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Chiu, Kuei

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COLLECTION DEVELOPMENT IN CHINESE ACADEMIC LIBRARIES: A FIELD STUDY¹

Kuei Chiu

University of California Riverside

In the past two decades since it adopted a reform policy the Chinese government has worked to rejuvenate its education system, because no modernization can be achieved without good education. The biggest beneficiaries of this national endeavor are Chinese universities and colleges. More state funding has been funneled to various universities and colleges, with the top universities getting a major share. The libraries of those universities have in turn received more support from their campus administrations. Many libraries have introduced state-of-the-art library equipment, computer systems and library management practices from the West with the ambition to "connect their rails with the rest of the world."

In spite of the many changes that have occurred in Chinese academic libraries, they are almost unknown to the outside world and not much study has been done in this field. It is the purpose of this paper partially to fill this gap by studying the current status of collection development in Chinese academic libraries and to compare them with their U.S. counterparts. A total of four university libraries were selected for this research project: Fudan University, Jiaotong University, Shanghai International Studies University and Nanjing University.² These universities were chosen because of their geographic proximity, their status as the key universities in China, and their membership in Project 211, a program initiated by the State Development & Planning Commission of China with the mission of modernizing the Chinese higher education system.

Budget, sources, and fund allocation

Like most of their U.S. counterparts, the biggest challenge for Chinese academic libraries is the constrained budget. In most cases, the situation in China is much worse due to the fact that in monetary amount the Chinese libraries have a much smaller base budget for library material expenditures. On average, major academic libraries in China have an annual library material budget of two to three million RMB,³ about one seventh to one tenth of what is spent by the academic libraries ranked at the bottom of the *ARL Statistics Annual Report*.⁴ Among the libraries visited, Fudan University Library claims to have a unprecedented total material budget of ten million RMB for the 1999 fiscal year, and seven million RMB for 1998. In the same year, Jiaotong University Library (which has two campuses) and Nanjing University Library received five and four million RMB respectively. The smallest among the four, the Shanghai International Studies University (SISU) Library, had only a tiny budget of 800,000 RMB in 1998.

These libraries receive funds for library material expenditures from different funding sources. The main source is from the university main operating budget. In Chinese academic libraries, the library acquisition budget usually constitutes 3-5% of the university total operating budget. Compared with most of the U.S. counterparts which use 0.5-1.5% of the university total expenditures for library acquisitions, the Chinese academic libraries actually receive a larger percentage.⁵ However, due to the underfunded campus budget, the library acquisition budget is proportionally smaller than for U.S. universities. Funding from the main campus budget varies from year to year depending on the

campus budget situation, and there is no built-in inflation adjustment. Because of this, overspending is quite common. Sometimes, library directors have to request emergency funding from campus administration for over-budget spending, and the latter often must use funds that have been allocated for elsewhere to cover it.

Since the funding from the university main budget is usually not sufficient to cover regular material expenditures, the libraries have been trying vigorously to find other sources to cover them. In Nanjing University, for example, it is mandatory to use 3% of the funds or grants awarded to faculty members to purchase books related to research. This practice gives the library material budget some relief, so that it can be concentrated on purchasing more popular titles, especially teaching-related materials. The libraries also submit additional funding requests to cover purchases of expensive multiple-volumes sets, electronic databases, and so on.

The emergence of electronic databases in recent years has definitely put more stress on library budgets. In 1998, Fudan University Library spent one million RMB, which was one seventh of its annual budget, on CD-ROM databases. The Jiaotong University Library is investing an even higher percentage of its budget in electronic databases. In 1998, it also acquired one million RMB worth of CD-ROMs with a half million RMB special funding from the campus. This was exactly what the library spent on all monographs during the same fiscal year. It spent the remainder of the budget, 3.5 million RMB, on serials. The model of Jiaotong University Library shows that due to the emergence of electronic databases and the high inflation rate of serials, collection development in monographs is suffering. It also reflects the policy adopted by many Chinese academic libraries when they face high inflation: keeping serial subscriptions while reducing monograph purchases.

In summary, the material budgets of Chinese academic libraries are only enough to cover materials published in China due to their low costs. Their purchase power diminishes facing the astronomical prices of Western materials, especially Western periodicals. This situation greatly hinders the research capabilities of Chinese academics.

Collection development consortia, gifts, etc.

Due to the lack of funding in individual libraries, many Chinese academic libraries try to find different ways to provide some relief for the budget situation. One of them is in the form of collection development consortia which offers libraries many benefits including discounts on book purchases and resource sharing. The most popular kind of consortium is developed as a component of a library information system which is usually organized under the auspices of a government agency. Two examples follow.

