

A Survey of Sources at the Rockefeller Archive Center for the Study of

THE TRANSFER OF WESTERN SCIENCE, MEDICINE AND TECHNOLOGY TO CHINA

The Archives of the China Medical Board and the Peking Union Medical College

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Archivist
1989**



Introduction to the Printed Edition

An earlier edition of this paper was prepared for presentation at the panel "Modern Science, Technology and Medicine: Archival and Library Resources on China and Japan in the Mid- Atlantic States Region," of the Mid-Atlantic Region Association for Asian Studies 16th Annual Meeting, Lehigh University, Bethlehem, PA, October 30-November 1, 1987, and was published with minor editorial revisions in the *Committee on East Asian Libraries (CEAL) Bulletin*, Association for Asian Studies, Inc., No. 84, (June 1988), pp. 5-19. Several new paragraphs have been added between pages 25 and 27 of this version.

The title refers to the China Medical Board, introduced here by that name and the Peking Union Medical College, which was operated between 1915 and 1928 by the China Medical Board and after 1928 by the China Medical Board of New York, Inc.

The author wishes to acknowledge the encouragement and editorial assistance of Dr. Darwin H. Stapleton and Dr. Kenneth W. Rose, for suggestions which have improved this paper and observations which have clarified ideas, Special thanks are extended to Elaine Anders for invaluable assistance in the expert typing of a difficult manuscript. Errors and oversights are, of course, the responsibility of the author.

Thomas E. Rosenbaum
August 1989

Introduction to the Online Edition

This survey was updated and reformatted for transfer to the Rockefeller Archive Center's website in September of 1998. Through the efforts of Dr. Kenneth Rose, Pecolia Rieder, and John LeGloahec, the document was recreated, including stylistic and formatting changes to conform to the restrictions of the World Wide Web.

John LeGloahec
September 1998

The Archives of the China Medical Board and the Peking Union Medical College

The records of the China Medical Board of the Rockefeller Foundation (Rockefeller Foundation archives, R.G. 4) and of the separately incorporated China Medical Board of New York, Inc., offer the administrative history of an effort to introduce modern Western scientific medicine of the early and middle twentieth century into the society of Republican China.

The China Medical Board (CMB), in 1914, inaugurated Rockefeller Foundation involvement in China with a program of grant assistance to medical schools and hospitals, and schools and colleges teaching science, most of which were operated by Protestant missions. In 1917, the Board, which had bought and expanded the physical plant of the Union Medical College, opened the Pre-medical program of the new Peking Union Medical College (PUMC).

In 1919, the first medical school class entered the PUMC. As the CMB sought to develop the PUMC into a first-rate medical school, the Board continued its program of aid for general science instruction, medical schools, and hospitals. In 1928, The Rockefeller Foundation transferred responsibility for the PUMC to the China Medical Board of New York, Inc. (CMB, Inc.), whose program would mainly involve running the PUMC. After 1928, the PUMC and the Rockefeller Foundation's International Health Board/Division constituted the chief vehicles for Rockefeller philanthropic assistance to medicine in China.

Rockefeller Foundation and PUMC activity in China involved, in programmatic terms, scientific and medical education, including clinical education in a hospital setting, and public health education and demonstration projects. This program entailed the transfer of Western science and medicine to China. This transfer, as discussed here, embodied 1) funding for the purchase of specialized technology-instruments, machines, furniture, and other supplies characteristic of Western science and medicine and 2) support for training in the methods and the intellectual foundations of Western science and medicine - the concepts that informed the use of the specialized technology.

An integral part of the transfer of technology such as occurred through these Rockefeller programs was the infusion of large sums of money, which financed construction, salaries, equipment, i.e., the infrastructure of a new medical elite.

Planning policy which would result in effective use of this money in a non-capitalist society experiencing the economic, social, and political turmoil of a nationalist revolution, required dedicated and imaginative administrative leadership. Major figures in this administration included:

- Roger S. Greene, (Resident Director, CMB, 1915-1927; Acting Director, PUMC 1928-1929; Vice Director, PUMC, 1930-1935)
- Franklin C. McLean (Director, PUMC, 1921-1927; Acting Director and Vice Director, 1937-1948)

- N. Gist Gee (advisor to the CMB for pre-medical education, 1922-1928, who later held positions in the Natural Sciences Division of the Rockefeller Foundation)

During the years that Roger Greene was Vice Director of PUMC, J. Heng Liu was listed as Director, on leave of absence. Major figures in the New York offices included:

- George Vincent, President of the Rockefeller Foundation and Chairman of the CMB
- Wallace Buttrick, Director of the CMB
- Margery Eggleston, Secretary of the CMB and the CMB, Inc.

