



Libraries in Singapore

Bernhard Mittermaier



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Libraries in Singapore

Bernhard Mittermaier

This book was inspired by impressions gained on a study trip undertaken by Dr. Raphael Ball, Head of the Central Library of Research Centre Jülich and the author, Dr. Bernhard Mittermaier, Head of User Services in the Central Library. It is a revised and extended version of a masters thesis written by the author during summer semester 2006 as part of a long-distance postgraduate course on library and information science offered by the Humboldt University Berlin [Mittermaier 2006b]. Extracts from the thesis are included in the report submitted to the funding body [Ball and Mittermaier 2005a], a publication entitled "Die Kehrseite der Medaille" in *Buch und Bibliothek* 58(2): 120-123 [Ball and Mittermaier 2006] and in the publication "Die library@esplanade in Singapur" in *libreas* 7 [Mittermaier 2006a].

For Christiane and Maria

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1 Introduction

Singapore is a small land that lies on the other side of the world from a European point of view. Why should the libraries there be of interest from a German perspective?

In any case, there is quite a lot of interest in the country. As Ulrike Lang, Chairperson of BI International wrote in the 2005 annual report: "Singapore is fast becoming the most popular destination for German librarians. It has been visited not just by individual travellers but also by a group from Section 2 of the DBV." [Lang 2006]. The author of this book can also be counted amongst the individual travellers. Together with Dr. Raphael Ball, Head of the Central Library at Research Centre Jülich, I had the opportunity to visit a number of libraries in Singapore in March 2005 thanks to generous financial support from BI International [Ball and Mittermaier 2005a]. In 2005 alone, Singapore was visited by (at least) one group of directors from various Goethe Institutes [Paulini 2005], a group of directors from public libraries [Yeo 2005a], the Head of the Centre for Interlibrary Loans Berlin-Brandenburg in Zentral- und Landesbibliothek Berlin [Berghaus-Sprengel 2006], and the former acting director of Universitäts- und Stadtbibliothek Köln [Gabel 2006].

Regular "library tourism" has existed for a while in Singapore, with librarians from Australia [Clifford 2003], Denmark [Hapel et al. 2001], Germany [taz 27.04.2001; Flemming 2005; Schwarz 2005], the Netherlands [Heemskerk 2004], Norway [Gabrielsen 1982], the United Kingdom [Tedd 2002] and the USA [Hayworth 2000; Kent 2002; Abraham 2005] visiting the country. The reason for and destination of all of these trips are the "indisputably most modern libraries in the world today" [Bertelsmann-Stiftung and Bundesvereinigung Deutscher Bibliotheksverbände e.V. 2004], which were part of an international best practice study conducted as part of the "Bibliothek 2007" (Library 2007) project. The results of this, including the "wallflower syndrome" of public libraries in Germany compared to Singapore, were even published in the German daily press [Die Welt 16.03.2004; Süddeutsche Zeitung 16.03.2004; taz 16.03.2004].

What motivated the librarians from Jülich was not simply to write yet another

progress report to add to the existing pile. Rather, this paper focuses on academic libraries for the first time, whereas up until now public libraries, including the National Library and the *National Library Board*, have been the focus of attention. It will therefore certainly be of interest to academic libraries and special libraries in Germany to find out what they can learn from a country that is not unjustly held up as an example to public libraries.

2 Singapore

2.1 General Information

The Republic of Singapore lies at the southern tip of the Malacca Peninsula between Malaysia and Indonesia, 1° north of the Equator.¹ Singapore is made up



Fig. 1: Map of Singapore [CIA 2006]

of a main island and 54 smaller surrounding islands with a total area of 685 km². The population is 4.35 million, of which 3.55 million are *residents* i.e. inhabitants with permanent right of residence. They include Singaporean nationals as well as people with permanent residence permits (*permanent residents*). *Non-permanent residents* are defined as foreigners with residence permits that extend beyond one year. 75.6 % of the population are Chinese, 13.6 % are Malaysian, 8.7 % are Indian and 2.1 % come from other parts of Asia and Europe. The official languages are Malay, English, Chinese (Mandarin) and Tamil. According to the 2000 census, the most important lingua franca is English, which is spoken by 71 % of the population over the age of 15, followed by Chinese at 62 %. Even amongst the Chinese population, 16 % speak English only. The promotion of all official languages is a task that receives high priority. It is hoped that if minorities are promoted and supported, conflicts between the different ethnic

¹ The information given in Chapter 2.1 has been taken from the online Munzinger archives [Munzinger-Archiv 2006] (as of 02/05; accessed 7 March 2006) and from the [Singapore Department of Statistics 2006] website (accessed 7 March 2006) unless otherwise stated.

groups can be avoided.

The growing population (which has tripled since 1960) in a country with a current population density of 6,350 inhabitants/km² is inevitably causing problems with regard to housing [Han 2005], transport [Malone-Lee et al. 2001] and environmental protection [Briffett et al. 2003]. The evident good planning and regulations in this area [Ming and Hin 2006] have yielded positive results despite this: the city and its air are extremely clean, which can be attributed to geo-climatic conditions on the one hand (rain showers almost daily, continuous wind) and to the serious penalties for environmental pollution on the other. The public transport system [Ibrahim 2003] is excellent. In general, housing [Wong and Yap 2003] is designed in large precincts, such as the suburb of Tampines [Foo 2001]. Large prefabricated buildings made of concrete slabs are being built less and less; recently however, high-rise and very high-rise residential buildings have been designed and built [Yuen 2005]. In addition, great efforts have been made to reclaim land from the sea [Westerholt 1995].



Fig. 2: Mass suburb in Chinatown

“The classical image of an Asian city, which we have come to know from India for example, is characterised by masses of people in the streets, poverty and a picture of the city that consists of old, almost derelict houses and very few modern hotels or department stores. If you come to Singapore, you find a clean city that is completely indistinguishable from European or American



Fig. 3: "The Gateway" office building

metropolises.” [Brenner and Neo 1995] This statement is at most to be corrected in so far as it does not take account of the derelict state of some European and American cities in comparison with Singapore.

2.2 Political Situation

The foundation of modern Singapore dates back to the year 1819 when Sir Thomas Stamford Raffles established a British trading base there. The Sultan of Johor sold Singapore in 1824 to the East India Company who grouped it together with Malacca and Penang to form the *Straits Settlements*. In 1867, they became a British Crown Colony. The colonial age came to a close in 1963, after the first parliamentary election had taken place in 1959 and Singapore had embarked upon full internal self-government. Singapore established a confederation with Malaysia but this collapsed in 1965. Since then, Singapore has been a fully sovereign state; it joined the UN in the same year [Fessen 1984].

The first parliamentary elections were swept by the *People's Action Party* (PAP) who won 43 of the 51 parliamentary seats. The first leader of government was Lee Kuan Yew (* 1923), who held the office of Prime Minister until 1990. Goh Chok Tong (* 1941) took over when Lee moved into the office of *Senior Minister*, which he himself had created. In 2004, Goh was followed by Lee Hsien Loong (* 1952), the oldest son of the founder of the state. Goh became *Senior Minister* and Lee Kuan Yew *Minister Mentor* and thus remained the *éminence grise*. Other members of the Lee family also play important roles in Singapore. The Prime Minister's wife is head of the state company Temasek who own Singapore Airlines and various Asian banks. His sister Lee Wei Ling is head of the National Neuroscience Institute and his younger brother Lee Hsien Yang is head of "Sing Tel", the largest telecommunications concern in Asia.

Nepotism is however only one characteristic of the political culture in Singapore. This was initially made possible because of the absolute power held by PAP since the foundation of the state – they regularly held over 90 % of the parliamentary seats, even when they "only" won 60 – 75 % of the vote (1986-2006). Between 1968 and 1980, PAP actually held all of the parliamentary seats. PAP secured their influence through an ingenious election system [Mutalib 2002]. When an opposition candidate won a by-election in 1981, the concept of a Nonconstituency Member of Parliament (NCMP) was introduced: if no opposition party is represented in parliament, those candidates that polled the most out of the three largest opposition parties will be invited into parliament as NCMPs. However,

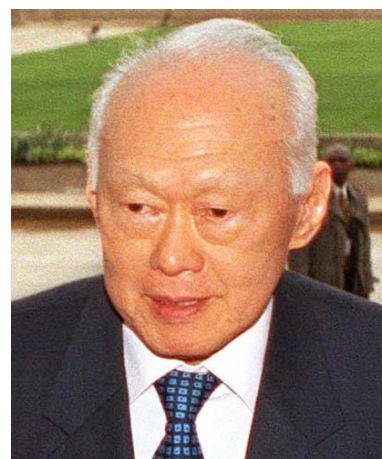


Fig. 4: Lee Kuan Yew



Fig. 5: Goh Chok Tong



Fig. 6: Lee Hsien Loong

they are only second-class MPs and are not allowed, for example, to vote on budgetary questions or to participate in votes of no confidence in the government. As justification, the then Prime Minister Lee Kuan Yew offered three reasons [Straits Times 25 July 1984]:

- *sharpen the debating skills of PAP MPs in parliamentary debates*
- *educate young voters in particular to regard the need for an official opposition as a myth*
- *dispel suspicion of any cover-up by the government of its policies*

The other parties criticized this as an attempt to establish a pseudo opposition that would hinder real opposition. The same accusation was made regarding the introduction of *Nominated MP* (NMPs). These experts, who do not represent any electoral party or representatives of ethnic minorities, are appointed by a committee and have reduced rights similar to NCMPs. A third move made to avoid successful opposition was the merging of electoral constituencies to form larger units known as the “*Group Representation Constituencies*” [Li and Elklit 1999]. Teams made up of three to six people take office (depending on size), and they must include at least one member who is of non-Chinese origin. The underlying aim of an ethnically representative parliament has the side effect that opposition parties often find themselves unable to nominate such teams, which is why in the electoral constituencies concerned, only PAP candidates stand for election. During the last election on 05.05.2006, the opposition had candidates running for office in 47 of the 84 electoral constituencies – very few but still the largest number for 18 years [Die Welt 07.05.2006]. PAP won 67 % of the votes and 82 of the 84 mandates (<http://www.elections.gov.sg>). The strategy employed by PAP to win voters for their candidates in both of the constituencies held by the opposition involving millions of district redevelopments therefore came to nothing. The opposition parties had warned prior to this that Singapore could become a dictatorship without parliamentary opposition [NZZ online 06.05.2006].

The influence of other parties is naturally very low under these conditions. It is even further limited because they are regularly impeded in their work by the state authorities. Criticism of the government and its representatives is viewed as punishable criticism of the state; ruinous action for libel is often taken against

critics. Thus the former General Secretary of the social democratic Workers' Party estimated that he had to pay around 1.6 million Singapore Dollars (approx. € 800 000) in damages and legal costs [Lorenz 2004]. After accusations of a continuous breach of civil rights and the threat of expulsion from the Socialist International, PAP resigned from the organisation in 1976. The ideological orientation of PAP is incidentally less socialist than communitarian, with a particular emphasis on combining all concepts of society within PAP [Chua 1995].

Restrictions are not just something experienced by opposition politicians, but by all citizens. Although the Singaporean press is not officially censored, the management of newspaper publishers lies in the hands of the state. European and American magazines are often only sold with blackening [Schöngrubner 1997]. Private individuals have no access to satellite television, but rather are dependent on state-controlled cable television [Burdin 2001]. The possession of drugs is punished in a particularly draconian manner, something that often provokes diplomatic embroilment when foreigners are faced with the death penalty [Rist 2004]. Chewing gum and spitting it out also carries a penalty, although the ban on the former has been lifted for medical reasons [Lorenz 2004]. The positive side to this is the very low crime rate in Singapore [Yuen 2004].

The fairly "dictatorial" rather than simply "authoritarian" attitude of the founder of the state, Lee Kuan Yew, comes across quite clearly in an interview with the Straits Times on 20 April 1987:

"I am often accused of interfering in the private lives of citizens. Yes, if I did not, had I not done that, we wouldn't be here today. And I say without the slightest remorse, that we wouldn't be here, we would not have made economic progress, if we had not intervened on very personal matters - who your neighbour is, how you live, the noise you make, how you spit, or what language you use. We decide what is right. Never mind what the people think."

Even though the demand for greater political freedom is now beginning to grow amongst young voters [Mutalib 2000], nothing will change in the political situation, at least for as long as the economic success story of Singapore continues. Nevertheless, in recent times, steps towards a civil society seem to have taken

place – citizen involvement in large construction projects can be taken as one example [Soh and Yuen 2006]. Previously unheard of possibilities of public agitation are now open to the political opposition: two former political prisoners discussed their experiences with a large audience in the *Esplanade* cultural centre – this was followed by a report in the *Straits Times* [Kremb 2006].

2.3 Economic Situation

Singapore has almost no mineral resources of its own, except for minor mining of gravel and granite. Even drinking water is imported from Malaysia. Imports are the source of constant tensions with Malaysia [Chang 2003], which is why efforts are currently being concentrated on seawater desalination [Anonymous 2004b]. It is no wonder therefore that the tertiary sector accounts for two thirds of the gross domestic product, 25 % of which is generated by the financial and business services alone. While the proportion of GDP generated by the primary sector is negligible, the secondary sector, which includes the manufacturing industry, accounts for a third of the GDP. Industry in Singapore excels with a very high productivity. According to a study conducted by the BERI Institute, Singapore currently ranks as number one in the world [Anonymous 2005a].

The road to becoming a highly industrialised country was left behind by Singapore in less than one generation. Fig. 7 illustrates this through the development of the gross domestic product, which increased almost exponentially until the mid 1990s (own calculations based on information taken from [Huff 1995] and [CIA 2006]). The average income increased in the same period from US\$ 800 in 1965 to US\$ 22,000 in 1994 [Brenner and Neo 1997]. Singapore has invested considerably more overseas than vice-versa [Zhu 2002].

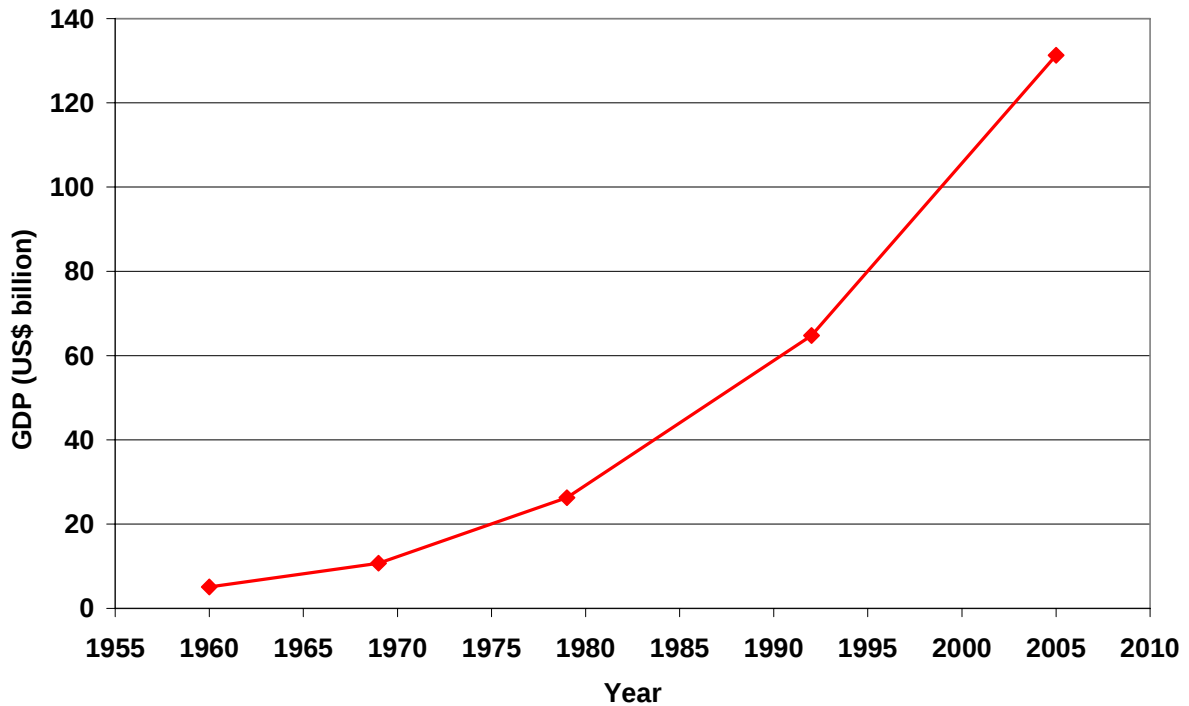


Fig. 7: Gross domestic product for Singapore

The consequences of the lack of raw materials in Singapore were put into words by Prime Minister Goh Chok Tong in his 1993 National Day Message: *"The future belongs to countries whose people make the most productive use of information, knowledge and technology. These are now the key factors for economic success, not natural resources."* [Economic Development Board 1994]. As a result, 20 % of government expenditure is invested in education; the budget allocated to the Ministry of Education is the second biggest after the defence budget [Süddeutsche Zeitung 18.06.2004]. Singaporeans are taught how to use computers as soon as they are able to stand. The ultimate aim is the complete computerisation of all areas of life and of the entire country.

