapore next year. Mr. Liebowitz was then in Boston Spa studying how the BLL worked from within. The librarians in the region could perhaps make use of the expertise of Mr. Liebowitz in the setting up of a regional co-operative network for interlibrary lending.

REPORT OF FIRST SESSION: MALAYSIA

Chairperson: **Leonor Gregorio**

Rapporteur: **Lim Hong Too**

Library Presentations (Morning Session) (Libraries of the Universiti Sains Malaysia, Universiti Kebangsaan Malaysia and The University of Technology Malaysia)

In connection with his building (Universiti Sains Malaysia Library), Edward Lim Huck Tee made the following comments:

- (1) The Librarian had the opportunity to deal directly with the architect.
- (2) A 22½' x 22½' module was suggested by the Librarian and was adopted.
- (3) A triangular module was initially attempted, but was abandoned in the end.
- (4) The interior design of the building was left entirely to the Librarian.
- (5) At a certain point in the planning stage, the architect had a quarrel with the consultant, resulting in non-communication between them.
- (6) Academic library building standards for Southeast Asia should be set for the use of the region. Western standards had been found to be too high for our adoption.

Abdul Aziz talked about three library buildings in the Universiti Kebangsaan building programme, namely:

- (1) The Main Library building at Pantai Baru temporary campus, Kuala Lumpur (completed in April 1973).
- (2) The Medical Branch Library building at Kuala Lumpur permanent Medical campus (proposed).
- (3) The Main Library building at Bangi permanent campus (proposed).

Che Sham and Hamzah Mahmood pointed out the unusual shape of the site and other conditions of their proposed building (University of Technology Malaysia Library) which imposed constraints on the planning. Expected to be completed in 1978, the new library, with a computerized circulation control, would be planned for 1979. A special feature of the building was the provision of a big room without partitions for the technical services so that the Librarian might have effective supervision and control.

Discussion

Gibson said that private studies should be so located that they would not block off the best views. On the question of library architect/consultant relationship, he felt the best way to maintain good relationship between them would be to have them work in the same office for easier communication and better understanding of each other's needs.

Burton was of the opinion that the entrance area should be left to reader services, while several participants also pointed out that technical services would also need to have easy access to the public catalogue, normally located on the entry level. There were also suggestions that acquisitions and reference services as well as subject specialists should also be located within easy access of students and faculty.

Most participants disagreed with Hamzah Mahmood's suggestion of air-conditioning by floor for fire protection and cheaper capital and maintenance costs on the grounds that it would create more noise, and occupy more ducting space.

Syed Salim wanted to know how glare could be reduced without glass frontals. Abdul Aziz explained how the Universiti Kebangsaan Library achieved this with inward sloping glass windows under a projecting roof and with the use of slit windows and fins. Edward Lim suggested siting windows in the north-south direction and avoiding the east-west direction. Burton mentioned that his library had tinted glass windows overhanging every floor. Meng commented that the University of Singapore Library used overhangs, sun shading and tinted glass. Gibson suggested the use of plants in the courts and voids, but Burton commented that plants would attract insects.

In relation to the question of floor loading, Vespry raised three questions for consideration of the workshop:

- (1) Since the management of loans from the World Bank involved a great deal of difficulties, could other alternatives be considered? For instance,
- (2) Would compact shelving be feasible?
- (3) Could stack and reading areas have different floor loadings to reduce the cost?

Meng said that it would not be advisable to have too many variations in floor loading in a building for reasons of flexibility and safety. He added that the additional cost would be about 25% of the structural cost, which would be well worth spending. Gibson agreed with this, adding that if the $22\frac{1}{2}' \times 22\frac{1}{2}'$ module was used, the cost would be economical and would result in a flexible building.

Library Presentations (Afternoon Session) (Libraries of the University of Malaya and Universiti Pertanian Malaysia)

Beda Lim provided information on the floor strength of the three library buildings at the University of Malaya. The Main Library had 150 lb per sq. ft. for stack areas and 50 lb per sq. ft. for reading areas. This made for economy, but not flexibility. The new library, which would house the Postgraduate Centre and Law Libraries, had a floor loading of 200 lb per sq. ft. which was costly but provided extra safety and flexibility.

In his presentation, Syed Salim drew the workshop's attention to a special feature of the Universiti Pertanian Library building — an air-well in the centre of the building.

Discussion

The workshop noted that the floor loading of 200 lb. per sq. ft. at the University of Malaya Medical Library was excessive. Discussion then centred on the advantages and disadvantages of having an air-well in the centre of the building. The advantages were: it would cut off visual distraction caused by movements at the entrance area, and would allow the penetration of natural sunlight, especially useful during power failures. The disadvantages were: the loss of valuable space and the problem of noise which would travel through the air-well up to the other floors. Although the air-well could, in theory, be filled up for expansion purposes, in practice, it would present various problems, being fixed in size and location.

REPORT OF SECOND SESSION: THE PHILIPPINES

Chairperson: **Daruna Somboonkun**

Rapporteur: **Sng Yok Fong**

Library Presentations (Libraries of the Visayas State College of Agriculture, the University of the Philippines and Silliman University)

Referring to the proposed library building for the Visayas State College of Agriculture (VISCA), Ascalon said that the buildings in the campus were funded separately by the Government and the IBRD. The library building funded by the National Government would be approximately 6,500 square metres. There was little breeze at the site and the average speed of wind was estimated to be 3 to 5 KPH at the eastern end of the VISCA Mall. The locality was considered rural.

Complementing Gorgonio D. Siega's paper on the proposed Silliman University Library building, Renato Sindiong emphasised various physical features of the building:

- (1) It would be a three-level structure of reinforced concrete roofed with sheet metal.
- (2) It would have an axe-hewn exterior surface designed after an adobe.
- (3) Special attention would be paid to structural safety against wind and seismic forces affecting Dumaguete City.
- (4) Acoustical treatment would be provided in the form of acoustic boards on dropped ceilings and of vinyl-tile flooring.
- (5) Interior partitions would be of plywood and/or concrete hollow blocks.
- (6) Modular lighting would be used for maximum flexibility and uniform, non-glare general illumination.

Discussion

Gibson commented that it would not be desirable to site open study carrels around the air well as the area would attract a lot of human traffic which would generate noise and distraction for the occupants. It would be better to resite the study carrels near to book stacks, away from the noise areas.