The China Medical Board records, which cover the years 1913-1929, document the Board's administration of numerous grants and its general contacts with organizations which shared an interest in China, or medicine, or both. The collection is organized into three series:

1. Series I, Appropriations, including subseries 1, 1913-1918, and subseries 2, 1919-1929, which includes both appropriations and administrative subject files
2. Series II, Financial material
3. Series III, Minutes and annual reports

Minutes and docket and annual reports are available for the years 1914-1927. CMB annual reports appear as part of the Rockefeller Foundation annual reports.

The Board made grants (appropriations) to hospitals and medical schools, most operated by Christian missionary societies of different denominations, and to schools and colleges offering instruction in science. The CMB assistance encompassed three areas: 1) funding for training, frequently in the United States or Europe, for medical personnel based, or to be based in China; 2) funding for salary or other maintenance costs of hospital medical personnel; 3) funding for scientific and medical education programs, including salary support, and grants for building construction and clinical and laboratory equipment.

The files contain correspondence, memoranda, and reports dealing with, among other topics, applications from individuals and institutions for funding, location of appropriate institutions where students might seek training and health personnel might obtain positions, decisions concerning building design and construction, and discussion of course and curriculum development, especially in pre-medical science education. Aside from the files for grant recipients, additional documentation of CMB support appears in the files of the Resident Director.

Some grant files reflect details of the introduction of Western medical technology to specific institutions. In such files appear letters requesting funding for equipment and lists of equipment needed. For example, the American Presbyterian Hospitals, Changteh, Hunan sent a list and indicated for each item its importance. Most items were classed as "urgent," such as a "kitchen and W.C." and "additional surgical instruments and appliances, including one modern operating table (have only one wooden one now)." "Very desirable" items included a "gravity water works system (brick tanks laid in and lined with cement for utilizing rain water)." An "x-ray" outfit and a "laundry drying outfit

and centrifugal "wringer" to be used in wet weather" were classed as needed for a "well-equipped plant."¹

The records also portray technical factors, or problems of infrastructures, that complicated the introduction of scientific and technological equipment. Dr. H.B. Taylor of St. James Hospital, Anking, faced with a problematic public electric supply, wrote and asked if the Hospital might use a portion of a \$5,000 CMB appropriation to install an electric generator. Dr. Taylor wrote, "The present current furnished by the city is entirely inadequate for x-ray work and at any rate it is only furnished at night." The private generator was sought primarily for lighting and x-ray.²

CMB officials concerned themselves not only with equipment but also with training and with creation of an intellectual climate in which Western technology might best be understood and utilized. N. Gist Gee, writing of a meeting with D.L. Edsall of Harvard, who was in China as a Rockefeller Foundation International Health Board advisor, discerned a need to stimulate a "scientific attitude of mind and method of attacking problems."³ In January 1927 Gee wrote to Roger Greene about plans for a summer institute for middle school teachers at Nankai University, where Gee hoped instructors would offer "practical work" and demonstrate use of "simple, inexpensive apparatus so that students might do individual laboratory work." Gee had urged on the Nankai representatives "the possibilities of doing many valuable experiments on the students' ordinary desks."⁴

There are not many documents as detailed as these which describe specific equipment and technical problems. Most CMB grant files consist of routine administrative documents which assume significance largely in the aggregate, as the history of an institution engaged in the transfer of Western science, medicine, and technology to China. On a smaller scale, files for grant recipients and other organizations reveal parts of the history of those institutions.

Non-grant administrative files (series I, subseries 2) document CMB officials' general contacts with a host of organizations whose activities were important to the Board's work in the field of Chinese medicine and science. These contacts related either to the CMB's medical-scientific program quite directly or to Chinese-American relations and Chinese economic, social and political problems. For example, a file for the American Medical Association, 1922-1928, contains correspondence dated March 27, 1922, confirming certification of the PUMC, so that PUMC graduates would be eligible for internships in American hospitals. This file also includes an interesting letter, dated May 15, 1923, from Roger Greene to Dr. N.F. Colwell of the Council on Medical Education and Hospitals of the AMA, reporting on which medical schools in China met AMA standards used for schools in the United States.⁵

A file on the China Institute (in America) contains correspondence which describes the Institute's program for encouraging friendly relations between China and the United States and which documents a challenge to the Director by Chinese students in the United States. These students, sympathetic to the Kuomintang in the Chinese civil war, thought Director Kuo too chary of political involvement.⁶

A non-grant file also appears for the China Foundation for the Promotion of Education and Culture, the organization created to disseminate American Boxer Indemnity funds to Chinese institutions. The file contains many applications for support, which appear in these records because Roger Greene was a trustee. Numerous applications appear from Chinese schools for assistance for academic programs or construction. These include "A Proposal for the Establishment of a 500,000- Volt High Tension Laboratory Submitted by the Kiangsu Provincial Technical College, Nanking," and a request for support for a Biology Department at Tungchi University. Many proposals are detailed. For example, the report submitted by the Kiangsu Technical College outlines the growth of demand for electricity and furnishes technical specifications for the project at hand. On some applications, Roger Greene's comments appear.⁷

The CMB records contain approximately two feet of files on the Peking Union Medical College (PUMC) itself, which the Board organized and administered until 1928. These two feet of material document primarily construction at the College campus. Researchers may obtain a more complete accounting of the history of the College, including its years under the CMB, from the China Medical Board of New York, Inc. (CMB, Inc.) collection.