1. China Academic Library & Information System (CALIS)

As part of Project 211, CALIS (www.calis.edu.cn) was launched earlier in 1999. The goal was to build a Chinese OCLC but with more features. CALIS is a versatile library information system initiated jointly by the Department of Education and Development & Planning Commission of China using the CERNET (China Education and Research Network) as its communication network. According to the plan, CALIS will have several functions including public catalog access, interlibrary loan, document delivery, and joint online cataloging. Also serving as a collection development consortium, CALIS will be a resource sharing mechanism for libraries to share

expensive titles. It will also give the participating libraries more clout in negotiation with vendors due to its big purchasing power.

CALIS has three levels of management: four national centers, seven regional centers and 61 participating libraries.⁶ Overseeing all of them is a management center in Beijing University. The national centers cover different subject areas, while the regional centers coordinate activities among libraries in the designated regions.⁷ Although all interviewed library directors have high expectations for the potential benefits of CALIS for library resource sharing, its future must be proven by time. So far, all the initial funding of 50 million RMB has been spent on computer hardware to increase the networking capacity of participating libraries.

2. Jiangsu Academic Library & Information System

This is a provincial system initiated in 1996 with a model similar to CALIS. It was funded by the Provincial Education Commission of Jiangsu with 20 million RMB for the initial five year period. There are five subject centers and three regional centers which cover all universities in Jiangsu Province. This system was originally based on the concept of a regional library resource sharing system like that of OhioLink. It has adopted the idea of "same structure," since all participating libraries will have the same computer system. In order to do that, it has developed its own online computer system *Hui Wen* to facilitate resource sharing. Finally, unlike CALIS which has spent all the funding on computer equipment up to this point, the Jiangsu system is more concerned with the contents of the system: a quarter of the funding has been spent to acquire library databases. Currently, it is the only provincial system in China.

In addition, some major Chinese academic libraries also receive funding from special government programs to acquire library materials. Due to the lack of Western language materials in humanities and social sciences in 1991, the Department of Education of China launched the Documentation and Information Centers for Humanities and Social Sciences in some selected major libraries with an annual budget of two million U.S. dollars. The goal of the program is to acquire recent research publications of humanities and social sciences written in Western languages and to deposit them in universities that award graduate degrees. Since there were originally so many participants, the average share was about 10,000 U.S. Dollars. Over the years, some key libraries in the program have voiced their concerns about this kind of budget distribution. Hence, the number of participants has since been reduced to thirty-some libraries, with five major university libraries controlling over 35% of the total budget. Those libraries are Beijing University, Fudan University, Sichuan University, Wuhan University and Jilin University, with each covering a large geographic region in China. In Shanghai, the Fudan University Library receives US\$ 154,000 annually (which is a quite substantial amount considering the size of its normal annual acquisition budget).

There is a similar government program for science materials, though much smaller in size: the National Textbook Center for Sciences started in 1979. The total annual budget for the project is two million RMB with fewer than twenty participating libraries. Each covers certain subjects. Since the budget is never inflation-adjusted, each library only gets a very small amount. The Nanjing University Library, for instance, receives 47,000 RMB (US\$ 5,662) under this program every year and can buy fewer than 100 titles in the two subject areas it covers.

Unlike libraries in the US which often receive book donations from the public, libraries in China

receive hardly any donations from the public. One of the reasons might be that there is no incentive, such as tax deduction, for the public to do so. However, there are several book donation programs sponsored by U.S. sources with distribution centers around the country. The most successful one is operated at the library of Shanghai International Studies University (SISU). Each year, it distributes over 170,000 volumes donated by the Oriental Foundation in the U.S. benefiting over 600 academic libraries nationwide. The majority of donations are textbooks for various college classes. The SISU Library charges the receiving library ten RMB for each book distributed just to cover the shipping and processing cost. The biggest beneficiary of this operation is the SISU Library itself, since it has the privilege of selecting books first. The SISU Library also has extensive exchange programs with academic libraries in Japan and Russia. In 1997 alone, it received more than 20,000 titles from a Japanese university student delegation. Due to its successful gift/exchange programs, the SISU Library manages to operate on a tiny 800,000 RMB budget with most of the money spent on Chinese titles. For other academic libraries, however, acquisitions through gifts or exchange are negligible.