Beda Lim said that non-standard stacks were expensive and it would be more economical to leave small blank spaces rather than filling them with non-standard stacks. Stacks should also be placed in line with pillars.

Gibson said that it was economical to have a ceiling height of 8' 6" and that the higher the ceiling height, the heavier the costs of lighting and air-conditioning. He added that it was important to plan lighting and air-conditioning in relation to ceiling height.

Regarding the siting of the Chief Librarian's Office, Vespry felt that it was neither necessary nor practicable always for the Librarian to be very near to all his staff. He should have a good feedback system whereby his staff would inform him of the happenings in the various library areas.

With reference to lighting between stacks, Gibson commented that, irrespective of whether it was 1' or 1½' above the top of stacks, it would be effective, though the lower shelves would receive less light.

Burton thought it a good idea to have student unions near to libraries, otherwise students might use the library itself as a student union and indulge in noisy activities there.

Wang-Chen pointed out that the disadvantage of having student unions near to libraries was that students would bring food and drinks into the library. She felt that libraries should attract students by their services and facilities and not by their proximity to student union buildings or centres.

Gibson explained that siting union buildings near library buildings often arose out of requests from users. He was against having cafeterias near to libraries because of the smell of food which could drift into libraries with air-conditioning.

REPORT OF THIRD SESSION: THAILAND

Chairperson: **Edward Lim Huck Tee**

Rapporteur: **Michael Cheng**

Discussion: Chulalongkorn and Kasetsart University Libraries

Gibson commended the excellent plans presented which indicated that both architects and librarians had done their homework. He stressed the importance of looking at the different processes first before drawing the design, especially in relation to the soil conditions, wind directions and traffic flow. In the case of Chulalongkorn University, he asked if consideration had been given to the problem of vertical expansion because the lifts could not be used during the construction period. Water proofing could also be a problem when the roofing was removed.

In the case of Kasetsart University Library, he commented that the area around the air-well was not a good place to site the carrels because of noise, traffic movement and other distractions. It also defeated the purpose of erecting the air-well to allow the users a good view of the floors above and below because the carrels would block their view.

Burton suggested that there should be more seats within the stack areas rather than having one long stretch of stacks. He also said that the bag rooms must be supervised to prevent theft. Some form of issue system using receipts or number tags could be used.

Gibson said that the bag room could be sited near the control area so as to enable the students to "supervise" each other. This was preferable to having an enclosed bag room which, in effect, would have less security.

Hochstadt wanted to know what administrative problems with regard to security would arise from the fact that the Chulalongkorn University Library had to share the building with the Thailand Information Center and the AV Center.

Knid Tantavirat replied that all three units were under the overall control of the Director of the Instructional Resource Center but each unit had its own director. Problems of security had been anticipated and would have to be resolved.

Koh said that consideration had to be given to the kind of students using the library (whether they were residential or non-residential). If the library was used mainly by residential students there would be less problem with the bag area. Commuting students stayed for shorter periods in the library so there would be greater movement at the checkpoint area which should be designed for easy flow of users.

He also suggested that it might be more economical to install floor by floor air-conditioning units because at certain times of the day, e.g. in the morning, there would be much fewer students in the library and some units could be switched off to conserve electricity.

Siega asked if the AV Section at Kasetsart University Library was used for instructional purposes.

Daruna Somboonkun replied that it was not intended for group instructional use, but would probably contain just AV materials like cassettes, slides and microfilms designed for individual student use.

Wang-Chen pointed out that security problems would arise if there were three separate units within the Chulalongkorn University Library building as well as the problem

of user control. She suggested that perhaps separate staircases could be constructed for each unit.

Vira Buranakarn said it was not desirable to physically separate the three units since the Administration preferred them not to be so.

Vespry pointed out that the security requirements of the TIC might be even more stringent than those of the library and hence impose problems on the movement of users to the library, and particularly the research users of the TIC. Rapport was essential if the three units were to function smoothly.

Gregorio inquired about the problem of book thefts through the windows and the security measures used to counter-check these at the Kasetsart University Library.

Songkoon Attakor suggested that a more open arrangement could be employed with proper lighting and adjustment of the furniture so that the students would not be so inclined to throw the books out. Regular inspection checks by library staff would also help.

Syed Salim inquired about the smoke trap in the Chulalongkorn University Library.

Vira Buranakarn replied that there was smoke control on every floor.

Abdul Aziz inquired about the preservation of library materials and if air-conditioning was provided in the Chulalongkorn University Library. He also wanted to know how the parquet floor at Kasetsart University Library was preserved and about the use of wood in the construction of the building.

Vira Buranakarn replied that air-conditioning was provided in the Chulalongkorn University Library.

Songkoon Attakor explained that wood was mainly used for the window frames. In Thailand, parquet was about the same price as linoleum. It had a better appearance and, if properly cured before use, could last as long as any other flooring material. He added that the building would be air-conditioned.

Gregorio said that, in her experience, wood tiles created the problem of noise and were very expensive and difficult to maintain especially in areas where traffic was very heavy.

Songkoon Attakor said that the parquet they used was moisture-conditioned first and properly glued to the floor. The method of laying the parquet and the pattern used was important if cracks were to be prevented.

Vespry inquired if the parquet floor was covered with polyurethane finish because it would mean having to have rubber wheels for the book trucks.

Songkoon Attakor replied that this was the practice as the polyurethane finish would protect the wood.

Discussion: Khon Kaen and Mahidol University Libraries

Gibson pointed out that provisions for the handicapped were lacking. There was also a preponderance of circulation desks located at the main entrance. He stated that user movement studies were essential. In the case of the Khon Kaen Library plan he said that the split-level floors would make it difficult for books to be shelved once they were taken out and placed on the reading tables.

He commended the planners on their careful analysis of the site conditions before the actual selection as all the parameters related to designing must be known first.

Burton pointed out that the circulation desk at his Polytechnic Library was located at a different level from the main entrance. As to the proposed room shapes of the Mahidol University Library on the new campus, he suggested that the Librarian should ask the architect to fit in all the required furniture into the plan to see if the rooms were functional. If this was not the case and there were problems, then the plan should be changed. One of the ways of attracting people to the library was to put up book displays, a browsing collection and notice boards at areas which could be easily seen, e.g. near the entrance. The Hong Kong Polytechnic, being a non-residential institution, had to be located at the central point of traffic flow, easily accessible to the bus stations as well as the train and ferry stations.