2.4 IT2000

The computerisation of Singaporean society was carried out in a number of phases [Choo 1997]. It began in the first half of the 1980s with the *Civil Service Computerisation Programme*, and the foundation of the *National Computer Board* (NCB), which was to implement it. The principal goal was the computerisation of ministries and the training of Singapore's own IT professionals. An evaluation gave a return on investment of 280 % [Burdin 2001].

The second phase from 1986 to 1990 was the period of the *National Information Technology Plan*. The main goals here were the development of a strong export-oriented IT industry and the promotion of IT applications in the business sector [Soh et al. 1993]. The focus was thus shifted from the public to the private sector. This stands in stark contrast to countries such as Germany, where the public sphere regularly lagged behind with regard to electronic equipment – take the example of the German police force that have still not been equipped with digital radios. By the early '90s, Singapore could boast a thriving IT industry as a result of this programme with an increasing number of well-known IT companies exporting to the region, the USA and Europe.

In the early '90s, an NCB committee made up of 200 experts from politics, industry and science developed the “vision of an intelligent island”.

“In our vision, some 15 years from now, Singapore, the Intelligent Island, will be among the first countries in the world with an advanced nation-wide information infrastructure. It will interconnect computers in virtually every home, office, school, and factory.” [National Computer Board 1992]

On the “intelligent island”, IT was to permeate every aspect of society – at home, at work and at play. The aims are the comprehensive promotion of IT in order to increase national competitiveness and the improvement of the quality of life of its citizens. Examples of the realisation of this vision include:

- ✚ *Singapore ONE* (*Singapore One Network for Everyone*) has seen the creation of a broadband network connecting the entire island and to which every citizen has free access [Fong 1997].
- ✚ Every household is connected to the network by coax cable. New houses

must (!) have a broadband connection [Mahizhnan 1999]. In 2002, there were 1.2 million users of broadband connections. The target for 2006 is a user quota of 50 % of all households [Länder and Märkte 11.05.2004].

- ✚ In 1990, 53 % of the workforce worked in the production, processing and distribution of information along with the area of IT infrastructure, compared with 34 % in 1980 [Kuo and Low 2001].
- ✚ For more than ten years, almost all aspects of official business with the authorities have taken place electronically (e-Government) [Cordeiro and Al-Hawamdeh 2001].
- ✚ *E-Citizen Centers* are an attempt to bring the computer skills of the public at large, including the working class, up to speed [Munoo and Narayanan 2005].
- ✚ Smart cards (chip cards) are in use in many sectors without the slightest objection with regard to data protection [Lee et al. 2003].
- ✚ Due to its success in terms of the IT2000 plan, Singapore received the first ever “Intelligent City” award from the World Teleport Association in 1999 [Toh 1999].

It goes without saying that this type of IT infrastructure also has an impact on librarianship. Public libraries have been connected to the Internet since the mid ‘90s and since then, they have offered all users Internet access free of charge [Reid 1997]. To mention just one more example, users can “borrow” videos on demand to watch at home via *Singapore ONE* [Yeo 2000].

Technological progress does not always escape criticism however. As part of a study conducted by *Nanyang Technical University* entitled “Internet in Singapore. A study on usage and impact” [Kuo et al. 2002], Internet users and non-users were asked about their reservations regarding “undesired content” in the Internet. More than 50 % of Internet users said that they were concerned about uncensored pornographic, racist, religious and political content, with concerns regarding pornographic content being the greatest at 64 %. Amongst non-users, 40 – 50 % of those asked expressed concern – statistically less significant than the corresponding figure amongst users. One possible explanation is that the existing

apprehensions amongst non-users are mostly borne out in reality.

Clear cultural differences between Germany, for example, were obvious in the answers, and perhaps in the questions themselves. In Germany, there are of course grave concerns about racist and pornographic (particularly child pornography) content, but hardly any concerns regarding uncensored political or even religious content. However, it is important to note that this desired censorship is not simply considered a task for the government alone. In answer to the question of who should be responsible for reducing or avoiding undesired content, 92 % voted for individual users themselves. Three quarters believed Internet service providers should take responsibility and around two thirds of families surveyed said the government or a central authority. Personal responsibility is therefore regarded as extremely important.

3 Librarianship

3.1 History

The history of librarianship in Singapore began with British colonisation. In 1823, the Singaporean employees of the East India Company together with an English missionary established the *Singapore Institute* as a school where the indigenous youth were taught about Western literature. The first school library was also set up there [Chia 2002]. In 1844, this library became a public library – the *Singapore Library* – and in 1849, it was also assigned the tasks of a museum [Sinnatamby 1984]. In 1874, it was taken over by the colonial government and renamed as *Raffles Library and Museum*. After the introduction of a legal deposit regulation in the library's favour, it fulfilled the function of a national library from 1886 onwards. In 1955, the museum was separated from the library and two years later in the *Raffles National Library Bill* and *Raffles National Library Ordinance*, it was officially accorded status as a national library with effect from 01 April 1958 [Anuar 1975]. It also remained a public library. In 1960, thanks to funds donated by a Chinese businessman, a new library building was erected in Stamford Road [Koh 1970]. In the same year, its name was also changed from *Raffles National Library* to *National Library*, which it is still called today. Along with the foundation of the National Library, the *National Library Board* was also set up. The board advises the minister responsible for the National Library and also has authority to issue directives concerning the National Library [Ramachandran 1999].

Today, Singapore is a city state with never-ending built-up areas that are only broken here and there by parks and lakes and which remains dense overall. In the 1960s and '70s, this was not yet the case; back then, there were even smaller areas, particularly on the west, north and east coasts of the island, where people lived without much contact with the city centre. As early as the end of the 1950s, the planning and construction of satellite cities had begun. In this context, the need for greater proximity to customers was quickly recognised. This led to the foundation of branch libraries of the *National Library* as part of a *decentralisation programme* [Wee et al. 1975]. The first branch libraries were opened in the satellite cities of Queenstown and Toa Payoh, followed by branch libraries with restricted opening hours in the settlements of Chai Chee and Siglap [Chan 1975]. Further

growth was slower but nonetheless continued at a steady pace: in 1978, there were six branch libraries [Chan 1981], followed by two more in 1983 [Sinnatamby 1984]. In 1988, a branch library with restricted opening hours was set up in Jurong and there were a total of six branch libraries offering full services in Queenstown, Toa Payoh, Marine Parade, Bukith Merah, Ang Mo Kio and Bedok [Chan 1988]. Furthermore at the end of the 1950s, in addition to these location-bound libraries, a mobile library service was set up. The operation of this service by the National Library was laid down in the *National Library Act*, Section 5(a):

The functions of the National Library are –

a) to promote and encourage the use of literary material and information there from by the establishment of lending and reference libraries and mobile library services

In the mid '70s, a van and two trailers, each of which carried 3,000 books, were acquired for this purpose [Chan 1976]. These vehicles serviced ten different points on the island. In 1975, the mobile library had around 3,000 young people and adults and over 30,000 children as members. The *mobile library service* was responsible for 8 % of the National Library's total circulation. Over the course of time, the significance of the mobile library service clearly decreased: in 1988, six jobs were cut [Chan 1988]; concurrent with the extension of the opening hours of the National Library, the service was completely suspended in 1991 [Chan 2001].

The libraries in Singapore worked in a very conventional manner for a long time. Steps towards the automation of libraries were taken much later in Singapore than in many other countries [Pong 1990] and initially they occurred in academic libraries. The first time computers were used was in 1972 in the library at *Nanyang University* to monitor the receipt of journals [Foo 1974]. As will become more obvious later, it would be just as unlikely today for technical innovations to be adopted by Singapore's libraries only after years of delay, as it would to class university libraries as pioneering in comparison to the National Library. In 1973, the National Library convened a meeting of the most important libraries in order to discuss planned projects and possible cooperations in the area of library automation. "*However, libraries continued to go independently in their investigations and efforts to computerise.*" [Pong 1990]. The situation was

portrayed in an even more dramatic fashion in a presentation at the *Singapore-Malaysia Congress of Librarian and Information Scientists* [Lim 1987]:

Due to the presence of a high degree of rivalry in library automation amongst libraries in Singapore, particularly amongst the major libraries, cooperation in library automation is almost non-existent. Some libraries like to be first in the installation of library systems, thereby forfeiting the benefit of consulting their fellow-professionals and placing themselves entirely in the hands of computer hardware or software vendors, some of whom are quite unscrupulous. It is hoped that with the operation of SILAS it will be possible to unite the libraries and transform individual efforts into national efforts.

SILAS, which is mentioned at the end of the above quote, is the *Singapore Integrated Library Automation System* that was initiated in 1983 [Lim 1984]. Built on the software of Western Library Network (formerly Washington Library Network, WLN), the system is used for shared cataloguing and the development of a national bibliography [Royan 1987]. SILAS was put into use in 1986 in the National Library, and from 1987, in university and government libraries. In 1995, more than 30 institutions in over 26 locations were connected into the system [Carpenter 1995]. Parallel to the introduction of SILAS, the use of barcode labels for the borrowing of books was also introduced in the libraries in Singapore [Royan 1988]. The first users were the *Ngee Ann Polytechnic Library*, followed by the *National University* (NUS) in 1984. The first public library (i.e. branch of the National Library) began using barcode labels in 1988. Here too, the academic libraries played a pioneering role.

The *Library Association of Singapore* (LAS) traces its roots back to the year 1955 [Wee 1981]. At that time, only *Raffles Library* and the *University of Malaya in Singapore* (today's NUS) were supported by the state. Library staff with professional qualifications came solely from other countries such as the United Kingdom, New Zealand and Australia [Borchardt 1975]. In order to promote training in librarianship and cooperation between libraries, the *Malayan Library Group* was formed with members from Malaysia and Singapore. In 1958, it changed its name to the *Library Association of Malaya and Singapore* but in 1960, it had to split into

two separate associations for political reasons – *Persatan Perpustakaan Tanah Melayu* (*Library Association of Malaya*) and the *Library Association of Singapore*. In 1965, the federation of Malaysia and Singapore brought about the integration of the Singaporean association into the Malaysian association. Corresponding to separation on a political level, this only lasted for a short while. In January 1966, the *Persatan Perpustakaan Singapura* was reconstituted, before being renamed as the *Library Association of Singapore* (LAS) in 1972.

The current president of the association is Sylvia Yap, director of the NUS Library, describes the objectives of LAS (<http://las.org.sg>) as follows [Library Association of Singapore 2003]:

- to promote interests
- to improve education and further training
- to encourage the establishment of libraries
- to generate publications
- to organise meetings and conferences.

On an international level, continued close cooperations with Malaysia should be emphasised. A *Joint Liaison Council* which includes council members from both library associations, for example, is responsible for organising joint events. The next aggregation level is the *Congress of Southeast Asian Librarians* (CONSAL; www.consall.org) [Ramachandran 2002]. This organisation was founded in 1970 and its members include library associations from Brunei, Cambodia, Indonesia, Lao, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam [Ramachandran 2003]. Conferences are held every three years [Chin Chuan and Foo 2002], the last one being CONSAL XIII from 25 – 28 March 2006 in Manila. Its objectives include establishing cooperations and encouraging exchanges in the area of professional training for librarians [Khoo et al. 2003]. In 2000, CONSAL established its own secretariat. Rasu Ramachandran, director of the National Library of Singapore and deputy chairman of the National Library Board, was appointed as the first Secretary General. Another regional body is the Conference of Directors of National Libraries in Asia and Oceania (CDNLAO) [Ramachandran 2001].

Singapore's contribution to the IFLA appears to have been only quite modest in the early years. In any case, an opinion piece appeared in *Singapore Libraries* in 1985, complaining that too few LAS members take part in IFLA conferences, although the author does also warn readers that attending an IFLA conference for the first time can be "a traumatic experience" [Chan 1985]. In later years, the participation of Singaporean librarians in IFLA conferences increased significantly. This becomes obvious by simply counting the number of speakers from Singapore listed on the conference programme (Fig. 8), as shown on the homepage of each conference [IFLA 2006]. Between 1993 and 1999, nine Singaporean speakers spoke at seven conferences, and only seven of them spoke at both conferences in South-East Asia. Since 2000, an average of three speakers at IFLA conferences has come from Singapore.

It should be noted that simply expressing an interest in international library work is not enough to get onto the programme. It is more important that the content of the paper is of international significance. The subject matter of many papers was the reform of Singaporean librarianship as part of the *Library 2000* project which will be outlined in more detail in the next chapter.

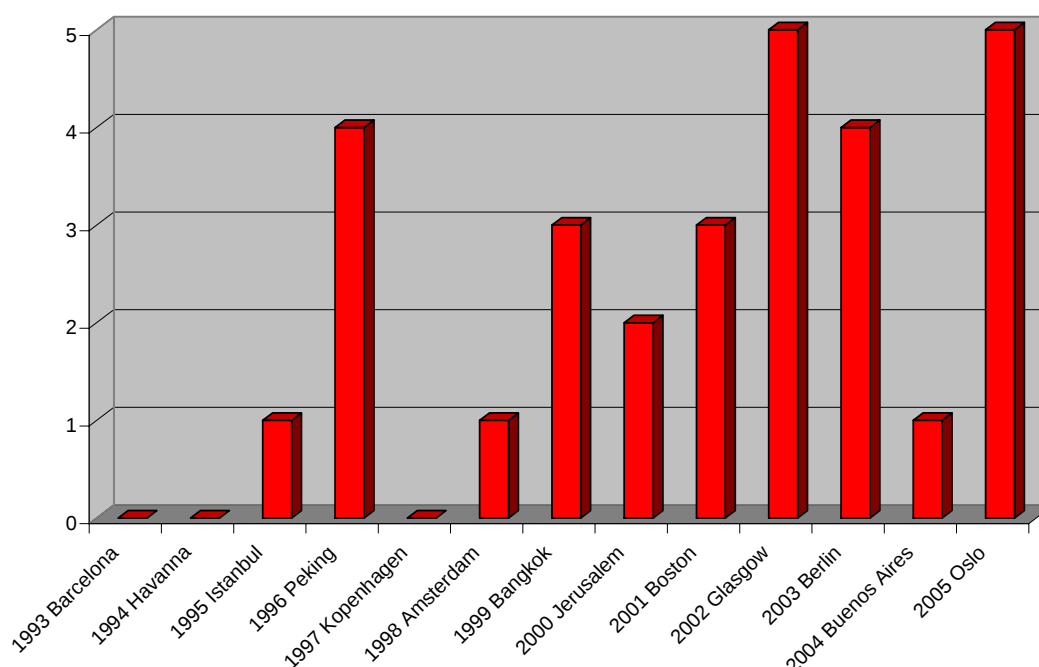


Fig. 8: Number of speakers from Singapore at IFLA conferences

Singapore made an important contribution to the IFLA itself when Rasu Ramachandran took over the office of Secretary General on 1 April 2004 [Anonymous 2003a; IFLA 2004; Paul and Tedd 2004]. However, he resigned the office after only nine months for personal reasons [IFLA 2005]. Another example of work on international bodies is the work of today's director of the National Library Ngian Lek Choh as *information coordinator* of the *IFLA Section of Public Libraries* [IFLA Section of Public Libraries 2005].

3.2 Library 2000

At the beginning of the '90s, the murmurings of discontent had grown loud in Singaporean librarianship. Only 30 % of the population were registered users of libraries and only 12 % were active users. The public perception was that holdings were old and out-of-date [Carpenter 1995]. Librarians were among the worst paid employees in the civil service, which did nothing to help their image and made the career an unpopular choice [Chia 2001]. Despite a high literacy rate, residents in Singapore only read 3.2 books per annum on average [Chan and Sabaratnam 1996]. Other studies speak of an average of 16.5 books being read per annum, but even this figure is three times lower than the corresponding figures for the United States [Library 2000 Review Committee 1994]². The Minister for Information and Art George Yeo complained that library usage was four times higher in some cities such as Helsinki and Copenhagen than in Singapore [Hepworth 1996]. Public libraries had failed to be the first to offer their users Internet access and left the way open for Internet cafes instead [Sabaratnam 1997]. Compared to Germany, much

² Apparently, a calculation error is the reason for this. The study cited in Library 2000 [Book Industry Study Group 1985] states that 50 % of adult Americans read books. They read an average of 24.8 books in the six months before the study was conducted. If this is extrapolated to all Americans for a period of one year, the result is 24.8 books, which is 50 % more than the comparative figures for Singapore.

of this may seem like complaining for the sake of it but for Singapore, it was a reason to act.