The Peking Union Medical College (PUMC) was created in 1915 by the China Medical Board to stimulate formation of a medical elite of Western medicine in China. The PUMC sought to graduate doctors who would be expert practitioners of medicine and/or would themselves be teachers of medicine.

The commitment to the PUMC stemmed from the findings and recommendations of several Rockefeller Foundation commissions whose members examined possible Foundation programs in China. The China Medical Board purchased the campus of the Union Medical College, initially run by several missions, and created, after a major construction program, the PUMC.

At the initiative of the Rockefeller Foundation, the China Medical Board, Inc., a separately incorporated body, took over responsibility for the PUMC in 1928. Programs continued to develop in the years after 1928, as the Chinese civil war and the Japanese occupation created a less and less stable society.⁸ The Foundation precipitated this shift in responsibility, according to Raymond Fosdick, to give maximum encouragement to the possibility that non-Rockefeller funding would be contributed toward the work of PUMC.⁹

The records of the China Medical Board of New York, Inc. document the administrative history of the Peking Union Medical College. The files cover the years 1914-1973, but material is sparse for the years after World War II. The world war forced the closing of the College and Hospital in early 1942 until 1947. The Chinese government nationalized the PUMC in 1951.

The collection is arranged alphabetically, in a single sequence by file title. A detailed appendix to the register, with an accompanying box list, affords access to specific files.

The collection may be divided from a conceptual standpoint into discrete sections, based in part on provenance. Records are available documenting central administration, academic and clinical departments, and various other aspects of the PUMC, such as curriculum and field studies. Records documenting the central administration of PUMC, for example, constitute a significant portion of the collection and provide a comprehensive view of the programs and politics which helped introduce Western science and technology to China.

The central administrative records include: 1) minutes of the Administrative Council Committee, which oversaw policy matters and appointments relating to the PUMC Hospital, library and medical faculty; 2) bound minutes of the PUMC Board of Trustees, 1918-1940; 3) appropriation records which show the budgetary history of the College; 4) files of the Director of PUMC and the Resident Director of the CMB, which document routine and unusual developments in the history of the College; and 5) construction files, which may, especially for the historian of science and technology, offer useful descriptions of the physical plant. This collection also includes an extensive set of blueprints for PUMC buildings. (Further documentation of PUMC design and construction is contained in the Conrad Anner collection, which contains the photographs, glass negatives and lantern slides of Conrad W. Anner, an architect in the PUMC Architecture Department. The Anner material also includes images of the city of Peking.)

Records documenting the administration of the academic program in science and medicine and of clinical programs comprise the portion of the collection which is especially likely to interest the historian of science and technology. These files are arranged by department. Files exist for the departments of anatomy, bacteriology, biochemistry, biology, chemistry, dentistry, dermatology, dietary science, gynecology, hygiene (public health), hospital, medicine, neurology, nursing, ophthalmology, physics, physiological chemistry, physiology, pre-medical school, radiology, religion, social service, and surgery. This list of departments portrays the organization of an institution dedicated to teaching the full range of Western science and medicine and to the delivery of modern Western medical care.

Documentation of departmental activity occurs in staff member and general files for each department and in published sources. The staff member files contain biographical information, including information on medical training and experience, of most staff. As such, the files afford a picture of the people who, in large measure, introduced modern Western medicine to China, and what skills informed this introduction. A sociology of technology transfer may emerge from these files if they are thoroughly explored. General departmental files also contain occasional items of descriptive value. For example, in the file for the Radiology Department, two course syllabi, containing lecture-by-lecture descriptions of course content, and illustration, appear for courses in roentgenology.¹⁰

Additional information on the nature of the clinical and laboratory work undertaken at the PUMC and the Hospital exists in the annual reports of the PUMC Director (unpublished), and the published annual reports of the College Hospital. Peking Union Medical College Publications, consisting of a chronologically arranged set of reprints of papers published

by PUMC researchers, offers a detailed insight into the scientific research conducted at PUMC.