Vespry said that architects and librarians could speak in different languages thereby creating a communication problem. If the architect was unable to understand the needs of the librarian then the latter should try to use a different language. Teamwork in such matters was very important.

Gibson suggested that the librarian should make the architect present his traffic flow pattern and, in turn, be given the librarian's. If the two were not compatible, then changes would have to be made. Traffic flow patterns of existing situations should guide the design and planning of proposed buildings.

Abdul Aziz said that individual small rooms were not very practical. He would prefer the use of stacks as partitions to create spaces and areas, thereby providing more flexibility for the future.

Hochstadt agreed with Burton on the desirability of siting the library within easy reach of public transport. However, she observed that this aim might not always coincide with another important one of siting the library within easy access from all faculty buildings within the campus served by the library. The whole question would be dependent on the size of the campus and the relative distances between the library building and the respective faculty buildings. At the University of Singapore Kent Ridge campus, for instance, many of the students would be going to the library between lectures and hence the necessity of selecting a central location *within* the campus, even though this would not be within very easy reach of public transport.

Burton explained that the Polytechnic Library had to be located at a point where the students would find easy access to transport. There was also the question of safety for the students. Being a non-residential institution, the students would have to catch a bus or train home late at night. Hence this was a prime consideration in determining the site of the library building.

REPORT OF FOURTH SESSION: SINGAPORE

Chairperson: **Abdul Aziz bin Shaik Mydin**

Rapporteur: **Patricia Gaw**

Library Presentation (The Singapore Polytechnic Library at Dover Road, Singapore)

The Library building was presented by Rosemary Yeap, Librarian and Ang Choon Kiat, architect. Yeap stressed the following points in her presentation:

- (1) The new library would be much bigger as it would be 42,000 sq. ft. as compared to 23,000 sq. ft. and would have a seating capacity for 800 compared to 612. It would be on five floors and there would be two lifts, one for the staff and one for the students. The building was scheduled to be completed in early 1978.
- (2) Some years ago, the library had the problem of vandalism which was later alleviated when locker-room service with a token system was introduced. Consequently, at the new library, locker-rooms near the entrance would be provided.
- (3) Multi-storey buildings in Singapore were governed by stringent fire regulations which in turn posed problems of security and circulation flow.
- (4) The photocopying machine which was heavily used would be placed on the ground floor of the building.
- (5) Existing library furniture would have to be reused in the new building on account of the stringent financial situation.
- (6) No shelving problems were anticipated as the present shelving was under control.
- (7) Double-carrels with dividers and shelves had been designed as these would be conducive to private study. Tables for four persons would also be used.

Ang briefed the meeting on the new Polytechnic campus at Dover Road and the physical aspects of the new library in particular. He mentioned that student toilet facilities would be located in toilet blocks outside the library because of the odour arising from poor maintenance.

Discussion

Gibson made the following comments:

- (1) Lifts should be used primarily for moving books and secondarily for people.
- (2) Be sure that the lift would be able to take book trolleys and an attendant together.
- (3) If lifts were being used to move paraplegics, the lift control must be in a position where paraplegics could reach it.
- (4) When there were lift towers sticking up above the roof, the lift motor rooms might pose a problem in the reading rooms. Hydraulic lifts, though slower, were just as practical for moving things around, and one would not end up losing space at the top although one would lose plant space at the bottom.
- (5) If there were two lifts, one should make certain that one lift went into the technical services area so there would be vertical movement of book materials between the technical services floor and the stack floors. One should also make certain that the lift landed inside the controlled area.

- (6) Be certain that the rubbish dumping areas were stringently controlled as students might try to find a method of getting books outside through the rubbish chutes.
- (7) Carrels should not be fixed or built-in.
- (8) Sled-type chairs would be preferable to four-legged chairs because they moved straight back and would not fall over. If polypropylene chairs were to be used, Robin Day chairs (with slots on the sides to allow ventilation) would be good to use.

Burton advised against having all photocopying machines on one floor because materials would be shelved on different floors and therefore would have to be taken back for reshelving as students would not do so.

Yeap pointed out the problem of shelving in a multi-storey library especially at closing time when all books would have to be reshelved and distributed to different floors. In view of this, she asked the meeting whether any library had sorting bays on each floor to facilitate sorting. In reply to this question, Beda Lim said that, at the University of Malaya Library, there were sorting bays on the ground floor and collection time started about one and a half hours before closing time. There would still be some books on the tables later, but the attendants managed to collect the majority of the books off the tables into the lift on the ground floor and into the sorting bays. He agreed that ideally, there should be sorting bays on each floor.

The location of toilets outside the library was discussed at length and it was generally felt that they should be located inside the library.

There was some discussion about the provision of facilities for the physically handicapped. In Australia it was compulsory to consider them when planning a building. However it was not the case in Southeast Asian countries.

REPORT OF FIFTH SESSION: SINGAPORE (Continued)

Chairperson: **Songkoon Attakor**

Rapporteur: **Judy Low**

Library Presentation (The University of Singapore Central Library)

Peggy Wai-Chee Hochstadt, Librarian, University of Singapore and Meng Ta Cheang, University of Singapore Master Plan Consultant, presented the Central Library building project at Kent Ridge to the meeting. Meng gave a general briefing on the concept and planning of the Kent Ridge campus as well as the Central Library in relation to the rest of the campus structures. Hochstadt summarised the main features of the Central Library building. She mentioned that the person responsible for the basic concept, initial planning and the library brief was Wang-Chen Hsiu Chin, Librarian, while she was delegated the responsibility of the project at the implementation stage. Tan Lien Seng, Project Architect of the Central Library, similarly clarified that another architect was responsible for the basic design of the building and that he later took charge as Project Architect of the Central Library when the original architect resigned from the University of Singapore Development Unit. He told the meeting a number of alterations to the original layout of the building had since been made in consultation with the Librarian.