In 1992, the Minister responsible for librarianship, Minister George Yeo, decided to establish the *Library 2000 Review Committee*. Its brief was to formulate the challenges facing Singaporean librarianship and to come up with recommendations for action. It had become obvious that simply replicating the existing branch libraries in the new city districts was not the way forward [Sabaratnam 1995]. The *Library 2000 Review Committee* had 20 members and was chaired by Tan Chin Nam, chief executive of the National Computer Board (NCB) and Ko Kheng Hwa, managing director of NCB. Even in terms of management and technical services, the committee was heavily influenced by NCB. Only two members were from libraries – the director of the National Library, Rasu Ramachandran, and the former director of the *National University of Singapore Libraries*, Koh Thong Ngee. Five sub-committees formed by other people were set up to deal with specific issues. Its terms of reference included the formulation of a master plan for developing library services over the next ten years, a review of the situation, and the formulation of recommendations outlining how librarianship could support the realisation of national objectives. Other objectives included finalising suggestions for the education and further training of librarians, the use of IT and for the role of the National Library. The complete terms of reference is contained in Appendix 10.1 (page 89).

The committee developed the *Library 2000 Vision*:

Tomorrow's library is one which continuously expands the nation's capacity to learn through a national network of libraries and information resource centres providing services and learning opportunities to support the advancement of Singapore.

Three terms appear twice in this vision: *library*, *nation(al)* and *learn*. An interpretation of this formal statement explains what it is about. The reform of librarianship is a task of national scope and significance. Libraries are not there primarily for amusement and/or education in the wider sense, but rather they are there for learning purposes. It is important to note, however, that the actual holdings in a library do not always consist exclusively of books for “learning

purposes”, or at least not in the narrow sense of the term. Public libraries therefore form a contrast to book shops, where it seems like half of the shop floor is taken up by school books, revision books and other material for examination preparation.

In order to realise the vision, six *strategic thrusts* and three *key enablers* were defined. These are reproduced from the original in Fig. 9, where the key enablers are represented by the pillars and foundation of the house, which in turn contains the six strategic thrusts. The vision itself is represented by the roof:

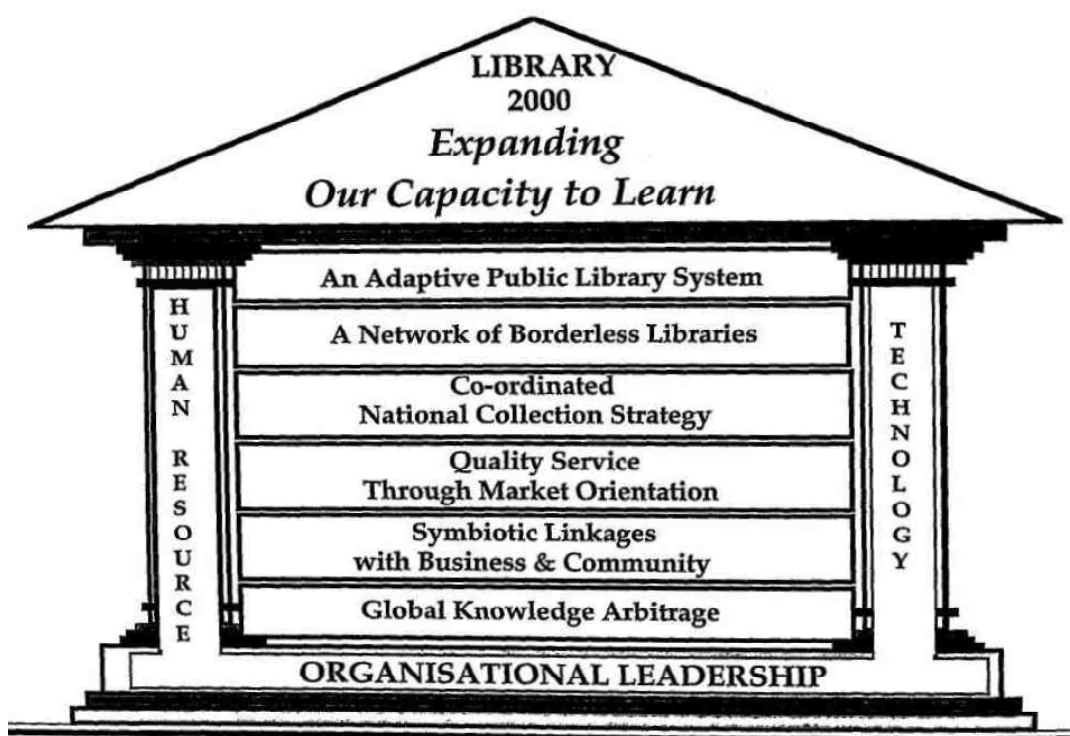


Fig. 9: Library 2000 Vision

The six strategic thrusts:

1. The establishment of an adaptive public library system that has been tailored to suit its environment in terms of size, orientation, and objectives. Along with the National Library and specialised reference libraries, regional libraries, community libraries and neighbourhood libraries will also be set up. The five regional libraries will be located at each of the regional centres and will be twice the size of the present branch libraries and have collections of around 400,000 items. The 18 community libraries, often to be located in shopping centres, will be half as big as the present branch libraries and will have collections of between 100,000 –

200,000 items. The target group are people living in each of the locations. The 100 neighbourhood libraries will be set up as children's libraries and will have over 10,000 – 15,000 items.

2. The creation of networks of “borderless” libraries that will allow their customers access to all of the information they require at any time of day and they will deliver it “just in time”. They will be connected to the broadband network Singapore ONE, which is to be established as part of the IT2000 plan.

3. A co-ordinated national collection strategy that will also cater for the demands of the non-English-speaking members of the population. In practice, the National Library will make acquisitions for the community libraries and the neighbourhood libraries.

4. The adaptation of library services to better meet the needs of the market and thus win new customers. This will be achieved via price differentiation with basic services remaining free of charge and value-added services to be charged at a higher rate than up to now.

5. Symbiotic linkages with business and community, for example setting up library advisory boards with the participation of local figures or the location of libraries in places such as shopping centres, which have a lot of people traffic.

6. Global knowledge arbitrage. An arbitrage, which is a financial transaction that exploits the difference in exchange rates, is also possible in the global knowledge society. People who feel at home in more than one cultural environment and can put the various advantages and customs to use are at an advantage here. Singapore, a melting pot of people from the two most densely populated countries in the world and simultaneously equipped with a large variety of contacts in the West, is in a particularly promising position.

Together with the strategic thrusts and key enablers, a series of other recommendations were also made. For example, a new building for the National Library, the development of a central business library and a central arts library known as *library@esplanade* (see Chapter 5).

Perhaps the most important message in terms of the Library 2000 project is: “The

plans were implemented!" In 1995, Christopher Chia became the Chairman of the National Library Board. Until this time, he had been Director of the *Information Technology Institute*, a research institution belonging to the National Computer Board. Five more executives also came with him from NCB. The project was allocated one billion Singapore dollars (€ 500 million) over a period of eight years [Chen 2001], which was used to finance the reform process. The Library 2000 report includes copies of press reports on the opening of the first regional library in Tampines [Pruess 1995]. Further regional libraries were established in Jurong [Seow 2004] and Woodlands. Examples of community libraries with different orientations [Keng et al. 2003] include Queenstown Community Library and Ang Mo Kio Library, both of which were reopened having been newly conceived [IFLA Section of Public Libraries 2004], as well as the establishment of brand new libraries such as Choa Chu Kang Community Library and Cheng San Community Library [Mohamed 1999], Marine Parade Library [Hapel and Larsen 2001], the "lifestyle library" located in an exclusive shopping centre, *library@orchard* [Oder 2004], and the first "do-it-yourself library", Sengkang Community Library [Ngian 2003], which will be described in more detail in Chapter 4 as an example of a public library. In July 2005, a total of three regional libraries and 20 community libraries had been established [National Library Board 2005a].

41 children's libraries have been set up so far [Library Association of Singapore 2000]; in addition, the Woodlands Regional Library offers professional information and advice in the form of a team of children's librarians [Kiang-Koh 2002]. Furthermore, there are school media resource libraries where teachers also have access to material for lessons [Mokhtar and Majid 2005].

In July 2005, the new building (Fig. 10) housing the National Library was finally opened [Leng 2005]. With three floors below ground and 16 floors above ground, the 103-metre high building houses the Central Lending Library and the offices of the National Library Board, together with free spaces for events, a roof garden and a theatre [Siew 2004]. The building is extremely interesting architecturally. It is built at an angle to minimise sun radiation. Open spaces can be found throughout the building and have been planned so as to allow the wind freely move and thus ensure natural ventilation [National Library Board 2005d]. In terms of energy

efficiency, this is extremely important.



Fig. 10: New National Library building

The National Library Board did not just simply sit back when the project objectives were realised: as the follow-up to the Library 2000 project, Library 2010 was set up [National Library Board 2005c]. While Library 2000 aimed at optimising library buildings and process flows, the functions that libraries have in the knowledge society are now being defined and the courses required to realise them are being laid out [National Library Board 2005b].

4 Sengkang Community Library

On 30 November 2002, the Minister for Education Teo Chee Hean opened the Sengkang Community Library. The interesting thing about it is its location in a large shopping centre, Compass Point, which is situated directly in one of the Mass Rapid Transit (MRT) stations. Choosing locations like this is part of the implementation of the Library 2000 strategy, which aims at a paradigm shift from “*We go to the library*” to “*The library comes to us*” [Library 2000 Review Committee 1994]. This approach is not completely new however – when it opened, Sengkang was the tenth community library situated in a shopping centre. A study has shown that this is a win-win situation with advantages for libraries and their usage statistics and for the other shops in the shopping centre [Morris and Brown 2004]. In Singapore, libraries in shopping centres generate 40 % of all loans with only 20 % of the space available to public libraries [Chia 2001].



Fig. 11: Compass Point shopping centre; left of the centre is the logo advertising the library

The new thing about the Sengkang Community Library is the idea of a do-it-yourself library that claims it can run “a library without any staff onsite, yet provide the same level of service to the customers as one with a team of library staff onsite” [Ngian 2003]. The library does have a back office with support staff who sort the returned media and put it back on the shelves, as well as a security officer who ensures that order is kept in the library and prevents thefts. The radial shelving plan (Fig. 12) allows a birds-eye view from a central point over the entire library, which has an area of 1,800 m². User

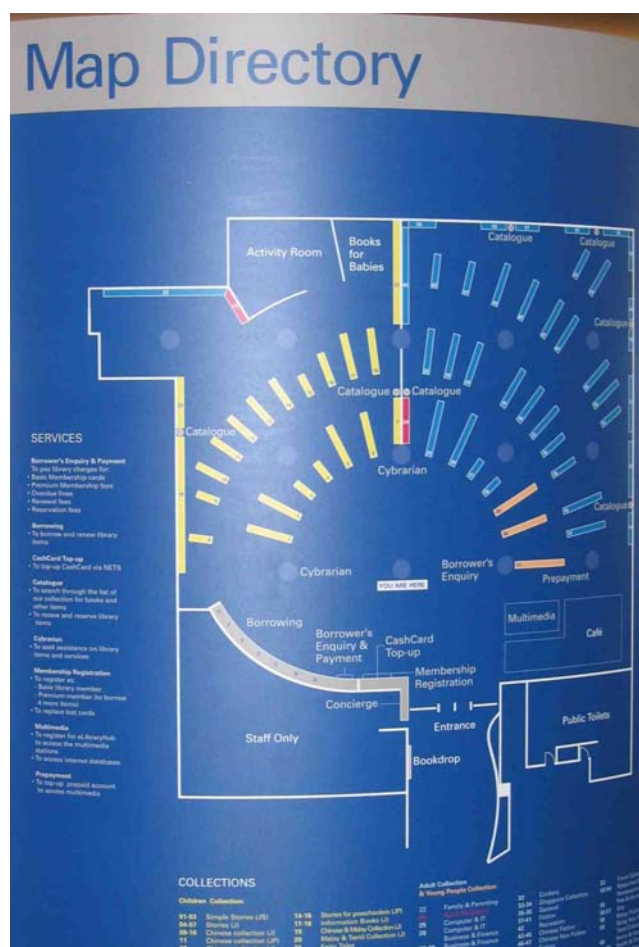


Fig. 12: Layout of the Sengkang Community Library

workstations are quite spartan overall. Sometimes very robust furniture is used, such as benches made of stone or standing aids made of stainless steel (Fig. 13), which you can lean against when reading the newspaper. Venus Tann, who led us through the library, explained that such measures which forfeit comfort are necessary in order to prevent vandalism. Complaints about improper behaviour in public libraries can also be found in the literature [Ho 1992]. To central European eyes however, there is just as little sign of vandalism visible in the libraries as there is in the entire country, which brings to mind the satire P.E.S.T. (Problem Eradicator Service Technology): A High-Tech Solution to Library Vandalism and Crime [Horák 1997]. The waves of “vandalism” you hear speak of are obviously very different [Lincoln 1990].



Fig. 13: Shelves and pillars with standing aids (back right)

New customers register using their national identity card or passport at the registration kiosk (Fig. 14). According to Venus Tann, the database is “continuously updated by the residents' registration office”. Inquiries into possible reservations



Fig. 14: Registration

that users may have with regard to data protection have shown that Singaporean library users have no problem with government staff having access to information on them as individuals read. The government's attitude towards the private sphere (compare with quotation on page 15) makes the practical implementation of technical possibilities completely conceivable. Registration, which entitles users to use all public libraries, is free of charge for citizens; permanent residents pay

10.50 Singapore dollars (€ 5). Foreigners must speak to library personnel in order to register. The annual fee for normal membership is free of charge for children under the age of 7, \$ 1 for children aged 7 – 14, and \$ 5 for those over the age of 15. This includes the lending fee for books; digital media cost extra. Premium membership costs \$ 21 per annum and allows the user to borrow all items free of charge.



Fig. 15: Account administration

At account administration (Fig. 15), the registration fee and annual fee, as well as charges for reserving books and fines for overdue books, can be paid as non-cash transactions. At the terminals for borrowing (Fig. 16), an individual is identified by means of his/her membership card and the media is then issued on the basis of RFID tags, which all media have [Ward 2003]. Items are returned at the doors into the library, where they are inserted into machines known as bookdrops (Fig. 17). The items fall into a cushioned receptacle. They are automatically identified by means of their RFID tags and are immediately cancelled as loans from the relevant user account.



Fig. 16: Terminals for borrowing

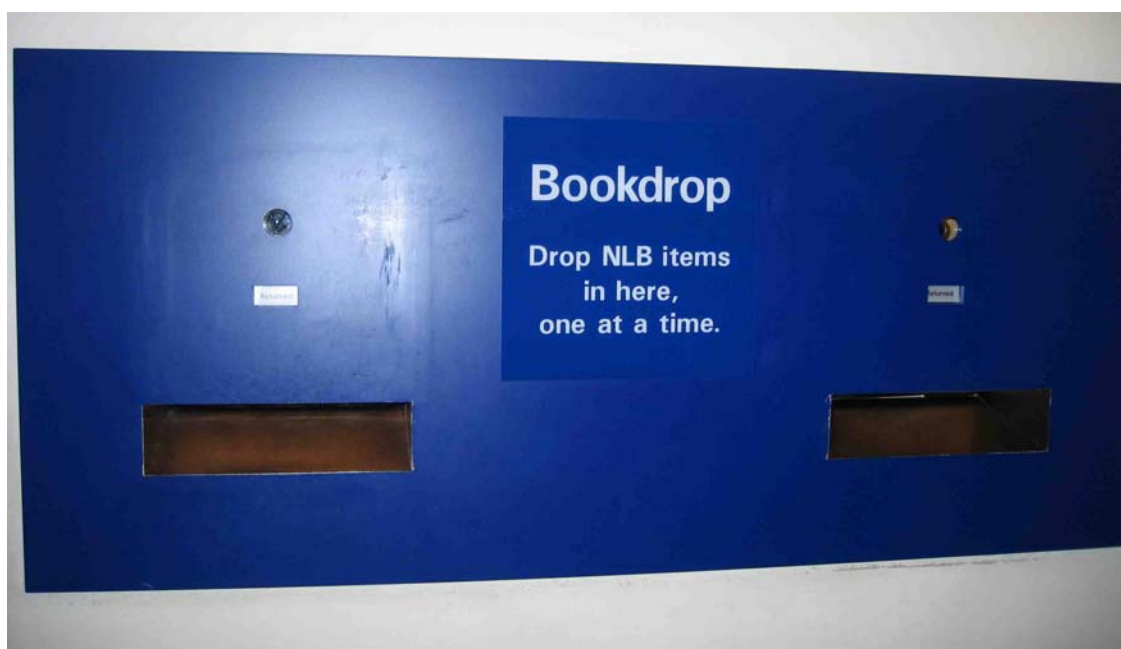


Fig. 17: Bookdrop

The Electronic Library Management System (ELiMS), developed in cooperation with ST LogiTrack (<http://www.stlogitrack.com>), was introduced in all public libraries in April 2002 [Niesner 2003]. This allows media to be returned in all libraries, independent of where they were borrowed. They are collected by the Singapore Post, sorted in the general post office and then delivered to the library they belong to. If the books belong to the library they were returned to, they are sorted directly in the sorting room, which is located at the back of the bookdrop, and then reshelved. The time required for this has been reduced by two thirds to a mere 1-2 hours [Varaprasad et al. 2005]. Returning media and making sure they end up on the correct shelf has also been made easier by the fact that on the spines of books, there is a code consisting of five coloured stripes (Fig. 18). Books from the same



Fig. 18: Codes on the spines of books

subject category have the same colour code; usually only one stripe changes from one category to another. It is therefore easy to tell at a glance if a book has been put in the wrong place. The entire working procedure of selecting holdings, cataloguing them and mechanical book processing has been solved in all other respects by the National Library, which has seen a drastic reduction in processing time [Teng and Hawamdeh 2002]. There are no decision-making authorities onsite when it comes to acquisition but the libraries can “make suggestions” [Flemming 2005].