The Directors' annual reports cover activity at both the Medical College and the College Hospital, the teaching and research in both institutions, and the clinical services rendered by the Hospital. In some reports, description of research is reasonably detailed. For example, the Acting Director's annual report for 1925-1926 describes research by Drs. Robertson, Sia, and Woo (Department of Medicine, Biological Division) on pneumococcus. Findings are described on resistance to infection where resistance stems from "natural opsonins," rather than "leucocytes."¹¹ A variety of other research is detailed in the report, including work on the link between tuberculosis of the lymph glands and of the tonsils, and the transmission of filariasis in Kiangsu Province.¹² For a given year there is some duplication of information appearing in the unpublished Directors' reports and the published annual reports of the PUMC. The published annual reports contain statistical data on hospital admission, laboratory tests and diagnoses, and, beginning with the 1924 volume, the reports contain cumulative lists of hospital house staff. The list in the 1924 volume is cumulative from 1921. House staff lists do not appear in volumes later than the 1935 volume.

"The Publications of the Peking Union Medical College," access to which is afforded through a well-organized bibliography volume, offer detailed reports on research completed by PUMC scholars. Selected titles, some printed in both English and Chinese, suggest the range of scientific investigation. (See Table 1)

Six of the PUMC departments—the Pre-medical School, Hygiene (Public Health), Hospital, Nursing, Social Service, and Religion—gave the College a special character.

In 1917, officials of the PUMC began the Pre-medical Program so that the science background and English language skills of PUMC medical students would permit following a full and rigorous medical training. The existence of this department bespeaks the PUMC's dedication to a strong basic science background ÷ in biology, chemistry, and physics ÷ as the basis of a strong training in medicine for the future leaders in Chinese medical science. Files documenting premedical education appear in both the CMB and CMB, Inc. collections. In the CMB records the files cover the discussion of the need for this kind of program in various schools; CMB, Inc. records hold predominantly routine documentation of organizational and administrative matters for the PUMC's pre-medical program.

The Hygiene (Public Health) Department gave scope for a program in public health instruction and demonstration programs in healthcare delivery. Dr. John B. Grant became an influential voice on behalf of public health curriculum and demonstration programs, both of which he designed.

Dr. Grant, in 1923, wrote "A Proposal for a Department of Hygiene for Peking Union Medical College," suggesting integration into the medical and nursing school curricula of public health instruction, special "postgraduate instruction of health workers," and a program of public health research. He called for creation of "health centers" staffed by trained personnel, to treat "minor ailments" and refer patients in need of hospitalization,

and to furnish a clinical setting for the training of public health personnel.¹³ Dr. Grant continually emphasized the importance of preventive medicine and the need to adapt methods of medical care delivery to local conditions.¹⁴

The Health Stations file documents the operation of the Hygiene Department's program in the field, including the gathering of epidemiological data and data on sanitary conditions. For example, the file for the Metropolitan Police Public Health Demonstration, Peking offers a glimpse into the state of household technology, which bore on health conditions. According to the report for September 1925, three police officers, working for a month, investigated house-by-house a portion of a Peking ward and found polluted drinking water and poor water-closet sanitation, which together led to excessive fly breeding. Those filing the unsigned report for the Division of Sanitation noted the "need to find a good method for the control of fly breeding."¹⁵ This and other reports, including those by the Demonstration's nursing staff, also carry epidemiological data gathered as part of the PUMC's ongoing health work.

Public health has historically constituted a primary field of interest for the Rockefeller Foundation. At the same time that the CMB and PUMC were fostering scientific and medical education and public health in China, the Rockefeller Foundation's International Health Board assisted a number of public health activities in different parts of China. In some of these activities the PUMC Department of Hygiene and Public Health was involved. Dr. Grant worked through the Department and as an advisor; Grant's affiliation with the Department ended in 1935, but he spent the next several years in China as an advisor to the Foundation in public health.

International Health Board files (Rockefeller Foundation archives, R.G. 5) offer correspondence and reports documenting public health activity, in much of which Dr. Grant and/or the Department of Hygiene and Public Health was involved. For example, Special Reports of the IHB (Series 2) include, among reports by Dr. Grant, "Diary of Shansi Trip, 1922," "North Manchurian Plague Prevention Service, 1923," "Fly and Mosquito Control in Nanking, 1923," "A Practical and Important Problem in Excess Mortality Control in China, 1922," and "Suggestions in Regard to Teaching Personal Hygiene in the Schools of China, 1918." Several reports, by Grant and others, on hookworm control also occur.

In addition, ongoing IHB programs in China are documented in Routine Reports (Series 3). Programs are documented for training of public health personnel, 1941-1948; diphtheria research, 1935-1936; support of the Szechuan Provincial Health Administration, 1939-1945; control of typhus (1945-1946), hookworm (1916-1919), and malaria (1940-1949); public health demonstration stations in Shanghai, 1929-1930, as well as in Peking, 1928-1933; support for sanitary engineering programs, 1933-1937; and assistance for training in midwifery, 1929-1935.