Selection and acquisition

Due to the high cost of non-Chinese publications, Chinese academic libraries usually give special treatment to these materials. When selecting non-Chinese materials, librarians take a limited role since the responsibility of selection lies almost entirely in the hands of faculty members.

Fudan University Library is a good example to explain the selection process. Like many other multi-disciplinary Chinese universities, Fudan University has a small library for almost every department. The department library usually maintains a very small collection of basic reference titles in the subject areas within the discipline. The person in charge of the library is usually a senior faculty member with rank above associate professor who serves as a liaison between the main library and faculty selectors. Each year, the University Library allocates a budget to each department for acquiring non-Chinese publications. The head of the departmental library does not select books himself, but it is his responsibility to balance the budget and to recruit selectors for the main library. Two to three selectors are officially appointed in each department. Only faculty members or senior graduate students can be appointed, and the selected books will be eventually housed in the main library. In addition, there is also a selection committee comprised of senior professors and deans to supervise the whole selection operation. The other three libraries visited have selection procedures similar to Fudan's, though less formal.

Once the materials have been selected and prioritized, it is the job of librarians to check for duplicates, find out prices and execute the orders. Due to the high price of Western titles, it is not uncommon that orders for each single title will require final approval from a designated library director. While asked about the reasons for this procedure, the interviewed library directors claim that this is the best way to compensate for the general lack of subject knowledge and proper education of librarians since most librarians only have college or even associate degrees. Because of the skyrocketing price of Western publications, only limited titles can be ordered, and they are non-returnable due to the high shipping cost. It is safer to let faculty members make the selection and library directors finalize the orders. Although librarians also do some book selections in non-Chinese materials themselves, they are limited to general reference titles only.

When the orders have been approved, there are several ways to acquire them. For the titles purchased under programs like the Documentation and Information Center for Humanities and

Social Sciences or the National Textbook Center for Sciences, the participating libraries submit orders to the national centers of those programs to get final approval. The approval procedure plays a censorship role, so that titles considered "inappropriate" or out of the subject profile will be excluded. Then, the orders will be sent to a state vendor such as China International Book Trading Corp. which has the license to import western publications. For the titles that use the regular library budget, the purchasing library has more choices. Some even use Western vendors. For example, the Nanjing University Library selects books from Blackwell catalogs, and the CEIBS Library on the Minhang campus of Jiao Tong University even has an approval plan with Blackwell.

For Chinese materials, Chinese librarians assume full responsibility in book selection. When the titles are selected, the libraries may use any vendor of their choice although the choice is often limited. The most obvious choice is *Xin Hua* Bookstore, the number one state-owned bookstore and book distribution chain in China. It used to be the only choice for libraries to acquire books. Today, many libraries still buy books from *Xin Hua* Bookstore since it is the fastest channel to get books.

For university libraries in Shanghai, there are more vendor options like *Shen Lian* and *Xiang Hua*. *Shen Lian* was a book trading company founded by several academic libraries in Shanghai in 1989, and *Xiang Hua* is a spin-off of *Shen Lian*. Almost all major university libraries in Shanghai have shares in the two companies. These vendors offer more and better services than *Xin Hua* Bookstore in helping libraries speed up the acquisition process: they can now catalog books for libraries or furnish libraries with cataloging data in electronic format or printed cards. Libraries that use those services only have to add local information once they receive the books. In terms of ordering, vendors provide only publishers' catalogs for book selection. There are still no profile ordering or approval plans in place yet. Librarians have to order books one by one from catalogs.

Occasionally, some small libraries like SISU even send librarians to vendors to select new books in their warehouses. Because of the discount offered, this is probably the cheapest and fastest way to obtain books. Finally, due to the inadequacy of the book distribution system in China, it is often difficult to acquire books from small publishers or publishers in other areas of China, especially those located in provincial capitals. This problem is even worse when it comes to scholarly titles which usually run only two to three thousand copies per printing. Because of these difficulties, some libraries have the practice of letting faculty members buy new books while they are traveling in other areas of China, and the libraries buy the books back from them after a certain period of time.