Customers benefit from yet another advantage in terms of saving time when it comes to borrowing procedures. In general, users can return books without having to queue; in my opinion, the two slots for returning media are more than adequate for the number of customers. The time needed to borrow books at the loans desk in libraries has been reduced from 60-90 minutes at peak times and 20 minutes on average to about 5 minutes with the introduction of self-service borrowing terminals [Hapel et al. 2001]. A second-generation RFID system with better features for non-book media has also been introduced in the 39 public libraries (1 National Library, 3 regional libraries, 19 community libraries and 16 children’s libraries) [Sung 2006].

The character of the *unmanned library* is emphasised even more by the fact that there is nobody available onsite to provide information services that are considered necessary [Ngian 2005]. Instead, there are two units known as “Cybrarians” (Fig. 19) – a made-up word consisting of “cyber” and “librarian”. Here, you can phone a librarian in another library and follow any advice or instructions they may give you on-screen (co-browsing). Earlier attempts to implement video conferencing were abandoned when it became apparent that users were not interested and this more impersonal variation was chosen instead [Ngian 2003]. Answers to frequently asked questions (FAQs) are directly available at this kind of *information kiosk* [Tung 1999]. According to Venus Tann, the Cybrarian has been a hit. However, on the two occasions I visited the library, I did not see anyone using the service.



Fig. 19: Cybrarian

The Sengkang Community Library is located in an up-and-coming region where 120,000 approx. people currently reside. This figure is expected to rise to 600,000 by 2015. Predominantly young families live here and this is also reflected in the library's holdings, half of which consists of children's literature (marked yellow in the floor plan on page 33). Books on raising children etc. are also available and can be found near the children's literature, allowing young parents to keep an eye on their children when they are looking for a particular book. The young adult section (orange in the plan) is located directly opposite surveillance because according to Venus Tann, these are the clientele considered most likely to cause vandalism. 73 % of the holdings are in English, 22 % are in Chinese and the rest are in Tamil [Ilangovan and Higgins 2003] and Malay. Classification by language is the second criteria for shelving after age group [Murugasu 1987; Dunkle 1993]. Within a language group, the Dewey Decimal Classification is used.

In the library, there is also a cyber café with a *Starbucks* cafeteria and eight multimedia PCs, as well as an activity room where various events are held. Another room is a playroom for children. The library has the same opening hours as most of the shops in the shopping centre. It is open daily from 11:00 to 21:00 and is closed on public holidays. Borrowed material on loan can be returned 24 hours a day.

5 library@esplanade

Esplanade – Theatres on the Bay (www.esplanade.com) is an arts and culture centre situated on the Singapore River on six hectares of land between Marina Centre and Marina Bay. Conference centres, shopping centres and major hotels are only a stone's throw away [Neue Zürcher Zeitung 25.10.2002]. From the distance, its unusual architecture which resembles the durian fruit is striking (Fig. 20). The Esplanade was opened in October 2002 and hosts a wide range of events throughout the year: the traditional and the modern, the classical and the avant-garde – all of the various genres find their place here in the many musical, dance and theatre shows. The events calendar includes ethnic festivals, which take into account the multicultural roots of Singapore's population, thereby offering contemporary Asian art forms space, and simultaneously turning the centre into a meeting point for the world's top artists.



Fig. 20: The Esplanade

The Esplanade accommodates a technically sophisticated concert hall with seats for 1,800 people. It contains an organ with 3 manuals, 61 stops and 4,740 pipes [Creamer 2003]. The concert hall boasts variable acoustics: a reverberation chamber which surrounds the entire concert hall contains large concrete doors that can be used to vary the acoustics from concert hall acoustics right up to cathedral acoustics. The theatre seats 2,000 and caters as much to the demands of the Asian performing arts as it does to those of the West. It features a main stage, two ancillary stages and several rehearsal rooms. Outdoor open spaces are also available; restaurants, selected shops and last but not least, the *library@esplanade* round the services off. Building costs of around 600 million Singapore dollars (€ 300 million) were covered by the state lottery funds and the state race-track betting agency; not a penny of taxpayers' money was required [Süddeutsche Zeitung 25.10.2002].



Fig. 21: Entrance area at library@esplanade

The Library 2000 project had a *Sub-Committee on the Arts* and they suggested that a central arts library be set up. Until that point, relevant collections in the various Singaporean libraries were “fairly modest” [Library 2000 Review Committee 1994] and consisted mainly of printed materials. Along with materials of general interest, the collections usually included a selection of items of specific interest to the individual institution. Some examples are the architecture collection at the National University of Singapore, the film and music collection at the *Singapore Broadcasting Corporation’s library* and the design collection at the *Design Centre and Temasek Polytechnic Libraries*. The proposed central arts library is to collect materials from and about the visual arts and music, with an emphasis on art from Singapore and the region. A large proportion of the media is to remain in its original language. The other libraries with collections on special areas within the arts are to concentrate their acquisition activities on their respective specialties [Library 2000 Review Committee 1994]. At the time, it was planned to house the arts library in the same building as the National Library, which had yet to be built, but the *Library 2000* report suggested the proposed *Singapore Arts Centre* as an option and this is what eventually happened.

The *library@esplanade* receives visitors with a long relief. It has words and phrases engraved in stone from the fields of art represented (Fig. 21). As homage to classical Chinese theatre, rice paper with calligraphy is used to adorn the glass pillars in the lobby. Traditional Thailand dolls are exhibited in several glass cabinets (Fig. 22).



Fig. 22: Traditional Thailand dolls

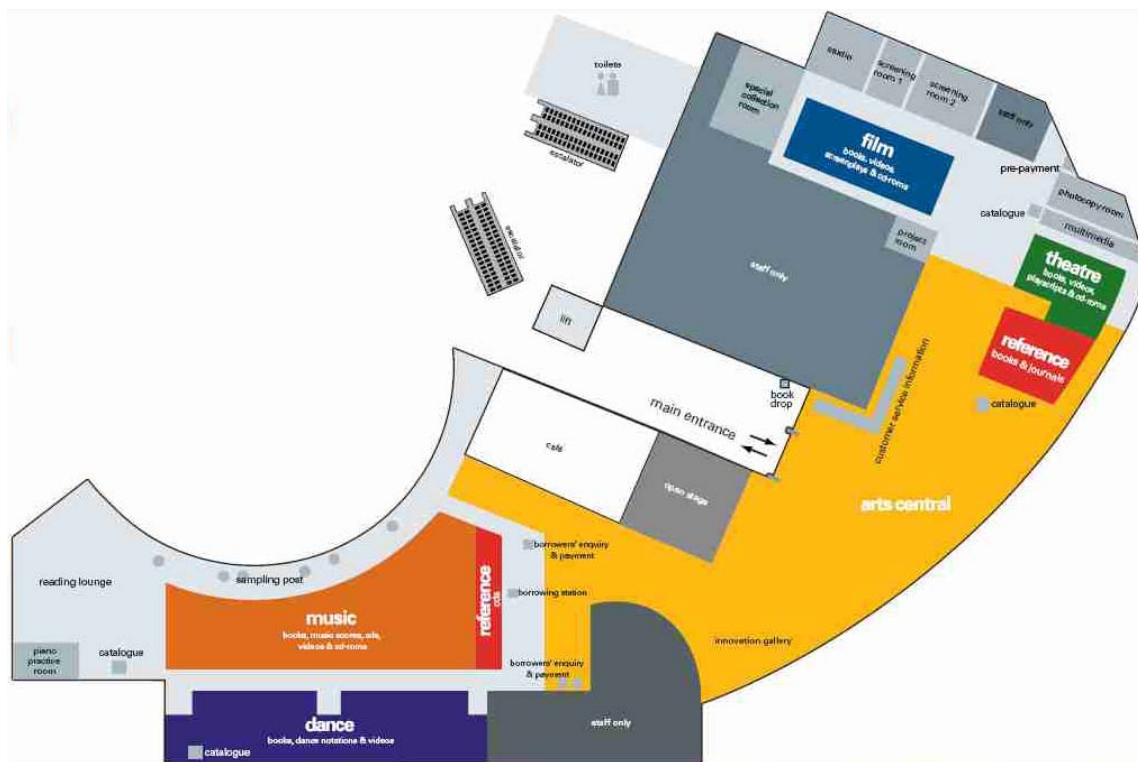


Fig. 23: Layout of library@esplanade

In the centre of the 2,300 m² library is an area known as “arts central”, where the visitor will find journals, reference works and an information area leading into an open exhibition space known as the “innovation gallery” (yellow area in Fig. 23). Exhibitions are supposed to encourage visitors to the library to see the world in a new light through the medium of the visual arts. This section of the library can also be used for various events and according to David Wei Lie, the director of the library, approximately 80 such events take place each year. In the lobby, you will also find a stage (Fig. 23), a number of self-service terminals for borrowing, and a bookdrop outside the entrance, which can be used between 07:00 and 02:00 (library opening hours: Mon – Fri: 11:00 – 21:00; Sat & Sun: 11:00 – 20:00).

On both sides of arts central, the fields of theatre, film, music and dance have been organised into individual “villages”, the interiors of which have been designed very differently (flooring, shelving material and material for other fittings, colour scheme). *MusicVillage* (Fig. 23, orange area) is a gateway into work by classic and contemporary artists and composers via sheet music, books, CDs, videos and

DVDs. Works can be borrowed or listened to at one of the music posts in the library, where the user can also follow the sheet music. In this section, just as throughout the entire library, all material relating to the one work are displayed together regardless of media type. The objective is to encourage as thorough an analysis as possible of a particular artwork. The facilities available also include a *PianoPracticingRoom*. This soundproof room contains a piano and a keyboard. The *MusicVillage* borders the *ReadingLounge*, which is plushly furnished with leather chairs. The *DanceVillage* (Fig. 23, purple area) has a parquet floor, mirrors, and bars like in a ballet hall. Books, dance notations and videos/DVDs of performances are available. The latter can be viewed directly on a plasma screen. The *TheaterVillage* (Fig. 23, green area) boasts theatre plays, primary and secondary literature in the form of books and videos/DVDs of theatre performances. The number of plays performed in their original language was impressive, even beyond the four official languages of Singapore. For example, plays in the German language include not just the classics but also the most important playwrights of the 20th century. The *FilmVillage* (Fig. 23, blue area) ultimately resembles a darkened film studio and is lit by film spotlights. As well as books on actors and films and film scripts, you will also find a wide range of films on VHS cassettes and DVDs here. You can also watch these in one of the two tastefully decorated and technically well-equipped *ScreeningRooms*. The *ScreeningRooms* can be rented at a rate of 6 Singapore dollars for four hours. According to David Wei Lie, director of the library, these rooms which seat four to eight people are a hit among couples as well as families.



Fig. 24: Grand piano on the OpenStage in ArtsCentral

The four librarians who work in the library have professional qualifications together with a qualification in one of the library's four specialisations. Considering the expertise of the library staff, the wide range of evidently high-quality materials, the generous opening hours which amount to 68 hours per week, and last but not least, the more than impressive interior décor, it is perhaps no surprise that the library is used regularly by the general public as well as students and artists. The proportion of performing arts material borrowed from public libraries has risen from 2.7 % before the *library@esplanade* was opened to the current figure of 18.9 % [Wieldraaijer 2005]. The objective of helping the general public to overcome their fear of the unknown and of bringing the arts out of their niche has most definitely been realised.

6 The National University of Singapore Libraries

The *National University of Singapore* (NUS) is the largest and oldest university in Singapore. Its origins go back to *The Straits Settlements and Federated Malay States Government Medical School* of 1905 [National University of Singapore 2006]. Later reorganised as *King Edward VII College of Medicine*, it amalgamated with *Raffles College*, which was founded in 1928, to form the *University of Malaya* in 1949. Initially responsible for both parts of the country, the *University of Singapore* became an independent university on 01.01.1962. In 1980, the *National University of Singapore* was formed when the *Nanyang University*, founded in 1955, merged with the *University of Singapore* [Chia 1984]. Today, it is one of the best universities in the world with a current global ranking of 22 and number 3 in Asia [The Times Higher Education Supplement 2006].

NUS currently has over 31,000 students from Singapore and neighbouring Asian countries as well as Australia, New Zealand, the USA and other countries. It has a total of 14 faculties and schools covering all academic disciplines. In the past, it was spread over a number of different locations [Hochstadt 1981], but today, almost all of its faculties are located on the *Kent Ridge* campus, which is 150 hectares and lies around 12 km outside the city centre. Aside from a few overseas schools, all of the university institutions can be found here, including the university libraries. The libraries are made up of the *Central Library* and the *Chinese Library*, which can be found in the same building, the *CJ Koh Law Library* (law), the *Hon Sui Sen Memorial Library* (economics, business studies), the *Medical Library* (medicine, dentistry and pharmaceuticals) and the *Science Library* (science).

The computerisation of the NUS Libraries began in the 1970s in the area of journal administration. Between 1982 and 1990, MINISIS, a system designed by the *International Development Research Centre of Canada*, was introduced for acquisitions, cataloguing and journal administration; books were issued via the *Library Automated Circulation System* (LACS), which the libraries developed themselves [Lim-Yeo 1995a]. In 1990, MINISIS and LACS were replaced by LINC (*Library INtegrated Catalogue*). Initially LINC could only be accessed on campus via the university's fibre-optic network (NUSNET) but in 1997, it was made

available worldwide via the Internet. LINC is a modified version of the library system INNOPAC developed by Innovative Interfaces, Inc. (www.inc.com) [Ng 1997]. It is integrated into the *Library InfoGate* portal, which has undergone a number of changes since it was introduced in 1995 [Gan 1995; Loh 1997; Ng 2000, 2003; Anonymous 2004a]. Today, the portal fulfils all sorts of demands including the integration of heterogeneous information services in one interface and a variety of options for personalisation, all of which are accessible using single sign-on over the *Lightweight Directory Access Protocol* (LDAP) [Lee and Yang 2004].

As Sylvia Yap, Director of NUS Libraries [Lim-Yeo 2003], explained to me, the libraries also have problems of a financial nature which are all too familiar to those of us from Germany. The acquisitions budget is frozen and the increasing costs of journals published by international publishing houses, particularly in the STM area, means that NUS must survive with a loss of purchasing power. The position of the libraries within the university itself does not appear to be a particularly good one. According to the Director herself, she does not have direct access to university management (or even to the Ministry) and the vice presidents responsible for her only get in touch with her when there are problems. She has absolutely no bargaining power when it comes to her budget. The situation does not appear to be new. Over 30 years ago, the former Director Peggy Wai Chee Hochstadt complained about the fact that the status of librarians is "*a very thorny issue*": comparable if not equal salaries to those received by other academic staff would be necessary if qualified personnel were to be attracted and retained [Hochstadt 1975] – a very valid demand [Lynch 1987]!

The NUS Libraries employ a total of 120 people. This represents a 25 % increase since 1973 [Hochstadt 1975]. For the same period, the number of users has risen from around 10,000 to approximately 50,000 today [Lim-Yeo 1995f; National University of Singapore 2004]. Almost half of the staff in the NUS Libraries have no professional training; subject specialists do not exist. This is nothing new in itself either; P.W.C. Hochstadt determined the following over 30 years ago: "*The Library experiences greater difficulty in finding applicants with suitable subject knowledge than in finding those with professional qualifications. An occasional success in getting a science applicant, for instance, is cause indeed for jubilation.*" [Hochstadt

1975]. While personnel is never an easy subject to deal with, it is even more precarious when it comes to subject specialists.