The Rockefeller Foundation also supported the Mass Education Movement from 1929 to 1949. Dr. Grant and the PUMC Department of Hygiene and Public Health were for several years directly involved in the Mass Education Movement in Ting Hsien, which had expanded from a literacy program to include, among other efforts, programs in

sanitation and public health. The PUMC made available facilities at the College Hospital and personnel from the faculty.¹⁶

Dr. Grant helped design plans for the Ting Hsien public health program. Dr. Victor Heiser, the IHB representative in China, replying to a proposal by Grant, thanked Grant for framing the question of "whether Chinese should be encouraged to go to the doctor instead of the doctor coming to them [which was] very important at this stage."¹⁷ Grant had suggested organizing Ting Hsien so that patients would visit "an institution," such as a health center, instead of receiving a doctor at home. In this way, Grant hoped, "modern scientific developments" might be introduced into Chinese rural health care.¹⁸

The PUMC Hospital files offer a sense of the clinical setting in which the hospital staff used newly introduced scientific and medical knowledge. The minutes of the Hospital Board, composed primarily of Westerners directing a largely Asian staff, show a concern for care in the use of various medical technologies. For example, the Hospital Board, in its "Rules Governing Use of Fluoroscopy," adopted July 11, 1935, warns the medical staff, "It should be pointed out that there is great inherent danger in the use of an x-ray machine by inexperienced persons and that the diagnostic value of fluoroscopy is very limited."¹⁹ Control of medications became the subject of a policy on July 3, 1936, in response to "various irregularities." The Board directed that "patients should not be provided with agents for diagnostic or therapeutic use from the stocks of ordinary chemicals, unless the agent had been approved." The regulations also address the issue of what drugs to use. "As far as possible, drugs contained in the Chinese Pharmacopeia should form the basis of the Hospital lists." If the Chinese Pharmacopeia did not satisfy therapeutic need, doctors might turn to the British or American Pharmacopeia or the "New and Non-Official Remedies" of the American Medical Association. Western scientific standards supplied the basis for choosing medication: "Except as planned experiments, agents should not be used which have not been well shown to be effective."²⁰

Hospital files include, as well, material on staff members. Much of this material concerns routine personnel administration, but some documents shed light on medical and scientific work.

Nurses serve, in any medical or public health setting where they are present, as the patients' most frequent and often most immediate contact with health care systems. In enterprises such as the PUMC Hospital and the Public Health Stations in China, they presumably played an important role in demonstrating and interpreting Western scientific medicine and medical technology to Chinese patients. The files for the Nursing Department assume extra significance to the extent that the department played a crucial role in the work of the PUMC. These files offer much detail as to curriculum and organization of the Department. In addition, a valuable source, which presumably reflects the needs of nurses in China, is a set of *The Nursing Journal of China*, 1936-1941. The *Journal* was a quarterly, and some volumes apparently are missing. Each article appears in both English and Chinese. Most articles contain intensely practical information. See ^{Table 2}, for selected article titles.

The presence of the Social Service Department gives further evidence that the PUMC administration sought to establish a completely up-to-date medical school and hospital where the practice of medicine was informed by a concern for the emotional needs of the patients and staff and by efforts to provide guidance to patients recently discharged from the hospital. The Department was also instrumental in locating patients who had failed to return to the Hospital for follow-up visits. In addition, Social Service Department staff helped with logistical problems, such as contacting discharged patients, finding employment for "crippled patients," and enabling the poor to obtain crutches and the like at no cost.²¹

The Religious and Social Work Department (listed in the collection under religion) was dedicated to serving the religious and social interests of the PUMC and Hospital staffs and students and to undertaking evangelical activity among Chinese patients at the PUMC Hospital. For example, the Department's annual report for 1919-1920 states that "The Student Work," organized by "The Student Christian Association," involved "religious meetings," "Bible Study," and an informal religious discussion group of non-Christian students meeting at the home of the Director.

The "Christian Association" formed in the Nursing School sponsored "religious meetings . . . with addresses in Chinese," an "English Bible Class," Saturday social programs, and special holiday music. It also maintained a library holding books, periodicals, and two daily newspapers.

The Department's "Hospital Evangelistic Work" apparently proved quite difficult. The Department Director states that "If every patient has been interviewed at least one [time], the average number of interviews per patient is but two. This is not so low as it appears because our present staff does not succeed in breaking down open opposition as we hope in the future we may be able to do." The workers sought to introduce patients to Bible study, after first gaining a patient's "confidence" and "interest" informally.²²

Two other important files, Curriculum and Field Studies, offer insight into scientific activity at the PUMC, although they do not bear designation as departmental files.