Discussion

Abdul Aziz led the discussion by observing that a reserve book area physically independent of the central library might result in students using the reserve book collection only and not other areas. Wang-Chen, while agreeing that students should be exposed to all resources of a library, explained that in the case of the University of Singapore Central Library, practical considerations suggested the planning of an independent reserve book area, especially in view of the tendency of students to demand longer library opening hours beyond the existing 11.00 p.m. closing time limit. Beda Lim's view was that an academic library existed for its parent institution and not vice versa. In other words, the teaching programmes dictated the kinds of services to be offered by the library. It was the duty of the library to see to it that the library needs as geared towards the teaching programmes were satisfactorily met. Edward Lim felt strongly that the role of an academic library should go beyond that of satisfying teaching needs. The library was and should be part of the general continuing education process of a student. As such, it should promote reading outside the student's curricular requirements. It was the duty of the librarian, through reader education programmes, to inform students what other library material existed beyond their immediate needs so that they might gradually learn to acquire the habit of reading beyond the recommended texts.

In reply to Yeap's enquiry on the system of control for the University of Singapore Library's Reserve Book Collection, Hochstadt said that each student was given a separate reserve book borrower card. For every loan of a reserve book, he would have to surrender his reserve book borrower card which would be given back to him when he returned the book. No loan would be issued to a student unless he could produce his reserve book borrower card. A student could take a reserve book issued to him out of the Reserve Book Room but must return it within two hours.

Koh wanted to know whether books in the closed stacks at the University of Singapore Library were arranged by the call number or by fixed location and the criteria used to decide what material would be sent to the closed stacks. Hochstadt replied that closed-stack books were classified in the same way as open-stack books (according to the Library of Congress Classification System) but were shelved in a separate sequence and location, physically inaccessible to users who would have to send in request slips for them. The main

criterion used to decide whether or not to send a book to the closed stacks was frequency of use, insofar as could be gauged from the record of loans on the book cards.

Burton enquired about the rationale behind the University of Singapore Library's policy of centralized/decentralized organization as opposed to the total centralized organization which would be much more economical to administer, and whether two sets of professional staff would be manning the two separate current periodical areas (arts/social science and science/technology). Hochstadt replied that the two separate current periodical areas had since been incorporated into one as a result of a change in policy of the University Administration to incorporate the departments of Botany, Chemistry, Chemical Engineering and Zoology into the Biomedical Complex on the eastern sector of the campus instead of the Physics and Mathematics building on the western sector of the campus where the Central Library was located. This policy change meant that the four science subject collections would not be accommodated in the Central Library building as had originally planned but would be housed in the proposed Biomedical Library.

Wang-Chen remarked that while centralization was administratively more economical, decentralization meant more direct, quicker and better service from the point of the library user. The University of Singapore Library policy was to decentralize those services which would be heavily patronised by users, and centralize those where manpower could be effectively pooled.

Wang-Chen went on to comment on the question of student seating ratio which Metcalf, in his *Planning Academic and Research Library Buildings*, put as 25% — 30% in a residential university. However, in an Asian setting, she felt that this might be inadequate when little or no other reading facilities were provided within the campus and very few other libraries were available within the vicinity. Hence, she invited comments on the University of Singapore Library's adoption of the ratios of 25% for arts and social science students and 20% for science and technology students for the Central Library at Kent Ridge. Beda Lim said that one should aim at a student seating ratio of higher than 30%. Edward Lim, agreeing with this, observed that in his library, both the science and social science areas were crowded in the evening. Although science students would normally spend their day in the laboratories, they would study in the library in the evening while the arts and social science students would use the library during the day as well as in the evening. A seating ratio of as high as 40% could be considered, depending on the various factors affecting individual university libraries.

At the conclusion of the discussion session, participants were taken to the Kent Ridge campus for a site tour of the University of Singapore Central Library building.

REPORT OF SIXTH SESSION: SINGAPORE (Continued)

Chairperson: Syed Salim Agha

Rapporteur: Judy Low

Discussion: Nanyang University Library

Before Koh Thong Ngee, Librarian, Nanyang University Library, summarised his paper on his library and the subsequent discussion, participants were taken on a conducted tour of the building.

Koh informed the meeting that two interesting recommendations had been that the Nanyang University Library should be a separate, independent building and that it should occupy a prominent site. Gibson commented that the Rare Book Room should be located on the main entrance level where it could be easily operated as a separate unit. Wang-Chen observed that while siting the Rare Book Room on the top floor would take full advantage of the commanding scenic view of the surroundings, it was important to take proper and adequate measures to seal off the area from possible pests such as rodents which might originate from the canteen area on the next floor.

Replying to Rahim's question on study carrels, Koh said that they would be demolished as they were not well used by faculty staff members who were provided with air-conditioned rooms in their respective faculties. If the buildings were centrally air-conditioned, the library would install more open carrels for all users, instead of building closed study carrels for faculty staff only.

Buranakarn asked if the library had encountered lighting problems. Koh replied that although there were no serious lighting problems, the lighting design which concentrated illumination on the central area of the building was unsatisfactory as it restricted the use of areas for stacks. The lighting should be more evenly distributed to render illuminated areas flexible for use. Koh added that the system of concealed wiring in the building did pose problems whenever repair work was involved as it meant hacking the concrete and filling the grooves afterwards.

Koh also informed the meeting that the type of demountable partitions used was unsatisfactory as they were not easily demountable and dismantling them usually resulted in damaged floors and walls which would have to be repaired.

Gibson observed that the floor tiles used were of a dark colour which was not practical. He suggested that an in-between colour tone would be a practical choice, both from the point of view of dust absorption and light reflection.

Beda Lim enquired if it was comfortable to use a library building such as the Nanyang University Library with a ceiling height of 8'6" and no air-conditioning. Koh said that the library was not crowded in the day when students had to attend lectures held in the respective faculty buildings not too close to the library. However, it was well used in the late afternoon and evening when it would be more comfortable with the constant evening breeze blowing in.

Attakor observed that the use of string partitions on the ground (entry) floor was interesting. Koh said that instead of the conventional solid partitions, these were used for ventilation and security control purposes. Library staff in the area needed some screening device for privacy, and at the same time, must command a good view of users entering the library.

REPORT OF THE SEVENTH SESSION: INDONESIA

Chairperson: **H. Arthur Vespry**

Rapporteur: **Lim Bee Lum**

Discussion: Hasanuddin University and Institut Teknologi Bandung Libraries

Gibson led the discussion by emphasizing that in planning a library, it must be impressed upon the authorities concerned how essential it was to convene an initial meeting of all the consultants involved to brief them on the project in hand and the respective part in which each of them was expected to play. Before tenders were called, the architect should have all the documents finalised. On the question of inviting students' comments on what they expected of their new library building and services he advised proceeding with caution, particularly if a questionnaire was to be used as a method of survey. A badly designed questionnaire would result in inaccurate information which would in turn lead to bad planning.