Duplication and allocation of library materials

Inflation is the worst enemy for the small budgets in Chinese libraries. In the last ten years, the prices of Chinese publications have increased roughly tenfold. As many librarians in the West know, there has been drastic price increase also for Western publications, particularly Western serials. Since the budgets in Chinese libraries are often not inflation adjusted, their purchasing power has been diminished. Cutbacks in library material purchases are thus unavoidable. There have been major cutbacks in monographs and cancellations of serial titles. Many libraries simply stopped buying expensive, namely Western, publications. Due to heavy cancellations, 71 major universities in China subscribed to only 6,000 foreign serial titles in 1995.⁸

What makes the budget situation even worse is the duplication policy used by most Chinese academic libraries. Unlike U.S. university libraries, which usually don't have many duplicates in a

single location and rarely buy any textbooks, Chinese academic libraries have the practice of purchasing multiple copies of textbooks to be checked out to students for their classes. Before the 1980s, some libraries would purchase as many as several hundred copies of a single textbook title to be checked out to students who could not afford them. Due to shrinking purchasing power, more Chinese academic libraries have abandoned the old practice and adopted a more economical approach: more titles and fewer duplicates. The commonly used scheme for material allocation is to keep one copy in each of the following locations: seed library/faculty reading room (for faculty or graduate students), general reading room and the main stacks. Only the copy in the main stacks can be checked out, the other two copies are for library use only. If more copies are purchased, the extra copies will be shelved at the main stacks for circulation.

Although the duplication rate has been lowered recently to offset the inflation impact, it is still relatively high compared with U.S. libraries. According to the library directors interviewed, the general duplication rate in Chinese academic libraries is 3.5. Due to this duplication rate, the holdings of academic libraries in China are discounted. Fudan University Library, one of the top rated academic libraries in China, claims to have 3.65 million volumes by the end of 1998. Since its duplication rate is close to 4 (one copy in the reading room, one in departmental libraries, two in main stacks), its actual holdings of unique titles are roughly one million.

High circulation and mutilation rates are the main reasons cited for the libraries to keep multiple copies. If only one copy is acquired (usually expensive scholarly publications in Western languages), it will be stored in special collections with limited access to the public. In addition to such publications, the special collections in Chinese academic libraries usually store antique copies of Chinese classic texts. Materials such as school history, university documents and dissertations are usually preserved in university archives.

Other library services

In U.S. academic libraries, microfilm is a popular way to preserve back issues of periodicals and other resources. In Chinese libraries, however, the use of microfilm or microfiche is limited to a very few valuable and not easily accessible titles such as *Shen Bao*, a famous Chinese newspaper published in Shanghai from late 19th century to 1949, and some classical titles. Since Chinese libraries do not use microfilm to preserve back issues of serial titles, they have to use bound volumes of print copies instead.

There are several reasons for the low use of microfilming technology in Chinese libraries. First, there is no commercial service to reproduce back issues of current serials on microfilm. The libraries have to film the materials themselves. The production process is expensive since all machines and supplies have to be imported. In addition, there is no standardization of microfilming in China. Finally, although it is so difficult and costly to make microfilms, most patrons don't like them. Since there are no searching tools to locate information in microfilmed materials, they have to look at frames one by one to find the texts they need. In Fudan University Library, for example, there is a full lab with over 14 machines which is capable of doing complete in-house microfilming under one roof. However, it is rarely used, and the library's whole microfilm collection consists of only 600 reels.

Due to the low use of microfilm materials, the introduction of CD-ROM and other electronic

databases is truly a blessing to Chinese academic libraries. They provide a short cut for Chinese libraries to access back issues of periodicals and other resources. Many full-text databases are available from commercial sources, such as *Ren Min Ri Bao (People's Daily)*, *Chinese Scholarly Journals*, *National Legal Database*, etc. The electronic databases also provide Chinese libraries a way to compensate for their lack of materials in Western languages. They have shown tremendous interest in acquiring these titles from U.S. publishers. The Fudan University Library, for example, spent one million RMB, about 15% of its total library material budget to purchase CD-ROM databases. So far, the library has over 20 CD-ROM database titles including eleven Western titles such as ABI Info, Econlit, Sociofiles, and PA.⁹

Most of the databases in Chinese libraries stand alone, and they are not remotely accessible. Some libraries have huge CD-ROM towers or jukeboxes to store the disks, and they have developed campus networks for local access. All the Chinese library directors I interviewed believe that digital databases are the best solution for accessing and retrieving past information. They think that it is the future of libraries and also the safest and most permanent way of preserving information.