On the occasion of a presentation on Research Centre Jülich's Central Library in the Goethe Institute Singapore [Ball and Mittermaier 2005b], an intensive discussion arose with the members of the *Library Association of Singapore* on subject specialists at Research Centre Jülich. On the one hand, great surprise was expressed in the auditorium about the fact that scientists are prepared to work in libraries in German (although it is also common knowledge that there is a lack of scientists and computer scientists in Germany [Lux 2003]). On the other hand, the absence of such academically qualified employees, particularly in the university libraries in Singapore was criticized and regretted. In Germany, the employment of subject specialists goes back more than a hundred years and the position requires an academic degree traditionally coupled with the completion of a PhD as an entry requirement for further professional training [Biskup 1977]. At the latest with the introduction of the one-tier library structure in the newly-opened universities of the 1960s and 1970s [Wilkens 1983b, 1983a], the role of the subject specialist became the object of increasing scrutiny [Klose 1980]. Triggered by the paper "*Wissenschaftlicher Bibliothekar 2000 – quo vadis?*" ("Academic Librarians 2000 - quo vadis?") [Oehling 1998], a long controversial debate began amongst librarians in 1998 on the future of subject specialists [Jochum and Oehling 1998; Schibel 1998; te Boekhorst et al. 1998; Wefers 1998]. In the Anglo-American sphere, the role of subject specialists and subject librarians was becoming an issue of some debate. The titles of two review articles in 1989 and 1990 spoke of "*The role of subject specialists ...*" [Stebelman 1989] and "*The subject specialist ...*" [Hay 1990], whereas two more review articles appeared in 2001 entitled "*The changing role of (the) subject librarian ...*" [Gaston 2001; Pinfield 2001] (author's underlining). A recent survey of subject specialists in the USA defined their main fields of work as providing information and undertaking searches, as well as organising training courses; collection building was becoming less and less important as was keeping up contacts with the institutes and establishments of the university [McAbee and Graham 2005].

However, this does not appear to be peculiar to Singapore. Throughout Asia,

subject specialists do not have the same status as they (still) do in Germany. This is one of the reasons why *Johono Kagaku to Gijutsu* (The Journal of Information Science and Technology Association; <http://www.infosta.or.jp/journal/200509e.html>) No. 9, 2005, was dedicated to the topic of the *subject librarian*. The introductory article is entitled “*What is the subject librarian? The effect of its introduction*” [Yakushiin 2005] (author's underlining). While in Europe and the USA, the changing significance of the subject specialist was being debated, its introduction was being pondered in Japan. A search on subject specialists or subject librarians in EBSCO's database Library/Information Science & Technology Abstracts (LISTA) and CSA's database Library and Information Science Abstracts (LISA) significantly returned no other hits for Asian articles or articles referring to Asian libraries besides the above-mentioned volume.

6.1 Central Library

The Central Library is multidisciplinary and is used by students and staff from throughout the university. It houses collections on architecture, building, engineering, arts and humanities, and social sciences. A number of intermediate stages were encountered on the road to completing this ensemble of collections [Hochstadt 1977]. For example, the law collection was originally part of the Central Library, but today it is housed in the Law Library [Lim-Yeo 1995d]. The reverse is true for architecture and engineering, which were previously housed in independent libraries but became part of the Central Library in 1978 [Lim-Yeo 1995d].



Fig. 25: Central Library lobby



Fig. 26: Computer workstations

The NUS Central Library was completely renovated in 2003/2004 [Yeo 2005b] and has a surprisingly attractive, cosy and unusually colourful lobby (Fig. 25). In the lobby, there is an “InfoCommons” area which includes dozens of computers for students (Fig. 26). There is also a multimedia viewing room (Fig. 27) with a substantial number of televisions and video and DVD equipment, where media borrowed from the *Digital Media Gallery* [Ying and Heng 2002] can be watched. All of the sections are clearly signposted. The number of workstations for students throughout the entire Central Library is surprisingly high. As well as carrels and other individual areas, there are numerous rooms available for spontaneous meetings, group work, mobile phone calls or simply as places of retreat.



Fig. 27: Multimedia workstations

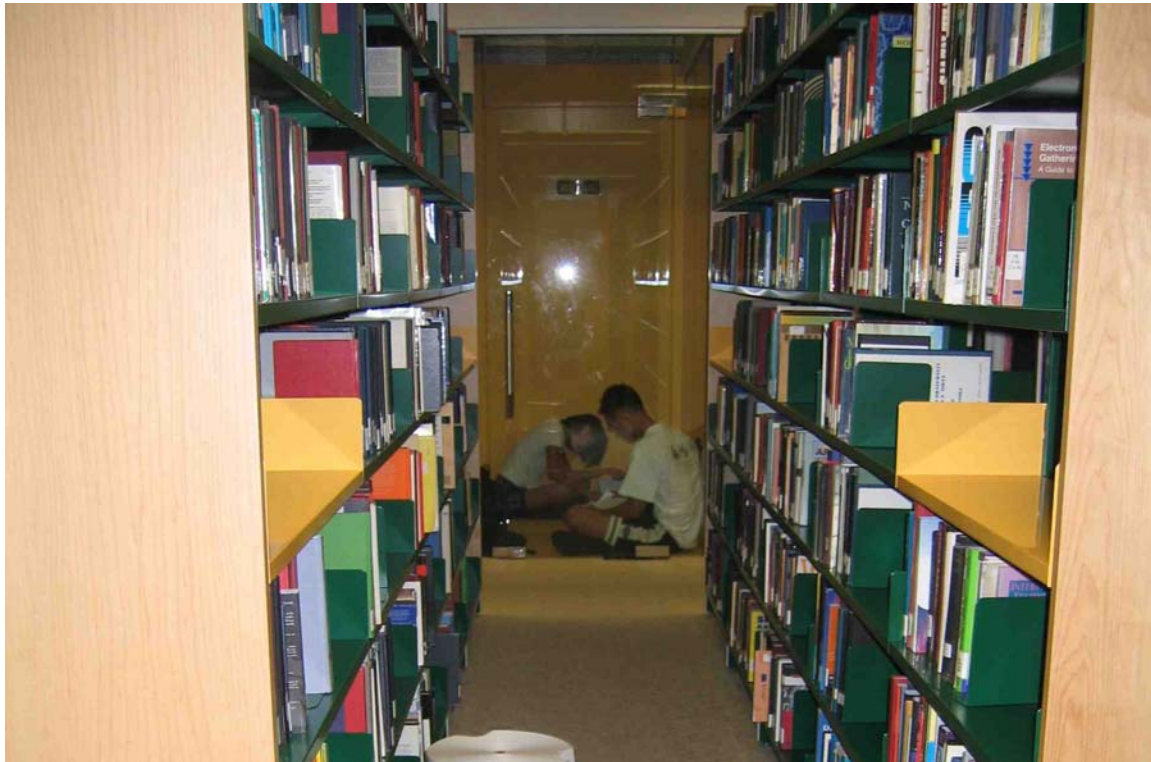


Fig. 28: Room for mobile phone users

The chat points for mobile phone conversations (Fig. 28) are interesting from another point of view. They were created as a compromise between the need to communicate and the need for peace and quiet on the part of the library users. According to Lim-Yeo Pin Pin who brought us around the library, the chat rooms are actually quite popular among students for studying and working on exercises. Groups of four or more people often sit on the ground in the rooms, which have around 2 m² of floor space – even when there are more than enough free workstations with tables and chairs. “Flexible library buildings” generally mean that the floor plan, structure and services can be adapted to suit each other [Faulkner-Brown 1997]. This philosophy tends to centre on the librarian but here it is complemented by the interests that library users have in a flexible infrastructure.

Before the renovation, items were issued and returned at a number of different locations depending on the type of material the user wanted to borrow or return. Now, there is one central loans desk for all material (Fig. 29). Items are issued to undergraduates and non-academic staff for a period of two weeks, while honours

and graduate students are entitled to borrow items for up to four weeks, as are academic staff. RBR (*Reserve Books / Readings*)³ material, which is predominantly made up of material used on a regular basis for lectures, can be borrowed for a period of up to two hours and overnight if they are taken out shortly before the library closes (Mon-Sat 08:00-22:00, Sun 09:30-16:30). Overdue items incur fines of between \$ 0.50 - \$ 3.00 per day for normal material and \$ 1.00 per hour (!) for RBR material.



Fig. 29: Loans desk

³ The abbreviation RBR stands for *reserved books room* where the students can consult material that they require in order to prepare for the next lecture in a course. This concept has a long tradition in countries such as the USA [Hirsch 1963]. Here, however, the use of this abbreviation is perhaps not quite fitting in that the items can be used throughout the library for the period they have been issued for.

Since 2001, borrowing and returning literature from the main shelves can be done using the self-service terminals for borrowing and bookdrops in the library [Lye 2001]. Surprisingly, Lye also reports on the use of RFID technology. As can be seen clearly in Fig. 30, barcode reading devices are in fact exclusively used. The technical level of the library and its user-friendliness are therefore more akin to the many university libraries in Germany than to the public libraries in Singapore.



Fig. 30: Self-service terminal for borrowing

The open-access collections are divided between two floors in the library and split according to topic based on the classification scheme defined by the Library of Congress. The library also has closed stacks. The Central Library has a collection of over 600,000 volumes and 6,500 running journal subscriptions. Corresponding to the age of the library, the Rara collection is very comprehensive; of local cultural interest are, for example, three hand-written letters from Sir Stamford Raffles.

The clipping service is also worth mentioning, where staff of the Central Library collect newspaper articles from the most important newspaper in the country *The*

Straits Times and sort them according to topic. This collection goes right back to 1957 [Mohamed 1997]. Unfortunately, it is not an up-to-date service. The clipping service is almost two years behind current events, which obviously severely limits the use of the service. The library appears to view this, however, as less of a drawback. By way of explaining, Lim-Yeo Pin Pin emphasised the amount of work that members of staff already have to put on the long finger. The project appears to be viewed more from an archivist point of view than something current for users.

6.2 Chinese Library⁴

The Chinese Library is located on the 5th and 6th floors of the Central Library building. It was created by bringing four separate collections of Chinese literature in Singapore together: *Ngee Ann College*, *Nanyang University*, *University of Singapore* and *National University of Singapore* [Lee 1995]. It became part of the Japanese Resources Department in 2002. The library was first located on the *Bukit Timah Campus*, where the *Chinese Studies Department* was founded in 1953. The collection grew rapidly and in 1956 already consisted of 130,000 volumes. Today, it consists of 253,000 monographs in Chinese and 23,000 monographs in Japanese. Almost 1,300 running journal subscriptions come on top of this. The collection includes the classics (publications by Konfuzius and his students, inc. commentaries), archaeology, philosophy, Buddhism and literature. Chinese law, public administration and management have recently been added to the collection. Amongst the items treasured in the collection are a number of handwritten and printed editions from the Ming Dynasty (1368-1644) and the Qing Dynasty (1644-1911/1912) [National University of Singapore 2005].

Until 1983, the library used the Harvard-Yenching System to catalogue the holdings. Since this date, the Chinese Library has used the LoC Classification, as have the other NUS Libraries. Computers were first used in 1983 to catalogue the

⁴ The Chinese Library, just like the CJ Koh Law Library (chapter 6.3) and the Hon Sui Sen Memorial Library (Chapter 6.4), was not visited in person; the descriptions that follow are based on information contained in the literature.

holdings in *hanyu pinyin* – the ISO standard for representing Chinese characters in Latin letters [Yin and Felley 1990]. In 1993, loan services were computerised when the Chinese Library also began to use the NUS *Library Automated Circulation System* (LACS). The introduction of ChiLINC (*Chinese Library's online public access catalogue*) in 1996 made it possible for the user to conduct electronic bibliographic searches using Latin or Chinese characters [Lee 1996].

6.3 CJ Koh Law Library

The Law Library developed out of a literature collection that was established in the Central Library in 1957 and catered primarily to the needs of the Faculty of Law. Although the collection was soon moved into its own wing of the building, all of the transactions including the issuing of books were still conducted in the Central Library [Sng 1995]. In 1980, the Law Library moved to a new building together with the Faculty of Law. It was renamed the *CJ Koh Law Library* on 01.01.2001 in honour of the

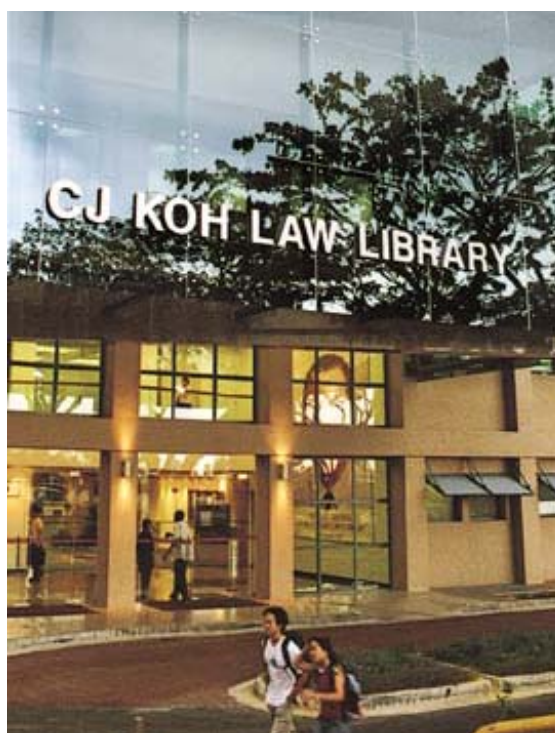


Fig 31: CJ Koh Law Library

late barrister Koh Choon Joo who donated \$ 5 million towards the construction of a new building and another \$ 530,000 for the library to expand its collection [Kumar 2001]. The new building with an area of 4,000m² over three floors was opened in 2002 [Kumar 2002a]. It contains a collection of around 50,000 volumes and almost 2,000 journals are regularly subscribed to. A gallery showcases paintings by the library's benefactor who took up painting upon retirement [Kumar 2002b]. The library emphasises the complete acquisition of relevant literature from Singapore, Malaysia, Brunei and England. Primary literature from the USA, Canada, India,

Australia, and New Zealand are also intensively acquired. It also has collections on public law and international law from the ASEAN nations, the People's Republic of China and the European Union [National University of Singapore 2005].

6.4 Hon Sui Sen Memorial Library



Fig. 32: Hon Sui Sen Memorial Library

The *Hon Sui Sen Memorial Library* was built in memory of Hon Sui Sen, former Minister of Finance of Singapore [Library Association of Singapore 2000]. It houses the economic holdings and is used primarily by staff and students of the neighbouring NUS Business School. The building does not just contain the library itself but also has a

large lecture theatre and the Hon Sui Sen Room with memorabilia dedicated to the library benefactor.

In 1987, the library opened its doors for business, and in 1988, it was officially opened by the then Minister of Defence and current Senior Minister Goh Chok Tong [Wong 1995]. In an area measuring 3,000 m², literature from the fields of economics, finance and management can be found. The collection also includes business reports from companies in Singapore. In total, the HSSM Library has a collection of over 60,000 monographs and it subscribes to 3,500 journals [National University of Singapore 2005].

6.5 Medical Library

The Medical Library is the oldest academic library in Singapore and with this also the oldest of the NUS Libraries. The *Straits Settlements and Federated Malay States Government Medical School*, from which today's Faculty of Medicine developed, had collections of textbooks that could be borrowed. Library regulations from 1914 still exist today [Cheng 1984]. However, no catalogue existed at this time; "library personnel" were public officials who took on the work in addition to their regular duties. In 1923, the collection was rehoused in a room 200 m² and was open three days a week for one hour per day. In 1930, P.J. Verghese was employed as the library's first librarian [Lim-Yeo 1995b]. At this time, the library had 3,000 monographs and 150 journals [Cheng 1984]. Cataloguing was still "*practically non-existent*" in 1950, according to a contemporary witness [Lim-Yeo 1995e].

The collection was shelved according to a rough division of the field of medicine and within the field, alphabetically according to author. Cataloguing using LoC Classification was first implemented in the mid 1950s. In 1975, the library personnel had expanded to two qualified librarians, six office employees and six support staff [Cheng 1975]. Today, the library has eight permanent staff positions, 4.5 of which are filled with trained librarians. Only the director has her own office; other members of staff share one room.

The monographs (Fig. 33) are shelved according to the Library of Congress Classification, while the journals are shelved alphabetically (Fig. 34). This is unique in the NUS library system, where otherwise everything is generally shelved according to LoC. According to the Senior Manager of the library Shirley Aw, alphabetical shelving was something that the Faculty of Medicine explicitly requested. In my personal opinion, shelving the journals alphabetically is more advantageous to the user than shelving them systematically or shelving them unsystematically according to their shelfmarks. The two latter methods of shelving mean that academics and researchers must consult an index in order to find a particular book, whereas alphabetical shelving only requires knowledge of the alphabet.