Files on the PUMC curriculum show an institution at once struggling with ways to teach Western science and medicine to Chinese students and attempting to exploit its ability, as a new medical school, to experiment with curriculums. On March 17, 1924, the President of Stanford University, Ray Lyman Wilbur, wrote to Roger Greene saluting "very forward-looking features (of a new curricular plan) in the way it brings . . . the laboratory work directly into clinical teaching." Wilbur continues on, saying that graduating Chinese physicians trained in and practicing Western medicine represented PUMC's most important goal. The pressing need for the College, in Wilbur's view, was to gain the confidence of the Chinese, which he felt the College might best achieve by demonstrating the effectiveness of Western medicine.²³

The curriculum issue for the college involved not only the teaching of science and medicine but instruction in English language, the College's medium of instruction. A.M. Dunlap of the Department of Otolaryngology reported to Greene on July 31, 1924, that English classes would be "held in the Medical School instead of the Pre-medical School,

which may help to impress the students with the importance of this work as a part of their general medical training."²⁴

A comprehensive description of PUMC curriculum may be obtained from a review of the PUMC Announcements, of which the Center holds a bound set covering 1918-1942.

Field studies files document anthropological work and Kala-azar and schistosomiasis research. The anthropological work, by Davidson Black and his successor, Franz Weidenreich, resulted in the so-called "Peking Man" discoveries. The files contain some reports and proposals which provide detail about the research. On October 16, 1936, Dr. Weidenreich reported to Henry S. Houghton at the CMB, Inc. in New York that his study of the *Sinanthropus* teeth had made it "possible to recast the evolutionary lines of man," both on a "morphological basis" and "geologically."²⁵

Smaller Field Studies files appear, documenting research into the causes and prevention of Kala-azar, a disorder borne by parasitic protozoa, and of schistosomiasis, a disease carried by snails. The file covering the PUMC Kala-azar studies shows some detailed reports on the status of research. An August 19, 1924, report offers insight into the approach followed and problems encountered: puzzlement at the epidemiology, with healthy and infected areas and individuals in close proximity to one another; and a listing of hypotheses under investigation identifying as possible disease agents bed bugs, sand flies and fleas, which would infect rodents, then the principal suspected route of infection.²⁶

Access to the Collections: Registers and Indexes

Researchers and archivists may gain access to the CMB records primarily through the register, which includes a container list of folder titles. There also is an alphabetical card index for the collection. This index may be used to search personal or institutional names. The CMB records are heavily cross-referenced within the files by means of cross-reference sheets for specific documents.

Researchers can gain effective access to the CMB, Inc. collection through the unpublished register at the Archive Center. The register consists of a box and folder title list, followed by a lengthy appendix. The appendix represents a listing of every file markup in the entire collection. Folder titles show first and last markup. Markups are the names or title designation given to each document in this and other Archive Center collections. The alphabetical filing system is based on the markup in almost all instances. There is also a card index for the collection, but it is likely to offer only limited assistance because the names on the cards do not correspond to document markup. As a result, scholars will not be able to use the cards to locate a file. The CMB, Inc. collection contains many cross-reference sheets which facilitate locating all material on a given topic.

Contexts of the Collections

Archivists and historians will exploit to best advantage the CMB and PUMC collections, as well as most others at the Archive Center, by placing research topic and collections used in both a national, international, or subject perspective, on the one hand, and in the context of Rockefeller philanthropy, on the other hand.

The Context of Chinese Nationalism

The transfer of technology documented in the China Medical Board and China Medical Board, Inc. (PUMC) records occurred in the context of China's nationalistic revolution. The revolution was underway when the CMB entered China in 1915; it accelerated as Rockefeller philanthropic involvement increased; and two years after its resolution in 1949, the PUMC was nationalized.

The major characteristics of the political, social, and economic history of Republican China appear in the CMB, Inc. collection. For example, the tension between Western influence and Chinese nationalism is evident in discussion of the presence of foreign staff and leadership at the PUMC. On September 12, 1929, Roger Greene wrote to Richard M. Pearce at CMB, Inc. headquarters in New York of Green's distress at a new Chinese government requirement that two-thirds of the College Board of Trustees be Chinese. Greene apparently felt the Western presence important, since he suggested "it will probably be desirable to increase the number of Chinese trustees rather than to make a radical reduction in the foreign membership."²⁷ Numerous references occur throughout the CMB, Inc. collection to the goal of reducing foreign staff. Greene, in a memorandum to Margery Eggleston of April 18, 1930, reported his "plans underway for a considerable reduction of the foreign staff during the next two years."²⁸

The Chinese Civil War disrupted plans. Dr. Taylor, at St. James Hospital, Anking, requested a maintenance grant from the CMB because "disturbed political conditions" had caused delays in payments of grant funds pledged by "the military and civil governments." A new x-ray machine, steam plant, plumbing, and a nurses' residence required funds for routine operation ÷ funds the hospital apparently expected to receive from the Chinese civil and military authorities.²⁹