Although there is a shortage of library materials, especially non-Chinese publications in Chinese academic libraries, resource sharing among them is very limited. Many libraries are reluctant to lend books to other institutions since they want to keep for themselves the materials on which they have spent terrific amounts of money. There is an interlibrary loan system in Shanghai, but it is not a system in the U.S. sense and has limited usage due to its inefficiency. Each library has several ILL cards. When the faculty submits an ILL request, he or she has to be registered with the library in order to get the ILL card. In a sense, the library becomes his or her sponsor. Thus, the library will be held accountable if the book is lost or damaged. Sometimes the library will send a librarian to pick up the book from the lending library; otherwise, the patron has to go to the lending library in person to check out the book. There is no mailing of materials involved. In fact, the ILL system in Shanghai is more like a universal borrowing privilege for faculty members to borrow books from other local libraries. Since there is currently no on-line catalog among these libraries, they have to search *Joint New Book Catalog in Shanghai Libraries*, a CD-ROM database, to locate the books first.

All the academic libraries in Shanghai are open to Shanghai residents who pay a 30 RMB fee for a library card. Those patrons can only use the library materials inside the libraries since they don't have borrowing privileges. However, borrowing privileges are usually extended to students who are enrolled in the university extension programs.

Collection evaluation

As it is described by Magrill and Corbin, the process of collection development does not end when the selected materials are received in the library. The collection has to be constantly evaluated and maintained to be consistent with current and anticipated needs in the library. In U.S. academic libraries, there are several ways to evaluate library collections such as profiling the collection and monitoring growth, checking lists, bibliographies and reviews, collection overlap studies, circulation studies, citation analysis, etc.¹⁰ In China, the State Commission on Education issued the *Library Provisions for Institutions of Higher Learning* in 1987. From 1992-1994, the university and college libraries in Shanghai conducted a complete library evaluation to examine how the local academic libraries had been complying with the *Library Provisions*. The goal of the evaluation was to find

out the status quo of those libraries, to discover their strengths and weaknesses, and to make the decision for further development more informative. This evaluation is well documented in *Practice and Research in Evaluating Higher Education Libraries*, published in 1996. It is a general evaluation of library services with collection evaluation as a component. The evaluation, which has six main categories, uses a scoring system with 120 as the perfect score. Among 46 subcategories, nine of them are related to collection evaluation with 25.59 as the perfect score. Those categories are listed here with perfect scores in parenthesis:

- A31. Expenditures on library materials (6.25)
- A51. Volumes of books and bound serials per student (2.5)
- B12. Books borrowed annually per patron (2.4)
- B13. Annual library visits per patron (1.68)
- C11. Volumes of books purchased annually per student (3.08)
- C12. Number of current serial subscriptions per faculty member/student (2.64)
- C13. Collection development and acquisitions activities (3.08)
- C31. Collection organization and preservation (2.86)
- C32. Collection review and weeding (1.1)

The results of the evaluation reveal some interesting facts. According to the *Library Provisions*, each university is supposed to allocate no less than 5% of the campus budget for library materials purchases. In the evaluation, it was found that only 10% of the evaluated libraries reached that goal while the remaining 90% of libraries allocated only 2-4%. This means that most schools cannot even provide funding for regular expenditures, let alone any cost adjustment for inflation. One of the reasons cited for this is that due to the needs for library automation in recent years, much of the campus funding has to be diverted to computer hardware purchases, thus weakening collection development¹¹.

The evaluation also shows the impact of budget constraints on libraries and their collection development activities. Many have drastically reduced the duplication rate of books, especially textbooks. Some others have adopted the policy of keeping serials subscriptions while ignoring monograph collections, so they have not bought any non-Chinese books for a number of years. Judging the current library needs in Chinese academic libraries, the authors of *Practice and Research in Evaluating Higher Education Libraries* discourage both practices claiming that they will be detrimental to teaching and research capabilities in those schools.¹² However, under the current budget situations, it is very difficult to solve these contradictory issues. The evaluation was a major factor in increasing university status, and because it weighed heavily on volumes rather than number of titles when considering collection development, it was to the library's benefit to play tactically. One library adopted the following policy to improve its collection: "Due to the current budget constraints, ...(our library) will reduce the number of foreign monographs and periodicals as well as expensive big-set Chinese titles... so that money can be saved to buy duplicates of new Chinese monographs to solve the current problem for students to borrow new books."¹³ Because of that, "...many libraries that do not buy any monographs and periodicals in foreign languages nor expensive scholarly titles and have poor collection quality, can get high scores in (those collection related) categories."¹⁴

As has been stated previously, it is very important for Chinese academic libraries to maintain high volume count; and since there is no space problem in some libraries, deselection is rare in the

libraries this author visited. If there is any deselection, librarians only weed damaged copies or titles with high duplication rate. The latter are usually donated to newly-built remote country libraries or to Project Hope, a nationwide project to build elementary schools in poor provinces.