Fig. 33: Journal and monograph collections in the Medical Library

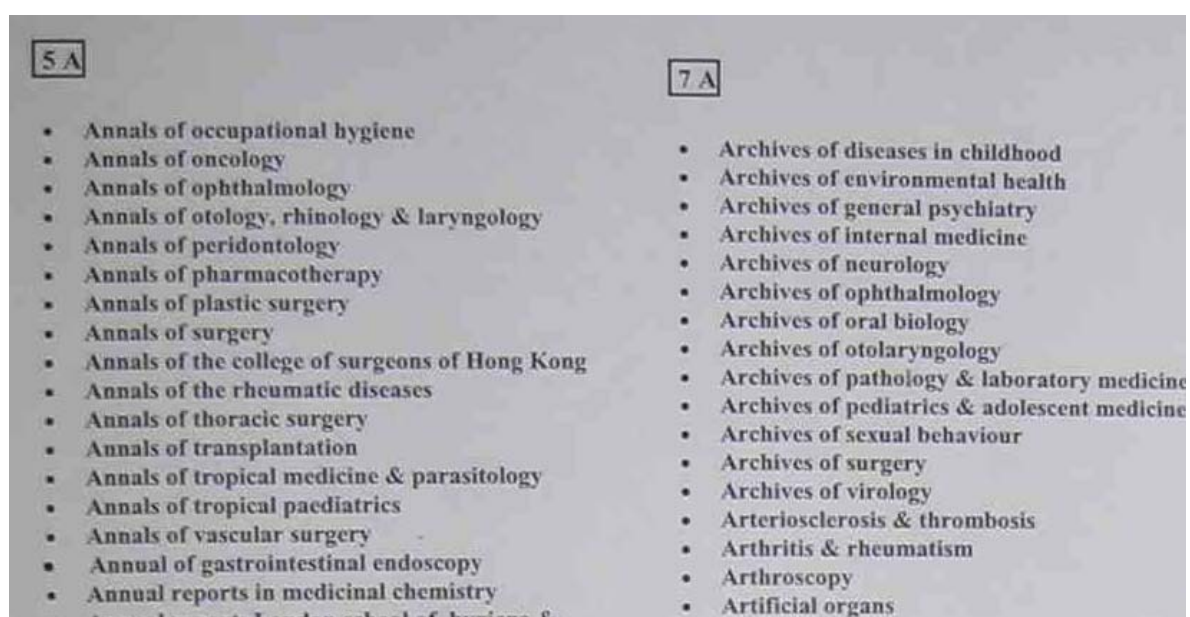


Fig. 34: Alphabetical open-access shelving of current journal volumes

Grouping media according to subject may also provide quick access. However, due to the increasing interdisciplinary character of research, it is to be expected that journals from different fields will have to be consulted on a regular basis. Moreover, clearly classifying journals according to subject (without referring to LoC Classification) is often impossible. This applies not only to the well-known multidisciplinary journals, *Nature* and *Science*, but also to journals like *Nano Letters* (chemistry, physics or materials science?), *Ozone* (chemistry, physics, geosciences or environmental science?). The advantage of non-alphabetical shelving systems is without a doubt the fact that even if the journal changes its name, it will still be shelved as a unified collection. On the other hand however, this advantage should not be overestimated because only very few users read the complete annual volume of a journal.

As positive as the alphabetical shelving of journals in the Medical Library is, the poor selection of journals on the open shelves can only be viewed negatively. Only the last five volumes are available to the user on open-access; earlier volumes are held in closed stacks and only the library staff have access to this area (Figs. 33 and 35). In practice, this is not user-friendly – only one library employee works in the reading room and is not only responsible for providing information but also for sorting media returned.



Fig. 35: Older journal volumes are held in closed stacks

The presentation of other material is also very traditional and is not very user-friendly. Even if the personnel has been expanded to include 4.5 positions for professional librarians (no academic librarians), this is still quite a small proportion for a library that provides literature and information services to all members of the Faculty of Medicine and Dentistry and the Department of Pharmacy, as well as doctors and nursing staff from the nearby university hospital. The Medical Library is also a *WHO Repository Library* and the central medical library in Singapore [Anonymous 2003b]. With all due respect, the library does not appear to be able to meet these demands. Michael Cheng, former head of the library, opened a paper on the Medical Library in *Singapore Libraries* [Cheng 1984] with the following anecdote:

The story is told about the surgeon who, on opening up his patient, discovered that the problem was more complicated than what was actually diagnosed. Having assessed the situation, he realised that he did not quite know what steps he should take to ensure that the operation would be a success. However, he did remember reading something about this particular type of problem in the medical literature not too long ago. Instructing the support team to "keep the patient going", he rushed to the nearby medical library and asked for an online literature search to be made, providing the librarian with all the facts he knew about the case. In next to no time, the article he wanted was traced and he was able to read it in the library, return to the operating theatre, and successfully complete the operation.

One is tempted to finish the tale with the ending "*and they lived happily ever after*". Bearing in mind the impressions gained in the NUS Medical Library, this opening an article on the Medical Library with such a story has a bizarre, almost comical, effect.

6.6 Science Library

The Science Library is the youngest member of the NUS Libraries family. It was built in 1984/1985 and officially opened its doors in 1986 [Lim-Yeo 1995c]. The science collection had been housed in the Central Library until this time. The library has a collection of 125,000 monographs and 1,700 current journal subscriptions. The first head of the library was Sylvia Yap, who is the current Director of NUS Libraries. Today, the library is run by Loy Shioh Hong who studied the history of sciences and therefore comes closest to our idea of an academic librarian.



Fig. 36: Journal and reference collections

It is quite obvious that since it was built, neither the interior design in the Science Library nor the way that the collections are presented have been changed. The condition of the library is reminiscent of a German institute library of twenty years ago (Fig. 36). Impressions are dominated by the large number of workstations

(surprisingly few computer workstations) and the traditional presentation of the holdings in the library. With few members of staff, the library is run as a classical library with on-the-spot information available more in an old-fashioned form, although the electronic information services of the NUS Libraries can be accessed. Modern management and modern library business areas are completely lacking here. However, on the positive side of things – just as in all other libraries visited – "catalogue" is synonymous with "electronic catalogue" (Fig. 37). Card catalogues are nowhere to be seen.

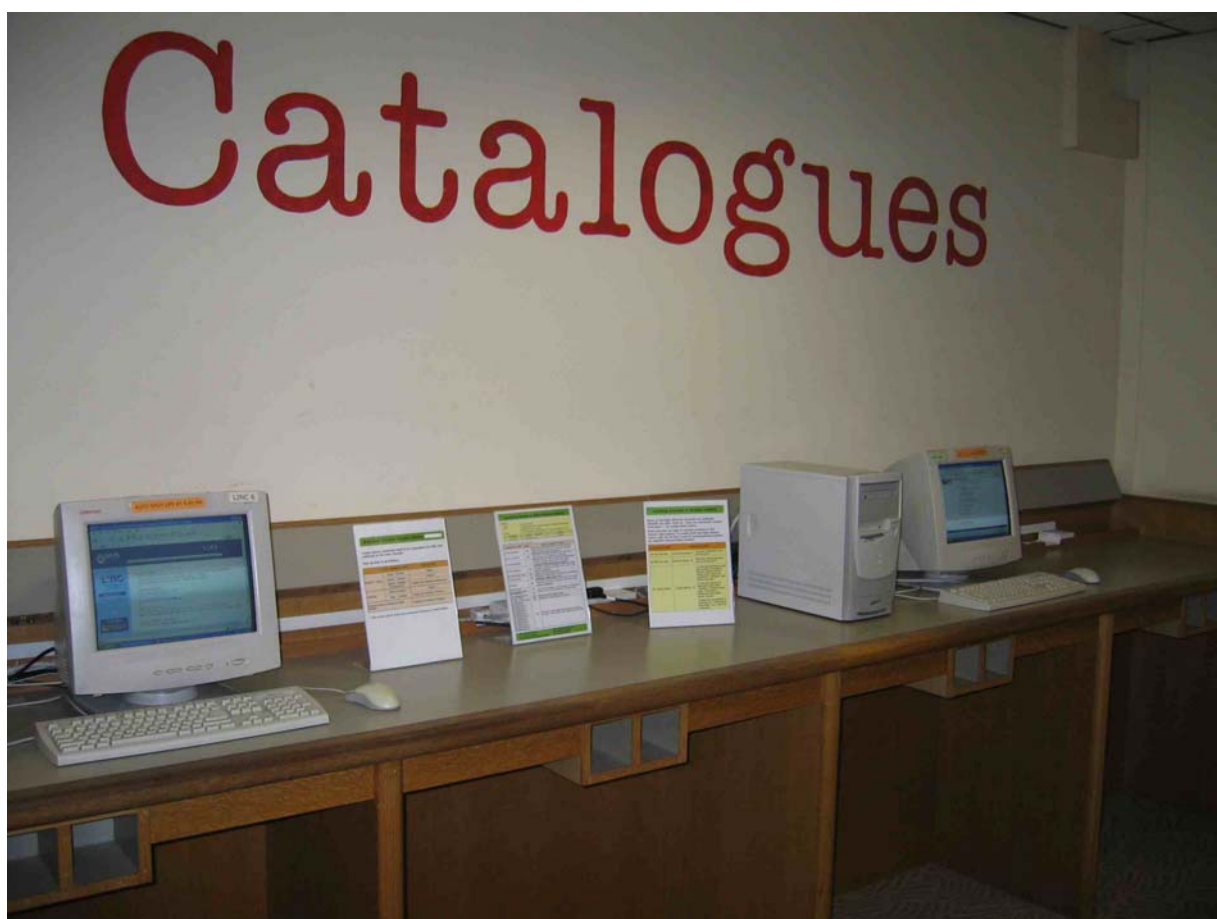


Fig. 37: OPAC

7 Nanyang Technical University Library

Nanyang Technical University (NTU) is located on the 200-ha *Yunnan Garden Campus* in West Singapore, approximately 25 km from the city centre. Nanyang University was located here before it amalgamated with the University of Singapore in 1980 (Chapter 6). After Nanyang University was relocated, Nanyang Technological Institute (NTI) was set up on the same grounds in 1981. In the same year, today's library was also founded. With the adsorption of the National Institute of Education in 1991, NTI became NTU as it remains today. NTU currently has 24,000 students and 3,840 employees, 1,360 of which are academic staff.

The library has 65 members of staff, including 24 professionally trained librarians but no employees with an academic qualification. This is significantly higher than the staff resources of comparable German university libraries. Individual employees are responsible for a number of tasks including the functions normally assigned to subject specialists. A matrix organisation provides the basis for this. On the one hand, employees belong to one of nine *operation groups* (loans, training, information, marketing, projects and development, digital library, acquisition, journals, and cataloguing). Then there are 26 *subject groups* that belong to seven *clusters* (engineering, sciences, economics, information and communications, art, humanities, and other). The 26 subject groups are looked after by 22 of the 24 professional staff members (sometimes two or three areas each). The seven clusters are headed by coordinators. For example, Wendy Ong, who gave us a tour of the library, is head of the marketing division (which has one other member), is subject specialist for strategy and marketing, and is also coordinator of the science cluster. The NTU library appears to be making the best of a bad lot in that it defines responsibilities – in contrast to NUS – and is taking steps towards providing a proactive subject specialist service [Choy 2005]. In the library pamphlet, for example, the staff member responsible for each subject area is listed along with their email address and the following description is provided [Anonymous 2005b]:

Subject librarians are responsible for selecting library resources for their assigned subject areas. Their primary responsibility is to build strong collections to support instruction and research interests of academic staff. They also conduct classes and tutorials for students and other users on

using information resources and how to carry out literature reviews. Another of their responsibilities is to manage the databases and electronic resources relating to their assigned subjects and help troubleshoot problems. They also play an important role as liaison librarian to the respective academic divisions in all the schools.

All professional staff were assigned subject responsibilities as part of a recent restructure of the library organisation to sharpen our focus on meeting the information needs of academic staff and students in their areas of studies and research. The new arrangement will help the Library to be more involved and engaged with the primary activities of each academic school. The subject librarians will gradually develop subject information services over time which will help everyone find and use information more effectively and efficiently.

One of the first tasks of the subject librarian is to draw up a detailed subject profile as a basis to build each collection systematically. They will be approaching the Heads of Divisions of each school soon to work out the intensity level of library collection for each subject area.

First of all it is clear from this description that the service is new and must be explained. Secondly, the library emphasises how important contact with the responsible people in the faculties is, and that they should be involved in building up the services available. Overall, the emphasis lies more on building up collections, rather than the fact that these already exist. From the user's point of view, it is certainly better to have people who are responsible for certain subjects than a completely diffuse library staff as an adversary. Despite this however, the real requirements of the user cannot be met in this manner as explained later on in Chapter 7.3. In this sense, the following memorandum from Samuel Bandara that appeared in his paper *Subject Specialists in University Libraries in Developing Countries: The Need* [Bandara 1986] is as justifiable now as before:

I mean members of the staff who are not merely post-boxes for sending information to academic departments and receiving instructions back from them, but assistants with enough knowledge of a subject, and of a local teaching and research, to be able to influence the acquisition of materials

as well as to encourage the use of them.

Disadvantages that the library accrues from its personnel structure can be compensated at least to a certain extent elsewhere. For example, the Director of the Library, Choy Fatt Cheong, was also President of the Library Association of Singapore at the time of my visit. He makes use of contacts he makes here to build international networks, for example a cooperation with the Goethe Institute Singapore [Anonymous 2006] or more recently the *Asia-Pacific Conference on Library & Information Education and Practice*, which took place in NTU and which the library helped to organise. The library also profits from work at the *School of Communication and Information* and the *School of Computer Engineering* at NTU. Their active research and publication activities often focus on questions and issues relating to the NTU Library. Examples range from the development of a retrieval system for bibliometric information [Ding et al. 2000], an investigation into the use of e-journals [Liew et al. 2000], the development of GeogDL, a digital library for geographical information [Goh et al. 2003; Theng et al. 2005], a study on the organisation of the library [Tan and Higgins 2002], and a study on the use of information resources amongst computer studies students [Majid and Tan 2002], right up to a proposal on the recommendation of books for acquisition using data mining [Hwang and Lim 2002]. It can be assumed that the library profits from the results of such studies, even if it was not directly involved in producing the information. Significantly, the library portal *Gateway to Electronic Media Services* (GEMS) was presented by authors from the library in the library pamphlet only [Nanyang Technological University Library 1999b], while it was detailed in well-known journals by staff and students of the School of Computer Engineering [Meyyappan et al. 2001; Wong and Al-Hawamdeh 2001], who also conducted a study on its use [Peng et al. 2004].

The University Library is based on a one-tier library system. The holdings are split between three central buildings that are located not far from each other on the campus. The main subject fields are computer science, electrical engineering, materials science, engineering, environmental science, economics, and the life sciences. The library has a collection of 280,000 monographs, the majority of which are available on open access. It subscribes to 2,000 journals. Users have access

to 150 databases and 17,000 e-journals [Org 2005]. In view of the 2,000 journals that are licensed (printed and electronic), the 17,000 e-journals mentioned obviously include a large number of freely accessible journals. They can be accessed via the GEMS Portal, which was introduced in 1999 [Nanyang Technological University Library 1999a].

7.1 Lee Wee Nam Library

The *Lee Wee Nam Library* is the main library building and houses most of the print journals, the monograph reference collection, NTU reports, norms, microforms and special lecture material. The library is named after Lee Wee Nam (1880-1964). The company founded by Lee Wee Nam (Fig. 38) donated 10 million Singapore dollars (€ 5 million) to the university in 2001. These funds were used to substantially renovate the building.



Fig. 38: Lee Wee Nam



Fig. 39: Mural in the Lee Wee Nam Library



Fig. 40: Information desk in the reading room

The library is 5,000 m² and is located in a semicircular four-floor building with an annexed office wing. The interior décor is beautiful, albeit quite technological (Fig. 39). The canteen is located in the basement, which means that the library benefits from a higher number of visitors. The reading room together with a central information desk can be found on the first floor (Fig. 40). The information desk has



Fig. 41: Co-browsing

workstations for three librarians, but only one actually works here. A screen facing the user allows him/her to follow the literature searches conducted by the information librarian (Fig. 41).



Fig. 42: Radially arranged journal shelves

At a distance of approximately 10 m from the information desk, journal shelves can be found in a star-like shape (Fig. 42). The inner circle contains current editions of journals, while bound journals can be found in the outer circle. The collection is shelved according to the Library of Congress Classification, whereby the shelves are also only labelled with the call numbers themselves (Fig. 43). This means that the user must look up the call number in the catalogue first.



Fig. 43: Inner and outer circle of the journal shelves

The entrance into the library is on the second floor. The loan inquiry desk with two workstations is located directly in the entrance area. Since there is no adequate guidance or reference system in the library [Naumann 1994; Braun 2004], the information desk deals with a lot of queries regarding orientation within the library. At any rate when I visited the library, I noticed more than one user approaching the loan inquiry desk even when they had nothing to borrow or bring back. Conversely, not one single conversation was observed at the information desk!