Regarding the composition of the library building committee, both Burton and Wang-Chen felt that the chairman should not be the librarian but someone with real power and influence. Syed Salim was of the opinion that the Building Committee on the Institut Teknologi Bandung Library (ITB) should be smaller. Too large a committee, he felt, would cause unnecessary delay in achieving its objectives. Hochstadt referred to the internal type of library building committee composed of library staff. Although this type of internal committee might be useful as an expression of the democratic process, she had, from personal experience, found it cumbersome and impractical. Gibson agreed with Hochstadt and went on to acquaint the meeting with the form of democratic process of which he had had experience: the first step was to convene a meeting of library staff to see how many would be interested in the project and then to expose them to the proposed library project. The next step was to appoint a senior librarian (for instance the Deputy Librarian) to be in charge of taking down all the comments and suggestions put forward by the staff at this meeting for possible inclusion in the library brief. While the Chief Librarian should be responsible for the library brief, the appointed senior librarian-in-charge of the implementation of the project should be responsible for all day-to-day matters connected with the building project from the locations of power points to the detailed arrangement of the furniture. This person should work very closely with the architect. In this way, the completed library building would be tailored to the needs of the library. Syed Salim suggested another way of allowing staff and students in the building process by displaying the preliminary design plans and inviting their comments.

The meeting went on to discuss the process of selection of the architect. Gibson said that, first of all, the librarian should be on the selection committee with the Rector or Vice-Chancellor as chairman. The authorities concerned should then be asked to provide a list of architects with tested experience and ability from within the country who might be invited to submit designs. Invited architects should give an account of how they would proceed with the design. An alternative method could be to hold an open competition. Gibson also commented that the architect himself must have some philosophy on the building he was going to design. It did not necessarily follow that an architect who had experience in designing other types of buildings would produce a good piece of architecture in his design of a library building. Hazeldine informed the meeting that, at the ITB, they did initially think of selecting the architect through a competition. However, the Rector indicated that an architect from the Institute's Faculty of Architecture would be more appropriate and preferable.

Hazeldine's reference in his paper to the ITB Library building as a possible national monument generated much comment. A number of participants did not share this view, but emphasized that a library building should first be conceived of as a place for people and services and their interaction — a functional building.

The provision of a prayer room (for Muslim library staff and/or students) was another topic discussed. Rahim stated that in the case of the Hasanuddin University Library, the request for a prayer room came from the students. Gibson's view was that any facilities not related to the library should be sited outside the library building. However, if the relevant higher authority insisted on the prayer room to be located inside the library building, then it should preferably be located on the ground floor. Hazeldine said that at the ITB library, the prayer room was meant for library staff only as there was a mosque nearby for students and faculty. Hochstadt commented that the provision of a prayer room depended on how strong the pressure exerted on the librarian for such facilities was. Issues such as this could be so emotionally charged that the librarian would be advised to provide the facility requested. Another view expressed was that the provision of a prayer room within the library would help check truancy on the part of library staff who would have no excuse for leaving the library to say his prayers. However, absenteeism could be the manifestation of some basic deep-seated staff dissatisfaction to which a piece-meal solution would not be the answer.

Syed Salim liked the idea of a bookshop at the ITB but felt that it should not have been inside the library building but should preferably be located somewhere nearby.

Ascalon posed a few questions on the growth of collections leading to the physical expansion of libraries. He was particularly concerned with the rapid rate of increase of library materials. He wanted to know if librarians had given the problem serious thought and what measures could and had been taken to control it — for instance, if microform material as replacement for book material had been considered, and whether there had been regional communication and cooperation between Southeast Asian libraries to check the growth. Vespry shared Ascalon's concern and appealed to the librarians present to give the matter serious thought.

Wang-Chen suggested that a possible way of checking the rapid growth of collections would be to store infrequently used material in a separate storage area outside the library building — a practice common in the United States and the United Kingdom. However, in Southeast Asia, many university libraries were still at the growing stage and it would take some time before they would reach the stage where they would have to consider the question of optimum size. Burton remarked that if further expansion was not possible, the use of tutorial or lecture rooms as reading rooms might have to be resorted to. Yeap continued that this had been the practice particularly during the examination period in the case of the Singapore Polytechnic. Measures suggested by other participants to overcome the rapid rate of collection growth included the use of compact shelving, microfilming of backsets of journals and other infrequently used material, constant and systematic weeding of existing collections, specialised purchasing by individual libraries, sharing of storage areas by libraries, and planned projections of collection growth.

In reply to Syed Salim's question on how best to blend extension designs with the existing main library buildings, Gibson said that in planning extension work, the most important practical thing to do was to ascertain where the existing entrances were as these would determine the pattern of user movement and the layout. He added that, space permitting, a library building should ideally expand horizontally rather than vertically as this would reduce the problems of noise, dislocation of services and other distracting effects on users from extension work. As far as possible, one should try to plan the extension at a spot where workmen and heavy equipment would have independent and direct access to the area without having to pass through existing entrances and thereby disturb the normal flow of library services and users.

Librarians at the meeting generally felt that, although there had been cooperation among libraries within the respective countries of Southeast Asia on an informal basis, formal, concrete measures should be attempted. It was noted, however, that the degree of success of any regional cooperative venture is necessarily dependant on the state of the communication system within each respective country as well as between countries within the region.

SUMMARY OF PROCEEDINGS

Wang-Chen Hsiu Chin

Librarian, University of Singapore

Friends, colleagues, ladies and gentlemen. We have now come to the closing session of the workshop. I never thought that a workshop on library buildings could be so instructive, informative as well as stimulating and interesting.

My job this afternoon, according to the programme, is to sum up the proceedings. I have been debating with myself, what should I do? Should I repeat what had been said and discussed throughout the workshop? This would be impossible and I am sure you would have no desire for me to do this, because if I did, you would have to be here for the whole afternoon. However, since I have been given a job to do, I shall try my best but I will be brief.