Afterthoughts

Today, Chinese academic libraries are experiencing an accelerated growth of a library system which remained unchanged for decades. They are eager to adopt Western, namely, the U.S. style, of library system in terms of management, collection development and library services. Most of the library directors interviewed claim that they want to learn the U.S. library system since it is at the cutting edge in the world. Since the Chinese academic libraries have separate circulation systems and reading areas for faculty and students and separate locations for Chinese and non-Chinese materials, many of them want to emulate the practices in the U.S. academic libraries to create a single circulation system for both faculty and students and a single shelving system for all the materials.

Like their U.S. counterparts, Chinese academic libraries are facing some similar problems such as budget constraints, inflation, increasing demand for budget-consuming computer hardware and databases, etc. However, the problem is more severe in China since the acquisition budget for most academic libraries is too small to build a decent collection. If the labor cost is excluded, the cost of acquiring materials is almost identical, since in essence both Chinese and U.S. libraries are all facing the same knowledge base. Due to the lack of competition in book import business, Chinese libraries often have to go to state-designated vendors for Western publications. The purchasing cost for those materials is even higher than in the U.S. The result is that fewer titles are purchased. Since book retention is the primary goal of Chinese academic libraries, most libraries are reluctant to lend materials to other institutions. This phenomenon is fueled by the high cost of Western publications. The more expensive the books are, the more reluctant the libraries are to lend them to others. This in turn hurts the development of joint purchase programs and interlibrary loan system among Chinese academic libraries. In order to achieve further growth in Chinese academic libraries, more funding is needed. The key to these problems rests with the Chinese government. In 1995, China spent 2.3% of its GNP on education, which was 0.2% less than it did in 1985. From 1993-1995, education constituted 12.2% of its total government expenditures. Both figures are low compared with many other developing countries in the world.¹⁵ Chinese academic libraries will receive more funding only when the main budget of their individual campus is adequately funded by the government. Considering the level of current funding in Chinese academic libraries, a major breakthrough is needed before their "rails" can be truly connected with the rest of the world.

NOTES

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(Head of Collection Development and Acquisitions, Fudan University), and Yang Keyi (Executive University Librarian, Nanjing University Library).

3. The current conversion rate is US\$ 1 = RMB 8.3.

4. ARL, *ARL Statistics 1995-1996* (Washington, D.C.: Association of Research Libraries), 60.

5. A comparison between the total library material expenditures listed in the *ARL Statistics 1995-1996* and the total university operating expenditures on the *National Center for Education Statistics (IPEDS, <http://NCES.ED.GOV/IPEDSEARLYRELEASE/>)* indicates that the percentage of the library materials expenditures of U.S. libraries in the campus budget is very small. Here are some examples: Harvard (1.04 %), University of Washington (0.625%), University of Chicago (0.549%), Texas A&M (0.676%), Vanderbilt (0.515%), Wayne State (1.016%), Purdue (0.7%), Tulane (0.955%), and MIT (0.439%).

6. Xiao-ming Li, "China Academic Library & Information System," *Journal of University Libraries* (Mar. 1999): 1.

7. The four national centers cover different subject areas: Center for Science and Social Sciences at Beijing University Library, Center for Engineering at Tsinghua University Library, Center for Medical Science at Beijing Medical University Library, and Center for Agriculture at China Agricultural University Library. The seven regional centers are located at these libraries: Nanjing University (Northeastern China), Shanghai Jiao Tong University (Southeastern China), Wuhan University (Central China), Zhongshan University (Southern China), Xian Jiao Tong University (Northwestern China), Sichuan University (Southwestern China), and Jilin University (Northeastern China).

8. Jin-Chuan Ma, "Fund Allocation for Information Resources in China's Key Universities," *College & Research Libraries* 60 (Mar. 1999): 174-178.

9. Zhen-qian Li, "Construction of Network Environment in Fudan University Library," *Journal of Library & Information Science of Shanghai Colleges & Universities* (June 1998): 1-3.

10. Rose Mary Magrill and John Corbin, *Acquisitions Management and Collection Development in Libraries*. 2nd ed. (Chicago: American Library Association, 1989), 235-242.

11. *Practice and Research in Evaluating Higher Education Libraries*, (Shanghai: East China Normal University Press, 1996), 21.

12. Ibid., 22.

13. Ibid., 133.

14. Ibid., 142.

15. UN Development Programme, *Human Development Report 1998*, (New York: Oxford University Press, 1998), 162.