The loan inquiry desk deals with the return of print material as well as the issuing of the entire microform collection. Two self-service terminals for borrowing equipped with a barcode reader can be used to borrow print material. The degree of technicalization of the issuing process is therefore lower than for public libraries in Singapore. In March 2006, a new service was announced on the library's webpages – from this date, almost all media could be returned to any one of the

three library buildings (within a radius of approx. 200 m of each other). Once again, we should remember the service level of public libraries, where it has been possible to return a variety of media to any library in the country for a number of years now.



Fig. 44: Computer workstations

Computer workstations can be found on both sides of the entrance area and follow a balustrade around the building. The centre of the building is left continuously open. While open-plan designs often lead to noise disturbances in libraries (e.g. German Bundestag Library), the noise level here is not overly loud.

More computer workstations are located on the other floors, which causes the optical impression to be very heavily dominated by the 500 computer workstations (Fig. 44). Non-library staff are responsible for the computers; the acquisition, installation and maintenance of computers are all carried out directly by a central

computer division within the university. The library can only make suggestions with regard to the programmes installed on the computers. Conventional workstations for users are also located in a number of places throughout the library in the form of mobile carrels, the arrangement of which is flexible (Fig. 45) ("flexibility" as detailed by [Faulkner-Brown 1997]). As can be seen from the photos in Figs. 44 and 45, the desks are extremely small. There is only barely enough space at the computer workstations for a sheet of paper beside the keyboard; the screen is directly behind the keyboard. The area measures at most 70 cm x 40 cm, whereas specifications in Germany [Deutsches Institut für Normung e.V. 1988] recommend that "open desks for users", where laptops can also be used, should consist of tables measuring 120 cm x 80 cm, i.e. three times the size. At the computer workstations, it would appear that only computer work is possible and that printed and electronic resources cannot be used together. The short distance between the user and the screen and the lack of space for the user to rest their hands mean that an ergonomic workstation cannot be spoken of [Blaha 1995; Richenhagen et al. 1998; Tung 1998].

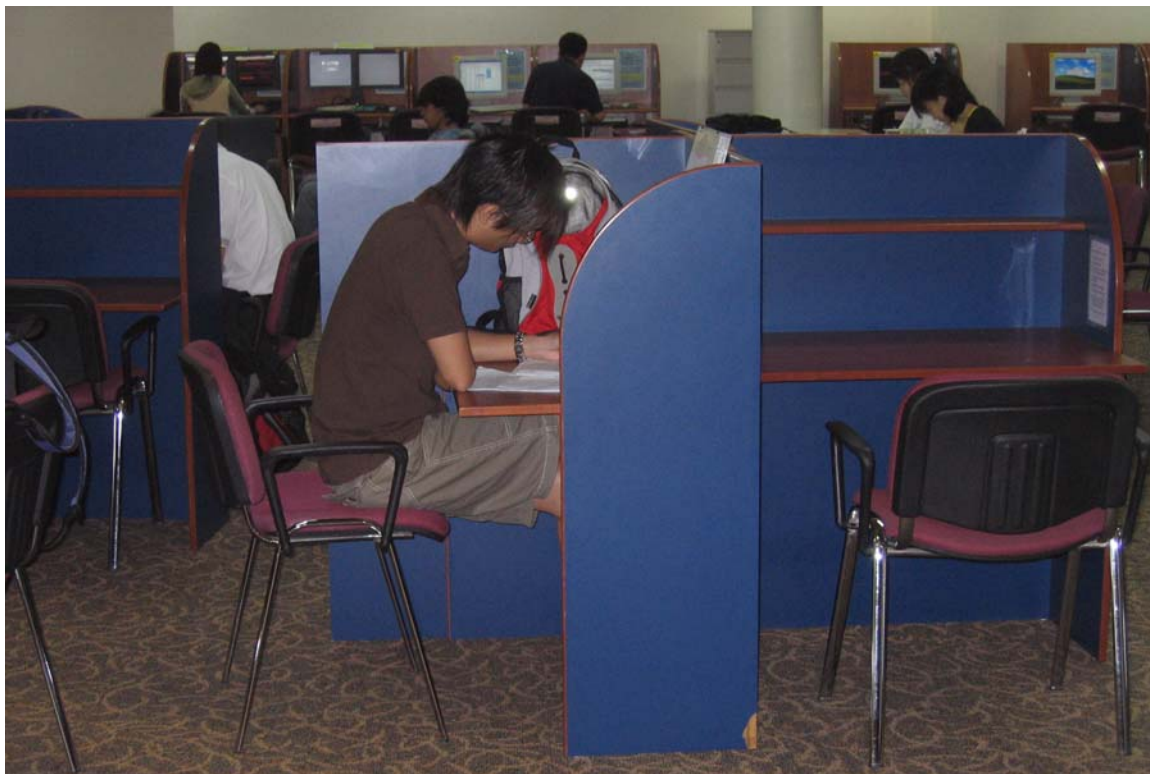


Fig. 45: Carrels

7.2 Library II and Media Resource Library

Library II contains the lending collection including reserve books and business journals. The rectangular building with an area of 3,500 m² is architecturally quite simple. In the entrance area, you will find desks for staff, terminals for borrowing books, and a number of rooms for group work. Otherwise the library consists predominantly of shelves of monographs that can be borrowed. The remaining space has been filled with workstations for users, including another 100 computer workstations. Almost all of the monographs are in English, despite the fact that Chinese (Mandarin), Malay and Tamil are also official languages.⁵



Fig. 46: Media Resource Library

⁵ Classes at school are conducted in English only; the only exception is native language classes. Correspondingly, university lectures are also held in English only, which means that there is no demand for course books in other languages. There is a smaller collection of books in Chinese, Japanese and Korean. These resources are held together in their own section [Dunkle 1993] and can be found in the Lee Wee Nam Library.

The *Media Resource Library* (600 m²) contains the collection of audio and video cassettes, multimedia software, music CDs, DVDs, slides and maps for all subject areas. Documentaries and feature films are also freely available both as teaching aids and for general use. The latter is quite interesting for many users because the library also has uncensored cuts of foreign films. Users choose the media they require using an online form. Library staff in the Media Resource Library then put the storage medium in the relevant machine which plays it for the user who views it across the Intranet on the computer they are using. Moreover, separate rooms are also provided for recording exercises, scenes from plays, etc. using video or digital cameras. The Media Resource Library also allows teaching staff to avail of a digital compilation of analogue teaching material for lectures and seminars.

7.3 User Survey

An old acquaintance from school worked as a professor at the *School of Computer Engineering* in NTU until shortly before my trip to Singapore. At his request, two other German professors at this institution agreed to meet with me. In order to document the content of the discussion in a structured manner, a questionnaire was developed. The two professors in Singapore filled in during the meeting and my acquaintance, who is now working in Sweden, filled in by email. The questionnaire asked users to rate the different library services offered by the NTU Library and those offered by German university libraries with which all of the survey participants were familiar. The three individuals had shared experiences with the university libraries in Aachen, Augsburg, Braunschweig, Clausthal, Karlsruhe, Kiel and Ulm. This accumulated individual experience therefore counteracts the small sample size, at least in terms of a comparison with German academic librarianship in general. However, it is important to note that impressions of the NTU Library today are being compared with impressions of German university libraries from the past, stretching as far back as seven years. This should be borne in mind for topics such as electronic journals, where significant developments have taken place recently.

Eleven topics were listed and participants were asked to rate the NTU Library (“Singapore”) and all of the university libraries in Germany with which the participants were familiar (“Germany”) on a scale of 1 (very poor) to 10 (excellent). The questionnaire is included in the appendix (Chapter 0). The answers provided by the three users were then evaluated and the results are shown in Fig. 47 (average points awarded). In Fig. 48, a normalisation was performed in that the points awarded for a topic were taken to be 100 % and the points awarded to each individual country were then represented as a fraction of this. This normalisation is derived from the absolute total of points awarded and allows us to directly compare the countries.

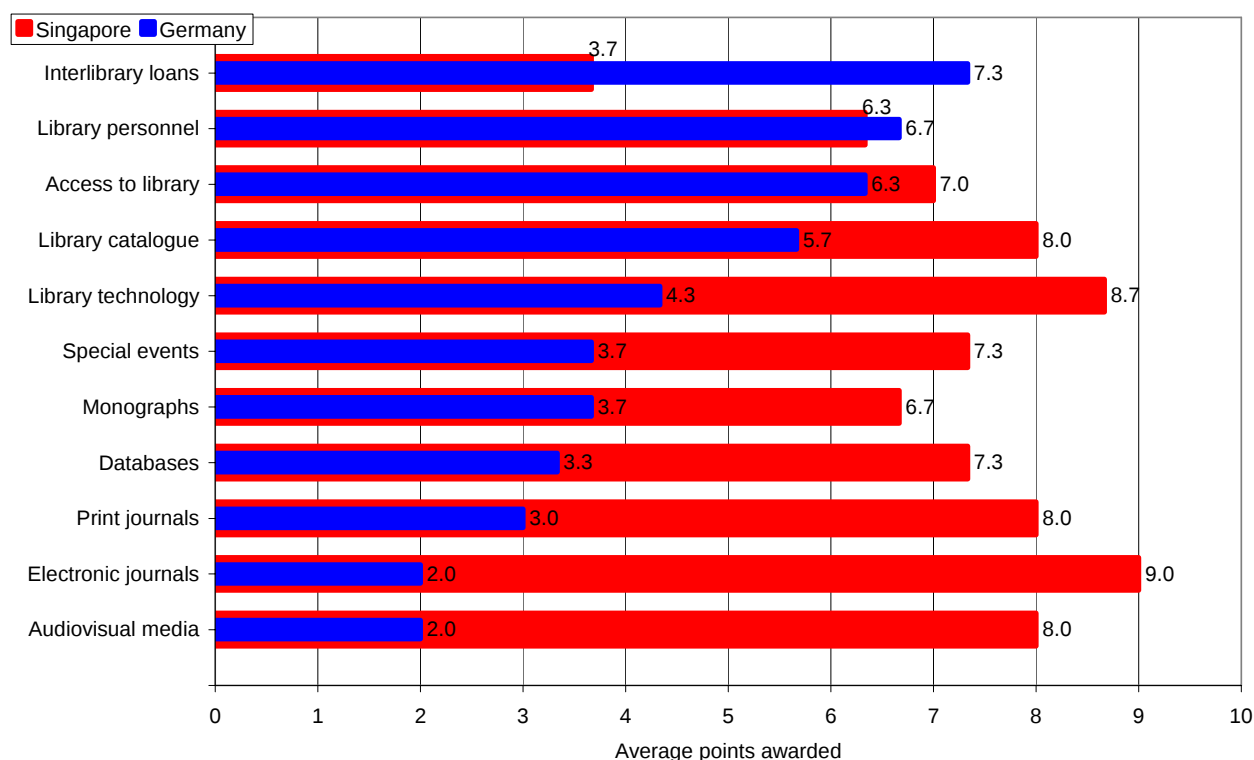


Fig. 47: Results of the user survey – average points awarded on a scale of 1 (very poor) to 10 (excellent) for Singapore (red) and Germany (blue).

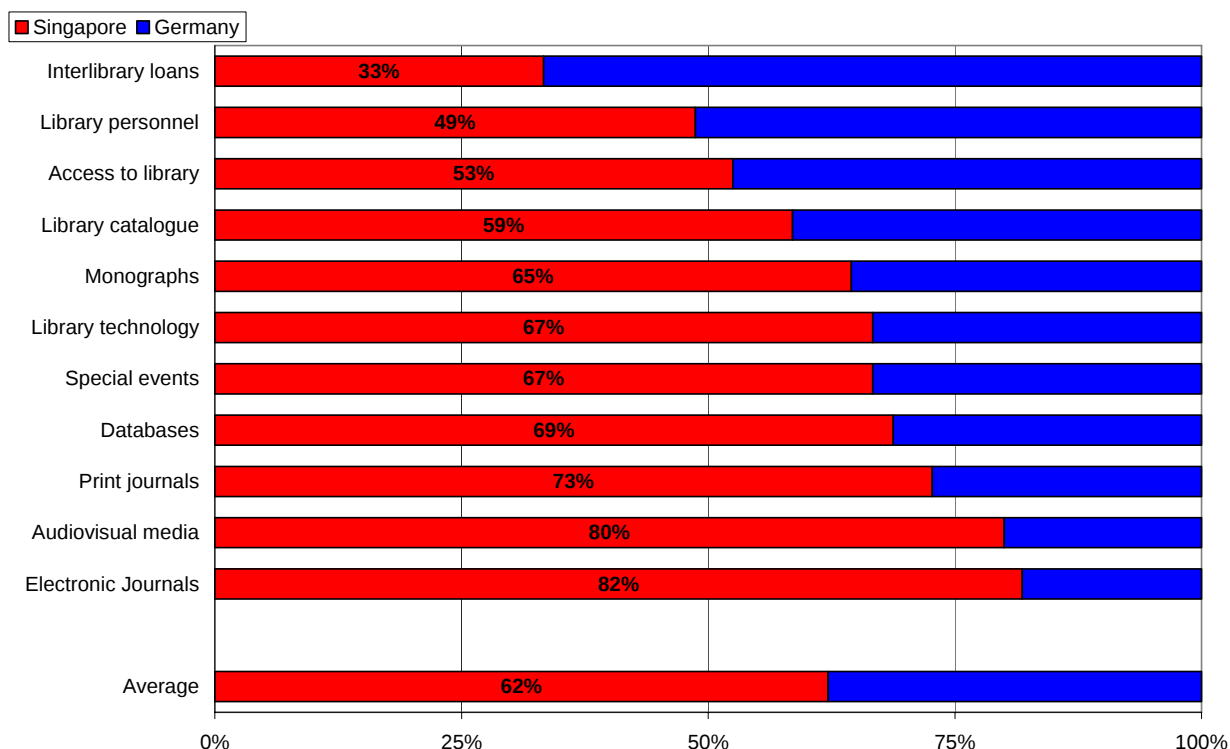


Fig. 48: Results of the user survey – distribution of the total number of points awarded for each question to Singapore (red) and Germany (blue).

The findings do not portray German librarianship in the best light. It is only rated considerably better than Singapore when it comes to interlibrary loans; this will be discussed in more detail below. German librarians were awarded slightly better marks than their Singaporean colleagues. Commentaries provided along with the completed questionnaires made it clear that the reason for this is the much discussed lack of subject specialists in Singapore. This is obviously cause for criticism on the part of the user too. "Skilled" contact people in the library were missed, which corresponds to what Sylvia Yap (Director of NUS Libraries) said when she complained that librarians were not taken seriously by academics. The library staff lack both the expertise to develop collections and the ability to offer competent assistance for information searches. In the *IFLA Standards for University Libraries* the following is recommended not without reason: "They (librarians) should have the appropriate academic and professional education and experience including, when necessary, graduate or professional degrees in their

particular specialties." [Lynch 1987]. Furthermore, the respondents complained that decisions often had to be approved by more than one person. According to the respondents, many library employees do not admit when they do not have the decision-making authority and simply do nothing. It is therefore important to know exactly who you need to speak to.

The opening hours of the libraries in both countries were rated almost as good as each other; when it comes to library catalogues, however, Germany has a clear handicap. This is definitely due to the fact that in Singapore, all catalogue searches are conducted via WebPAC, while in Germany, card catalogues are still in use. If we were to extrapolate from the three computer science specialists questioned, it could only be expected that the result for Germany would be even worse than it is here. There is no doubt that computer science is a discipline that makes use of literature that is usually very new, which means that card catalogues stretching back to the 1980s are only very rarely used. The humanities would have rated this area differently, i.e. the catalogue situation would lead to a worse rating for Germany.

With regard to questions on library technology (availability of computers, etc.) and "special events" (e.g. library events), the German libraries only received an average of half of the points awarded to the NTU Library. The German libraries also fare much worse in answers rating the collections; the monograph collection, however, is rated quite highly with Germany receiving half as many points as Singapore. Here too the discipline should be taken into account: NTU is a relatively young, technologically oriented university with its biggest field being computer science. Under these conditions, it is no wonder that they receive a higher rating than the much broader-based libraries in Germany. When considered as a whole, the NTU Library's average rating of 6.7 is far from satisfactory. This is the third worst rating following the areas of interlibrary loans and library staff, which were also criticised orally. The lack or poor provision of subject specialists is clearly related to deficiencies in collection building.

NTU Library received 70 - 80 % of the points awarded for the provision of databases, print journals, and audiovisual media including electronic journals, while the German libraries received only 20 – 30 %. Overall, Germany was awarded 3.3

points for databases, 3.0 points for print journals, and 2.0 points each for electronic journals and audiovisual media. These very poor results can be partly explained by the fact that the respondents' impressions of the library systems were based on experiences from different points in time – Germany: 1997-2004 and Singapore: 2003-2005. However, for print journals this excuse cannot be used.