During the past five days, we discussed quite a number of library buildings, twenty-six to be exact. We studied many plans and slides. Twelve of the buildings presented have already been in operation for a period, ranging from a few months (the Hong Kong Polytechnic Library) to a span of twenty years (the University of the Philippines Library). Six of the buildings are presently under construction, and ten are still at the planning stage.

Your reactions, therefore, to the proceedings of the workshop during the past five days, must have been quite varied. For those whose library buildings are already a reality, they must have, from time to time, assessed their merits and demerits against what has been said about what and how a good library should be. By this time, you may have reached the conclusion whether or not your library building is a good one. You may wish that you could be given a second chance of re-planning your library, or you may wish to make improvements on it when you return to your country, or happily for you, you may be quite satisfied with it.

For those of you whose library buildings are under construction, you may decide, as a result of this gathering, to make changes and revisions to your building plans here and there, while there is still time, in order to make it perfect.

For others whose library buildings are still on the planning board, they will have a fund of ideas to take home with. Their library buildings may turn out to be model library buildings in Southeast Asia.

Discussions over the past five days had been wide-ranging and varied. We discussed library buildings planned in a variety of settings and under different conditions — in urban centres, in rural areas, congested existing campuses, new campuses, to meet the needs of different disciplines, for diverse movement patterns and operating under various financial constraints.

We noted very much that a library building design was affected not only by the librarian's philosophy and functional requirements but also by human elements — as people and users, as well as by physical environment — topographical characteristics, wind direction, rain, light, and other natural forces.

All this points to the basic fact, which has been stressed time and again throughout the workshop by Mr. Gibson, of the importance of team work, especially between the librarian and the architect, the respect for each other's expertise and the sharing of a dream for a successful built result.

As someone aptly pointed out that "the librarian is not an architect. Nor is the architect a librarian," each has his own role and function in a building programme. However, both cannot work in isolation. I believe you will agree with me when I say that the librarians attending this workshop represent a new species — librarian/architect, so too do the architects represent a new breed of architect/librarian. Both will be better able to communicate with each other more in the same language and on the same wave-length after the workshop.

The discussions more than once demonstrated that, when an active communication line is maintained between the librarian and the architect, things go much smoother, ideas get translated into reality much better. When there is a break in the communication link, due to reasons such as the non-residency of the architect or the impasse between the architect and the engineer, a great deal of unnecessary problems resulted. The vital factor of effective communication between the librarian and the architect had been very much stressed and can never be overstressed.

More often than not, the planning and design of a library building is the very first venture for both the librarian and the architect concerned. They learn and grow together until the best result is achieved and their dream becomes a reality. They learn through direct discussions and debates based on their own practical experiences. They learn by other people's experiences through visits to other libraries and through reading the professional literature concerned. Two references which seemed to have appeared most frequently in the papers presented were: Keyes D. Metcalf, *Planning Academic and Research Library Buildings*. New York, McGraw-Hill, 1965. and Geoffrey Thompson, *Planning and Design of Library Buildings*. London, Architectural Press, 1973.

Discussions had also covered a wide range of topics and to list them all would be impossible. I will therefore list only those topics which had engaged much of our attention, as follows:

1. The planning process for each library building — some had followed logically from step 1, while others had skipped a few steps in the process on account of money constraints, administrative constraints, and other unpredictable obstacles.
2. The choice of a library site — its location, suitability, economy, its relation to the environment and its expansion possibility.
3. The shape of the building, from the conventional rectangle and square shapes to the triangular shape and the beautiful shape of a butterfly — the justification and rationale behind the decision on the final form of the building.
4. The external physical and natural elements imposed on the design of a building and their solutions preferred by each and different architect.
5. The internal physical requirements to make the building functional and comfortable — the module, the airwell, the ceiling height, the lighting system, floor material used, airconditioning and ventilation, the safety and security system, the staircases and lifts, and last but not least, the toilet facilities.
6. The concept of a library — centralization or decentralization of service, the optimum size of collection and area.
7. The layout of the library — the entrance area, circulation counter, readers' areas, including the type of tables and chairs, the reserve book room, the location of study carrels, student seating, book stacks, the location of the Librarian's Office and the prayer room.
8. Students' habits and movements affecting the library and the library's response to these.

9. The selection of the architect for the library building and the process of selection.

These are the most common and basic problems to the planning and design of any university library building. The workshop had been able to discuss these problems in a most practical manner. We gave to each other and we took from each other. The spirit of give and take, I observed, permeated through the progress of the workshop during the last five days.

There is a Chinese saying that, to a man, the other man's wife is always more beautiful than his own, but his own son is always good and his own piece of writing is the best of all. However, I noticed a remarkable thing at this workshop — no one seemed to think that his/her library building was the best and no architect seemed to assume that his design was the most outstanding. Time and again, the defects of a particular design were pointed out. Criticisms on various building plans were invited, and the meeting was assured that revisions or even re-planning would be made to these plans arising from the comments received. The willingness to listen, the openness with which criticisms were received and the responsiveness to new ideas and solutions augur well for the future of library buildings in Southeast Asia. We may be assured that library buildings, combining functional efficiency and aesthetic appearance, will adorn campuses that are represented here at this workshop in the near future.

You will recall that there had been two group sessions, one for the architects and another for the librarians.

At the Architects Session, the role of the library planning consultant was described. Among other things, it was pointed out that the consultant could assist in bridging the communication gap between the librarian and the architect so that they could better understand each other and this, hopefully, would result in a building which would embody both the functional requirements of the librarian and the creative imagination of the architect.

The effect of heat and humidity on tropical architecture was much discussed. The question asked was, is airconditioning the only solution possible and what other methods have been explored? It was pointed out that the siting of the building in tropical climate was of primary importance in relation to heat and humidity. How to induce breeze into the building and the use of dehumidifiers were also mentioned.

Other topics discussed at the Architects Session included the expansion possibilities of a new building and the optimum size and height of a library building. The meeting felt that no universal pronouncement could be made and no set pattern could be advocated as it would depend on a number of factors affecting the requirements of individual buildings.

At the Librarians Session, discussions were centred on library cooperation, inter-library loans and the feasibility of a regional lending centre. In this connection, two important activities came to light. It was reported that, in Malaysia, linkage by telex of the National Library and five university libraries for interlibrary loan purposes was under study, under the sponsorship of Unesco. Suggestions were made at the meeting that linkage could be extended to other countries in Southeast Asia after the Malaysian network had been firmly established and in operation.