The civil war also necessitated extra work, which had to be performed with makeshift technological devices or in the absence of needed technology. A memorandum titled "Surgical Work on the Peking Union Medical College at the Nanyuan Army Hospital, December 1925 to January, 1926" reported a strenuous effort by PUMC staff to supplement the efforts of the overburdened Nanyuan Army Hospital. An operating room with four operating tables was set up by PUMC at the Army Hospital, with lighting and power for surgery obtained through a makeshift hookup to the motor that powered the Army Hospital x-ray machines. In surgery, "the nurses passed sterile supplies and instruments by means of a sponge stick, direct to each operating table. The used instruments were then collected, boiled, and returned to the central sterile table." The memorandum also noted that detection of gas bacillus infection was difficult, given the lack of microscopes and ability to grow the bacteria in culture. Misdiagnoses resulted at first.³⁰

Numerous reports in both collections document, without reference to medical consequences, political and military developments, and student dissent.

China in the Republican period saw economic and fiscal dislocation. Accounting problems complicated PUMC administration, especially with respect to the impact of currency exchange rates. Budgeting, and interpreting spending patterns, and keeping comprehensible records proved difficult. Roger Greene wrote to Margery Eggleston on August 8, 1933, to explain that comparative figures for PUMC spending would require a separate accounting of gold and silver expenditures. Such an accounting would not be accurate because of a "not inconsiderable quantity of charges which, though paid in silver, actually represented an original gold value, and therefore varied with the exchange."³¹ Much material in the CMB and CMB, Inc. collection documents the ways in which economic turmoil affected Rockefeller medical philanthropy.

As Mary Brown Bullock writes in *An American Transplant: The Rockefeller Foundation and Peking Union Medical College*, the dedication of the PUMC in 1921 highlighted the social and political outlook of the Rockefeller philanthropists as they offered Western science and medicine to the leaders of China.³² The Archive Center holds several sources on the dedication, including film footage of John D. Rockefeller, Jr.'s trip to China; correspondence documenting the trip; and a published volume titled *Addresses and Papers; Dedication Ceremonies and Medical Conference; Peking Union Medical College; September 15-21, 1921* (Peking, China, 1922). The volume includes addresses at the dedication and detailed accounts of clinical work and laboratory and epidemiological research at the PUMC.

The Context of Rockefeller Philanthropy

The CMB and CMB, Inc. collections may be placed in the context of Rockefeller philanthropic history. Medicine and public health were among the earliest concerns of the Rockefeller philanthropies. The Rockefeller Institute for Medical Research, founded in 1901, became the first major philanthropy funded entirely with Rockefeller gifts. The Institute and its successor institution, The Rockefeller University, rank among the foremost biomedical research facilities in the world. Several Institute faculty members were associated with PUMC, including A.E. Cohn and Simon Flexner, the Director. When the Rockefeller Foundation was incorporated in 1914, public health and medicine became its foremost areas of concern, and the International Health Commission (later Board, later Division), followed by the China Medical Board, became the earliest large Rockefeller Foundation programs. Both were involved in China.

The second major area in which the Rockefeller philanthropies embarked was the development of the modern statistically-based social sciences. Among the Rockefeller philanthropies, the Laura Spelman Rockefeller Memorial began this undertaking in the 1920s, and the Rockefeller Foundation continued with this program after 1927, when the Memorial ceased operation. Social science grants were funded in China, and as the Foundation and other Rockefeller philanthropies entered other fields, such as agriculture, grants in these fields also went to Chinese institutions. Frequently, Chinese institutions received grants in fields in which the Foundation was just entering but had not fully entered.

These grants to Chinese institutions express both the evolution of the Foundation's general program and its aspirations to assist in Chinese development. Grants to the Mass Education Movement, the North China Council for Rural Reconstruction, and to Tsing Hua University for teaching English language and literature, for example, were all designed to foster this institutional, technological, and intellectual development. And these broad areas reflect Rockefeller philanthropic programs in all countries.³³ (See Table 3, for selected grants to Chinese institutions.)

Other files relating to Chinese development are available at the Archive Center. They include, from the Rockefeller Family archives, files on John D. Rockefeller, Jr.'s support of the Mass Education Movement, his gifts to various Chinese universities, and his attendance at the PUMC dedication. The Family archives, R.G. 2 (Office of the Messrs. Rockefeller) also contain, in the Rockefeller Board series, correspondence on the administrative history of the CMB, and CMB, Inc., and PUMC.

Several Special Collections, besides the CMB, Inc. records, relate to Chinese development. They include the papers of Mary Ferguson, which consist of research material, including interviews with former PUMC staff, for Ms. Ferguson's history of the PUMC; the papers of F.T. Gates, philanthropic advisor to John D. Rockefeller, whose proposals for projects stimulated interest in China; and the papers of Harold Loucks of the Department of Surgery of the PUMC, of which he became Chair in 1930. The Loucks papers provide valuable documentation of the history of the PUMC after World War II.

In addition, the Archive Center has a collection of approximately five cubic feet of photographs documenting CMB and PUMC history, as well as general conditions in China.