While the NTU Library was rated much better overall than the German university libraries with which it was compared (an average of 4.4 points for Germany and 7.3 points for Singapore), Germany does have slight advantages in terms of library staff and a much better rating for interlibrary loans (7.3 points vs. 3.7 points). One reason given for this is complicated administrative regulations at the university: users requesting material (in this case professors!) require the signature of the dean approving the request for an interlibrary loan. On the other hand, the choice of available libraries is extremely limited. In Singapore, the only real option is the National University "and then you enter the jungle" said one of the survey participants about librarianship in neighbouring countries. Interlibrary loan requests are therefore almost always sent to libraries in Australia or to the British Library [Stone 1989]. When articles from the National University are required, the user can locate them quicker and easier at the university themselves.

Interlibrary loans have never played as important a role in South East Asia as they have done in countries with as long-standing a tradition in librarianship as Germany [Wijasuriya and Bacha 1981]. The processes were still quite obviously very cumbersome a few years ago: the steps required to process passive interlibrary loans from the time the request is received to the time when the media is delivered to the user take six working hours [Foo and Lim 1998]. At the end of the 1990s, suggestions from the staff and students of the then *School of Applied Sciences* (today's *School of Computer Engineering*) at NTU (again: non-librarians!) were taken on board with regard to computerising the order process, which had been manual up until that point, and replacing it with an Internet application. These suggestions were published in various international journals for library and information science [Foo and Lim 1998, 1999; Lim et al. 1999]. Libraries participating in interlibrary loans required the installation of databases which would save all outgoing and ingoing loan requests. Registered users would have the

opportunity to order directly using an online form. Librarians in the receiving libraries would check the bibliographic information for errors using the central catalogue and then search for a suitable book to be sent to the user. However, the system has yet to be implemented and the basic requirements for such a system have since deteriorated even further. Fewer and fewer libraries are using SILAS, the *Singapore Integrated Library Automation Service* [Hoetker 1992], since the installation of the eLibraryHub [Mahnke 2004]. While the National Library Board still use SILAS for cooperative cataloguing, the National University Library, for example, has discontinued its participation in the consortium. At any rate, the situation has not improved recently, as can be seen from the following comments [Hider 2004].

There is still no formal, nationwide ILL system in place. One reason for this is that ILL is not always necessary when users can themselves travel between libraries relatively easily – no library in Singapore is much more than an hour's drive away. Nevertheless, some categories of users (e.g. academics) do expect a document delivery system, and are commonly provided with one. (..) While document delivery arrangements do exist between some libraries in Singapore, it is this author's view that a more comprehensive service could be put in place.

8 The Library at Singapore Management University

Despite its short history, the library at *Singapore Management University* (SMU), which was founded in 2000, has already moved twice. It was originally located in a building formerly used by the National University at Evans Road in the west of the city. At the beginning of 2002, the library moved to the campus at Bukit Timah Road (Fig. 49), which was where I visited it in March 2005. Since July 2005, the entire university including the library relocated to completely new premises at Stamford Road in the city centre. It is now also under new leadership (see below).



Fig. 49: Premises at Bukit Timah Road



Fig. 50 Reading room

The Singapore Management University is the university for modern management and business administration in Singapore. It comprises four schools (*Lee Kong Chian School of Business, School of Accountancy, School of Economics & Social Sciences and School of Information Systems*) and currently has around 3,800 students. The university is financed privately and has a handsome number of sponsors, 23 of whom have donated single-digit million sums and two, two-digit million amounts. Despite this, the University Librarian at the time, Koh Bee Chin, complained of having little money at her disposal. Acquisition was also heavily influenced by the faculties/schools, which is why the library remains a place where decisions made elsewhere are implemented.

Interestingly, the library is not run or staffed by the university itself, but by

employees of the National Library Board. This outsourcing of the library has not led to the expected optimisation of services however. The library and its collection are presented rather unspectacularly, tending more towards substandard (Fig. 50). The electronic information resources lack structure and are not reorganised, but are kept in the same form that the individual suppliers such as EBSCO, Swets and Thomson Scientific deliver them in. Almost all of the students at SMU have their own laptops (they can benefit from trade prices when purchasing laptops), which they bring with them when they come to the reading room in the library and use WLAN to access the electronic information resources. The reference collection is presented in the traditional manner. At the time of my visit, work at the library was carried out by a team of seven employees, only four of whom were professionally qualified as librarians. Overall, the outsourced team with a director who comes across as demotivated, clearly has no interest in optimising the library. This was obvious, for example, in the discussion on the presentation of the electronic resources: a meta search in different databases is unavailable, because the library cannot set up such a function themselves and it is not a service offered by outside providers.

According to University Librarian Koh Bee Chin, the library was concentrating on the upcoming move at the time of my visit. However, she had no influence on the size or shape of the new premises and only saw them for the first time a few days before my visit (work in the new premises began four months later!). The University Librarian said that she hoped to have 25 members of staff after the move, but again she had no influence over this. There are in fact 13 members of staff at the moment.

The five year contract between university management and the National Library Board for the outsourcing of library services was not renewed according to an external evaluation [Pagell 2006], which is no surprise based on impressions gained during my visit. The move to the new premises saw the appointment of a new University Librarian, Ruth A. Pagell and the appointment of the first IT Analyst (IT services used to be outsourced). It is hoped that things in the library, which has since been renamed Li Ka Shing Library after one of its sponsors, will improve under the new leadership. The library is much better equipped in terms of space in

the new premises (33 instead of the previous eight rooms for group work; a new seminar room). Even the presentation of available information services in the Internet (<http://library.smu.edu.sg/>) has improved significantly.

9 Summary and Outlook

Singapore has made the jump from a developing country to an industrialised nation in just a few decades. Since the city state did not have any mineral resources, they concentrated their efforts in the secondary and tertiary sector. Singapore was extremely successful and indeed still is in the IT industry in particular, initially in the area of hardware and later also in software. An important reason for the speed of progress, in particular, is state control of a large number of processes by the People's Action Party, who have been the sole governing body since independence.

A unique characteristic of librarianship is that the *National Library* is simultaneously a public library and that all other public libraries belong to the National Library in terms of organisation structure. Academic libraries are generally unaffected by this. In 1992, the government set up a committee to conduct an evaluation of library services and to formulate recommendations for improvement. The committee was dominated by executives from the *National Computer Board*, which had been set up shortly before this to ensure that the computerisation of the country was realised on schedule. The recommendations published in the *Library 2000* report have been extensively and successfully implemented. They have led to Singapore having one of the best public library services worldwide today. A librarian from the Netherlands [Heemskerk 2004] developed a word to describe this: *bibliotheekhemel* (library heaven).

The academic libraries in Singapore that have attracted little international interest up until now only played a very minor role in this economic upswing. The biggest academic library, the *National University of Singapore Library*, is overall quite similar to a university library in Germany but it has an unmistakable weakness in that it has no subject specialists. Public libraries are also ahead in terms of technological resources. The library at *Nanyang Technological University* is more modern than the NUS Library, and as the results of the survey I conducted as part of my visit to Singapore show, it is also ahead of comparable German libraries in many areas. The advantages of German libraries lie in better qualified library staff

(specialist staff) and in the area of interlibrary loans, which is better organised by far. The library of the privately run *Singapore Management University* was in a woeful state at the time of my visit. Whether or not the state of affairs has improved since the library moved to its new premises remains to be seen.

The lack of natural resources was the reason and indeed the must for Singapore to embark upon its journey towards becoming the "intelligent island". The political situation with an autocratic government who are willing to invest a lot of money in this field has made the journey easier and has also sped up Singapore's progress. Public libraries have profited from this to a great extent and they stand out today because of their high degree of professionalisation and automation, as well as the clear, straightforward and thoroughly impressive organisation of their collections and premises. This is very different from the world of academic librarianship, which is characterised more by a traditional approach to library management, a lack of personnel, and the underqualification and non-acceptance of library staff amongst their clients, particularly amongst high-ranking academics (lecturers and professors). The Library at Nanyang Technical University is a good example of this. The dominance of computer workstations and self-service terminals for borrowing and returning books all too easily hide the lack of high-quality library services, which clearly no library can provide.

On the one hand, the conclusion can be drawn by academic libraries in Germany that the jump made by their Singaporean counterparts in the field of library technology is actually not all that big. Here, more things can be learnt from the public libraries in Singapore. On the other hand, the strengths of academic librarianship in Germany, which clearly lie in the availability of subject specialists, should not be thrown to the wind. Even if everything is available online – supposedly or in reality – in the future, subject specialists will remain essential in a library. For their part, subject specialists have to anticipate the needs of their clients and thus continue to serve the interests of research and education as best they can. Moreover, it is hoped that current developments in German copyright law will not lead to a situation where the highly praised system of electronic document delivery will become complicated, ineffective and expensive, as the users in Singapore described it.

"Von Singapur lernen heißt siegen lernen" ("To learn from Singapore is to learn how to win") says one paper in BuB [Hapel et al. 2001] playing on "To learn from the Soviet Union is to learn how to win", which was a well-known slogan in the GDR. With academic libraries in mind, I would like to add to this motto with an admonition from the apostle Paul:

"Prove all things: hold fast that which is good." (1 Thess, 5.21).

10 Appendix

10.1 Library 2000 Review Committee - Terms of Reference

1 To formulate a master plan for developing library services over the next ten years, defining the library services, infrastructure and target audience which the libraries in Singapore must address.

To review the roles and services of libraries in Singapore and recommend ways to position them to support the following national objectives:

- to establish Singapore as an international information hub, especially in business information, through linkages with local and overseas information databases and vendors;

- to preserve and promote Singapore's literary heritage as well as develop an interest and appreciation of the arts through special collections and programmes;

- to provide for education, knowledge and research through establishing a network of libraries;

- to promote a well-read and well-informed society.

To recommend the role of the National Library in making Singapore a global hub for information, research and knowledge, with emphasis on Singapore and Southeast Asian materials.

To review present public library usage profile in order to recommend the number, type, size, level of service and location of public libraries needed in the next ten years.

2 To determine how Information Technology can be fully exploited to facilitate libraries to play a relevant role in the emerging information society.

3 To review and recommend the optimum library manpower, type of library manpower and skills needed to implement the library development master plan over the next ten years.

4 To review and propose an organisation strategy for the National Library.

Source: Library 2000 Review Committee (1994): "Library 2000: Investing in a learning nation". Singapore, SNP Publishers Pte Ltd., p. 122

10.2 Questionnaire: User Survey

Please rate the services offered by the NTU Library in comparison with university libraries in Germany on a scale of 1 (very poor) to 10 (excellent)

Monographs	1									10
Germany										
Singapore										
Print journals	1									10
Germany										
Singapore										
Electronic journals	1									10
Germany										
Singapore										
Databases	1									10
Germany										
Singapore										
Interlibrary loans	1									10
Germany										
Singapore										
Library catalogue	1									10
Germany										
Singapore										
Library technology	1									10
Germany										
Singapore										
Access to the library	1									10
Germany										
Singapore										
Library personnel	1									10
Germany										
Singapore										
Special events	1									10
Germany										
Singapore										
Audio visual media	1									10
Germany										
Singapore										

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Fig. 1: CIA World Factbook. <http://www.cia.gov/cia/publications/factbook/>

Figs. 2 - 3: Bernhard Mittermaier

Fig. 4: Ward, R.D. <http://www.defenselink.mil/photos/May2002/020502-D-9880W-030.html>

Fig. 5: Draper, E. http://www.whitehouse.gov/news/releases/2004/05/images/20040505-2_p40269-06-515h.html

Fig. 6:

http://www.mas.gov.sg/annual_report/annual20032004/chairman_statement.html

Figs. 7 - 8: Bernhard Mittermaier

Fig. 9: Library 2000 Review Committee (1994). Library 2000: Investing in a learning nation. Singapore, SNP Publishers Pte Ltd., Seite 58

Fig. 10: Wikipedia User: Sengkang. http://en.wikipedia.org/wiki/Image:National_Library_5%2C_Singapore%2C_Dec_05.JPG

Fig. 11: Wikipedia User: Sengkang.
http://en.wikipedia.org/wiki/Image:Compass_Point.JPG

Figs. 12 - 19: Bernhard Mittermaier

Fig. 20: Wikipedia User: Sengkang. http://en.wikipedia.org/wiki/Image:The_Esplanade%2C_Singapore%2C_Dec_05.JPG

Fig. 21: Wikipedia User: Sengkang
http://en.wikipedia.org/wiki/Image:Library%40Esplanade%2C_Dec_05.JPG

Fig. 22: Bernhard Mittermaier

Fig. 23: Flyer "Highlights at library@esplanade", National Library Board Singapore

Fig. 34 - 30: Bernhard Mittermaier

Fig. 31: Thavamani Prem Kumar, LINUS July 2002

Fig. 32: NUS Media Gallery, <http://dmg.nus.edu.sg/media/03/01/02//bui-ac-001.jpg>

Figs. 33 - 48: Bernhard Mittermaier

Fig. 49: Li Ka Shing Library, http://library.smu.edu.sg/_media/gallery_library-bt.jpg

Fig. 50: Li Ka Shing Library, http://library.smu.edu.sg/_media/gallery_lending.jpg

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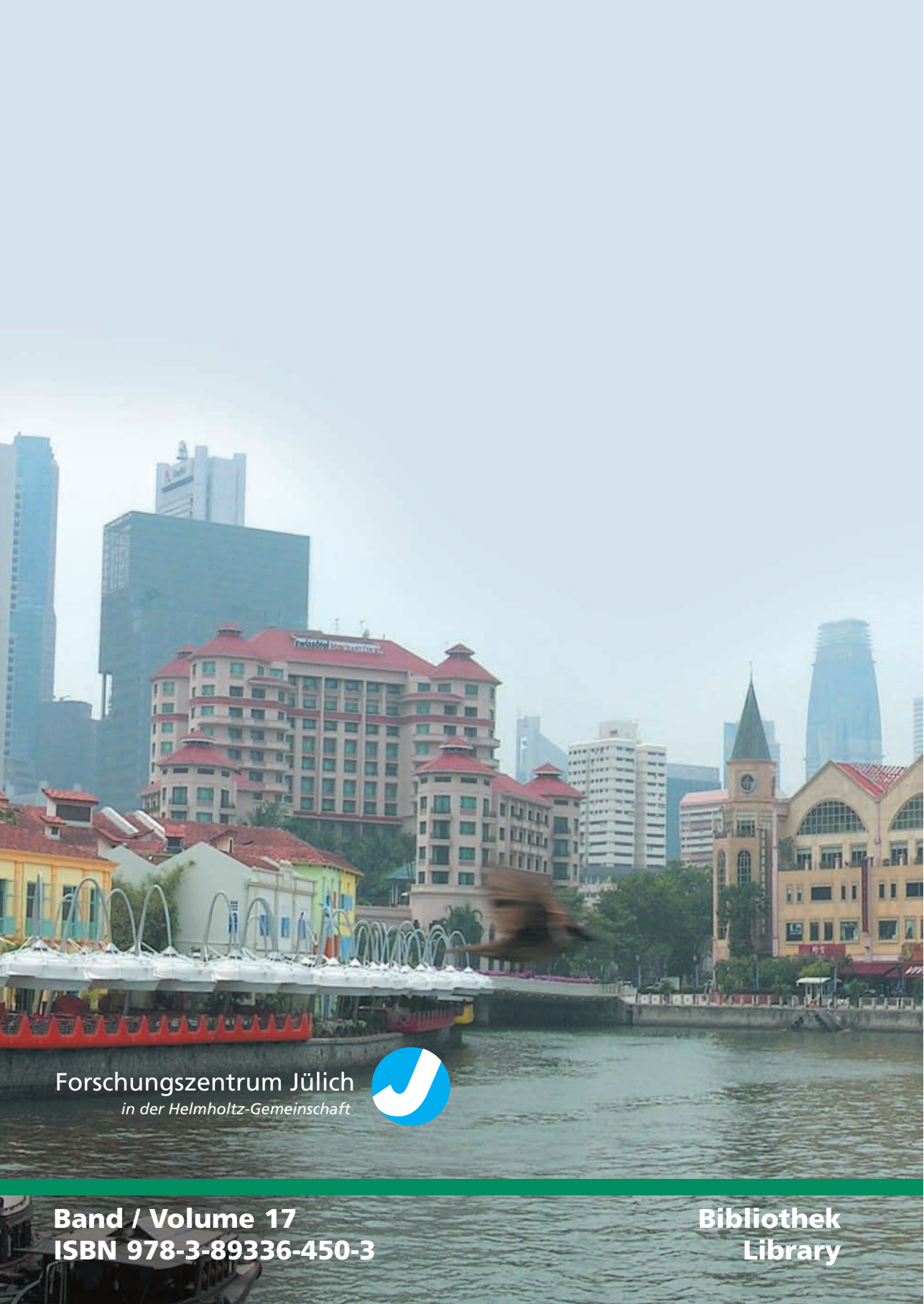
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