It was also reported that under the sponsorship of the International Development Research Centre, Mr. Abraham Lebowitz, Librarian of the Ben Gurion University in Israel, was presently making a study of the internal operation system of the National Lending Library in Boston Spa. He would at a later date be visiting countries in Southeast Asia to

find out to what extent library cooperation in terms of interlibrary lending in the region would be possible.

Would you not agree with me if I say that this workshop has been a meaningful and fruitful one and your time has been well spent for the past five days?

I would like therefore to congratulate the International Development Research Centre, personified by Mr. H. Arthur Vespary, who had chosen a timely and important subject for the workshop. May I also congratulate all of you for your frank and open participation in the proceedings of the workshop. Many thanks are due to you for the preparation you had put in before the workshop, as evidenced by the volumes of papers you have to cart home.

We would like to express our appreciation to the Director of the IDRC for his generous support and to the Vice-Chancellor of the Nanyang University for his warm hospitality. Last but not least, a big bouquet must go to Mr. Vespary's work team, especially to two young ladies, Miss Maria Ng and Miss Ng Lai San who have been working very hard before and during the workshop and have been seeing to every detail that is required for the smooth running of the workshop. To the rapporteurs, the photographer and others who have lent a hand, we also like to say a big thank you.

Finally, I would like to wish each and everyone of my colleagues and architect friends the best of luck in his or her respective library building venture.

SUPPLEMENTARY MATERIAL

TABLE OF STATISTICS OF UNIVERSITY LIBRARY BUILDINGS IN SOUTHEAST ASIA

LIBRARY	I. GENERAL INFORMATION										II. ACCOMMODATION (STANDARDS)			III. CAPACITY				No. of floors	IV. BUILDING FEATURES						V. TOTAL BUILDING AREA (approximate)	VI. BUILDING COST PER SQ M (approximate)	
	Enrolment 1976		Faculty 1976		Users			Library staff 1976			Books	Users (per person)	Library staff (per person)	Shelving		Seating			Floor loading	Type of floor covering	Ceiling height	Module size	Lighting	Airconditioning			
	Full time	Part time	Full time	Part time	Students	Faculty	Others	Profes- sional	Support	Others				Books and bound periodicals (volumes)	Current periodicals (titles)	Seats	Carrels										
Introductory Session																											
Hong Kong Polytechnic	4,825	14,000	576	1,500	29,000	900	3,000	17	52	-	20 vols per li- near m 'working capacity'	2.3 m ² Ratio: 25% (FTE students) 10% (faculty)	see footnote ^a	400,000	3,000	3,000	60	5	6.5 kN per m ²	Carpet tile	2.77 m*	7.8 m x 7.8 m	400-500 lux	Yes	17,850 m ²	US\$233.00 (Bldg completed 1976)	
Area: 12,200 m ²																											
1st Session: Malaysia																											
Universiti Sains Malaysia	2,596	763	370	90	6,000	600	2,000	20	86	-	155 vols per m ²	2.32 m ²	11.15 m ² / -	300,000 Area: 1,988.12 m ²	5,000 Area: 464.52 m ²	1,884 Area: 4,375.74 m ²	36 Area: 200.67 m ²	4	756 kg per m ²	Vinyl tile	2.74 m	6.8 m x 6.8 m	40-50 lumens	Yes	11,650 m ²	Unavailable (Bldg under construction)	
Universiti Kebangsaan	statistical questionnaire not returned																										
University of Technology Malaysia	2,060	-	316	52	5,000	500	2,000	21	56	-	128 vols per m ²	Ratio: 30% (students) 20% (faculty)	13.9 m ² / 8.3 m ²	300,000 Area: 2,322 m ²	4,000 Area: 139 m ²	1,600 Area: 2,972 m ²	46 Area: 139 m ²	4	7.18 kN per m ²	Vinyl tile	3 m*	6.8 m x 6.8 m	60 f c	Yes	8,000 m ²	US\$270.00 (Bldg under construction)	
University of Malaya (Postgraduate and Law Library Building) ^g	8,500	-	800	50	4,000	300	-	31	185	-	-	Ratio: 25% (students)	-	300,000 Area: 2,000 m ²	3,000 Area: 300 m ²	200 Area: 500 m ²	300 Area: 750 m ²	5	733 kg per m ²	Vinyl tile	2.89 m	6.8 m x 6.8 m	-	Yes	7,500 m ²	Unavailable (Bldg completed June 1977)	
Universiti Pertanian Malaysia	2,835	-	278	-	2,835+	278+	200	16	62	-	128 vols per m ²	2.32 m ²	11.61 m ² / 8.36 m ²	120,000 Area: 929 m ²	2,000 Area: 222.96 m ²	800 Area: 1,504.98 m ²	30 Area: 139.35 m ²	3	7.18 kN per m ²	Vinyl tile & cement screed	2.74 m*	5.9 m x 5.9 m	30-40 lumens	Yes	5,850 m ²	US\$125.00 (Bldg completed 1973)	
2nd Session: The Philippines																											
University of the Philippines (Main Library) ^g	24,901	-	1,435	635	8,294 [#]	440 [#]	-	64	50	87	20 vols per linear m	3.23 m ²	17 m ² / -	302,685 Area: 1,772.98 m ²	5,793 Area: 374.22 m ²	916 Area: 2,967.84 m ²	56 Area: 85.68 m ²	see footnote ^b	1,000 kg per m ²	Vinyl tile	5 m	6.8 m x 6.8 m	300-500 lux	No (except rare books & reprographic services)	13,240 m ²	US\$24.00 (Bldg completed 1950)	
Visayas State College of Agriculture	1,160	-	126	-	5,000	126	-	-	4	-	26 vols per linear m	2.3 m ²	9.3 m ² / -	86,600 Area: 800 m ²	- Area: 240 m ²	400 Area: 855 m ²	24 Area: 65 m ²	2	611.39 kg per m ²	Masonry	3-6 m (split)	6.8 m x 6.8 m	45-60 f c	No	2,730 m ²	US\$184.00 (Bldg under construction)	
Silliman University	4,000	200	257	28	4,500 - 5,000	300 - 350	100	15	4	58	40 vols per linear m	2.32 m ²	9.3 m ² / -	400,000 Area: 1,450 m ²	850 Area: 470.93 m ²	1,000 Area: 2,300 m ²	200 Area: 460 m ²	3	550 kg per m ²	Vinyl tile	3 m	6 m x 6 m	-	Yes	6,400 m ²	US\$129.00 (Bldg under construction)	

*Varies in certain areas

^gStatistics shown in col 1 relate to the total library system except for statistics marked "#" which relate to the U.P. Main Library only

^aBased on the Library Association's Libraries in the new polytechnics (Library Association Record v. 70, Sept 1968 pp. 240-243)

^bMain building: 4 floors; stacks area: 5 floors (equal to 9 decks)

LIBRARY	I. GENERAL INFORMATION										II. ACCOMMODATION (STANDARDS)			III. CAPACITY				No. of floors	IV. BUILDING FEATURES						V. TOTAL BUILDING AREA (approximate)	VI. BUILDING COST PER SQ M (approximate)
	Enrolment 1976		Faculty 1976		Users			Library staff 1976			Books	Users (per person)	Library staff (per person) Professional/ Others	Shelving		Seating			Floor loading	Type of floor covering	Ceiling height	Module size	Lighting	Airconditioning		
	Full time	Part time	Full time	Part time	Students	Faculty	Others	Profes- sional	Support	Others				Books and bound periodicals (volumes)	Current periodicals (titles)	Seats	Carrels									
3rd Session: Thailand																										
Chulalongkorn University Central Library	12,248	3,322	1,904	588	20,000	2,500	5,000	9	2	26	292 vols per m ² *	1-1.5 m ² (student) 4.5 m ² (faculty member)	8 m ² /2.5 m ²	500,000 Area: 6,800 m ²	1,267 Area: 300 m ²	2,500 Area: 2,000 m ²	500 Area: 750 m ²	5	1,000 kg per m ²	Vinyl tile	3.15 m	9 m x 9 m	30 f c	Yes	8,000 m ²	US\$255.00 (Bldg at planning stage)
Kasetsart University (Bangkhen Campus) ^g	6,700	-	800 1,000 ^c	247	9,355	1,918	1,200 ^c	13	3	17	125 vols per m ²	1.22 m ² (student) 3.24 m ² (faculty member)	6.48 m ² / -	287,375 Area: 2,979.50 m ²	827 Area: 33.28 m ²	1,014 Area: 1,232 m ²	46 Area: 149 m ²	3	500 kg per m ²	Wood parquet	2.88 m	7.2 m x 10.8 m	40 f c	Yes	6,700 m ²	Unavailable (Bldg under construction)
Khon Kaen University	5,000	-	500	50	10,000	1,500	300	12	27	-	-	2.75 m ²	13.5 m ² / -	500,000 Area: 2,400 m ²	750 Area: 1,000 m ²	1,000 Area: 3,600 m ²	-	6	500 kg per m ²	Rubber tile & carpet	3.5 m	5 m x 10 m	75-150 f c	Yes	12,050 m ²	US\$100.00 (Bldg at planning stage)
Mahidol University (Salaya Campus) ^g	3,250	-	224	38	3,250	262	-	15	12	6	130 vols per m ²	3.1 m ²	10 m ² / -	100,000 Area: 941 m ²	1,000 Area: 67 m ²	750 Area: 2,345 m ²	300 Area: 770 m ²	3	500 kg per m ²	Rubber tile	3 m	1.5 m x 1.5 m	40 f c	Yes	3,670 m ² (phase 1)	Unavailable (Bldg at planning stage)
4th Session: Singapore																										
Singapore Polytechnic (Dover Road Campus) ^g	4,718	3,782	232	231	8,500	463	200	10	24	-	129 vols per m ²	1.85 m ²	10.21 m ² / -	120,000 Area: 929 m ²	650 Area: 46.45 m ²	800 Area: 1,486.44 m ²	5 Area: 14 m ²	5	488 kg per m ²	Vinyl tile	3.5 m	1.22 m x 1.22 m	-	Yes	3,900 m ²	Unavailable (Bldg under construction)
5th Session: Singapore																										
University of Singapore Central Library (Kent Ridge)	4,904 ^d	7 ^d	301 ^d	173 ^d	7,755 ^d (under-graduates 850 ^d (higher degree students)	520 ^d	1,123 ^d	17 ^e	68 ^e	-	20 vols per linear m or 162 vols per m ²	2.3 m ² (student) 3.2 m ² (carrel)	9.3 m ² /9.3 m ²	807,500 Area: 4,377 m ²	5,000 Area: 231 m ²	1,777 Area: 4,113 m ²	98 Area: 320 m ²	6	756 kg per m ²	Asbestos-vinyl; Acusti-flor	2.37 m	7.8 m x 7.8 m	500 lux	Yes	15,000 m ²	Unavailable (Bldg completed Dec 1977)
6th Session: Singapore																										
Nanyang University	2,248	57	175	85	2,500	300	2,000	9	31	17	160 vols per m ²	1.85 m ²	10 m ² / -	400,000 Area: 2,500 m ²	2,500 Area: 100 m ²	1,200 Area: 2,230 m ²	36 Area: 180 m ²	6	750 kg per m ²	Vinyl & mosaic tiles	2.9 m	5.79 m x 5.79 m	-	No (except rare books, reprographic & sr staff areas)	6,400 m ²	US\$64.00 (Bldg completed 1966)
7th Session: Indonesia																										
Universitas Hasanuddin	5,107	938	632	-	10,000	1,000	2,500	8	12	5	-	-	-	50,000 Area: 198 m ²	150 Area: 72 m ²	300 Area: 176 m ²	40 -	1	-	-	-	-	-	-	1,130 m ²	Unavailable (Bldg at planning stage)
Institute of Technology Bandung	7,500	1,251	496	193	8,000	600	31	2	5	29	-	-	-	160,000 Area: 650.32 m ²	1,000 Area: 27.87 m ²	500-1,200 Area: 394.84 m ²	100 Area: 23.23 m ²	3	-	-	-	-	-	No	7,070 m ²	US\$84.00 (Bldg at planning stage)

^aVaries in certain areas

^gStatistics shown in col I relate to the total library system

^cGovernment officials

^dExcludes statistics relating to the Faculties of Law, Medicine & Dentistry which will be served by two new special libraries

^eExcludes staff in the existing Law & Medical Libraries



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