With the advent of modern American philanthropy, concentrated wealth could be brought to bear in many endeavors. The Rockefeller Foundation saw need and opportunity in China and advanced, in 1914, with its medical and public health programs and, some years later, with a program in agriculture, which was later incorporated into a program for rural reconstruction. Foundation personnel, working within the highly organized institutional setting of the Rockefeller Foundation and of the institutions on Chinese soil to which they were assigned, and administering greater funding than most of the enterprises which Westerners undertook in China, mounted intensive efforts to develop and apply Western scientific method to Chinese medicine, agriculture, and rural development. Scholars who investigate the CMB and PUMC records may wish to consider the place of Rockefeller-inspired efforts to transform China in the context of other efforts earlier and concurrent.

Rockefeller philanthropy in China took its place in a succession of Western contacts. Numerous monographs document these contacts; among them, for example, are Jonathan Spence's *To Change China; Western Advisors in China 1620-1960* (1969); Randall Stross's *The Stubborn Earth; American Agriculturalists on Chinese Soil, 1898-1937* (1986); and James C. Thomson, Jr.'s *While China Faced West; American Reformers in Nationalist China, 1928-1937* (1969). Spence traces the history of Western contacts through an essentially biographical approach; he begins with a description and analysis of the activities of Jesuit efforts to introduce Western science, especially astronomy, into China as a means of grafting Western influence, especially Christianity, onto Chinese culture. Other attempts to change China discussed by Spence range from the medical-missionary activities to Edward Hume and Peter Parker and the medical-political efforts of Norman Bethune to the engineering of Yellow River flood and irrigation control by O.J. Todd to the political-military activities of anti-Taiping fighters Frederick Townsend Ward and Charles George Gordon, the anti-Communist and anti-Japanese activities of American generals Stilwell, Chennault, and Wedemeyer, and the organizing work of Michael Borodin.³⁴

Stross analyzes the nature of American attempts to change China in the single — and fundamental — area of agriculture. He describes what he regards as largely academic and/or technical efforts to increase the efficiency and productivity of Chinese farming. Whether prompted by a mix of missionary and social motivations, as with the work of Joseph Bailie, creator of agricultural colonies, and the work of missionary teacher-scientists John Reisner and Lossing Buck, or prompted by more exclusively social and political motivations, as with the work of Wickliffe Rose and Selskar Gunn of the Rockefeller-backed International Education Board and Rockefeller Foundation, Western-inspired projects in agriculture foundered, in Stross's view, as the technical and scientific approach to problems such as soil erosion, plant breeding, and crop rotation begged the more decisive issue of land reform. The link, forged by John Reisner, between the Nanking University College of Agriculture and Forestry and Cornell was perhaps suggestive of Selskar Gunn's final conclusions, cited by Stross, that the Americans and their Western-educated Chinese compatriots, symbolized by American-trained Shen

Zonghan, who headed the Foundation-backed National Agriculture Research Bureau, were insufficiently attuned to the needs of Chinese peasantry and unable to convey methods of Chinese farming to the countryside.³⁵

Thomson, whose book was written before Rockefeller philanthropic records were open for research, analyzed rural reconstruction efforts during the "Nanking Decade," 1928-1937. He describes how the different Western participants — missionaries such as William Johnson, George Shepherd, and Hugh Hubbard, on the one hand, and the Rockefeller Foundation, on the other hand — intersected in their work and assumed important roles in a growing and perhaps partly successful program of rural reconstruction in selected demonstration districts. The program's various aspects took shape from the participation in the various health, education, economic, agricultural, social, and political training programs of constituent institutions: PUMC; Tsinghua, Nankai, and Yenching Universities; and the Mass Education Movement of James Yen, whose literacy program had been a precursor of the rural reconstruction movement.

Thomson finds that the rural reconstruction movement required time and that the Japanese invasion of 1937 and the ongoing civil war robbed the program of that time and whatever chance it had to succeed. He implies that success might well have been qualified, even with more time, since no efforts at land reform were in progress.³⁶

Thomson notes Gunn's assertion in 1934 that the Foundation's concentration, through PUMC, on Chinese medicine and public health had afforded limited success and ought to yield, at least in some measure, to Foundation support for the rural reconstruction program. In a similar vein, Stross reports Gunn's advocacy of a new China Program, emphasizing rural needs, to replace PUMC in the Foundation's activities in China.³⁷

Issues such as the ones raised in these and other books — of Western and Chinese means and ends, of timing, of institutional and personal roles, of religious and secular motivation, of assessments of the Western impact in general and of Chinese efforts to accommodate to it — characterize the CMB and PUMC records.

The Rockefeller Archive Center

The Rockefeller Archive Center holds the records of the corporate philanthropies funded by the Rockefeller fortune, the papers of the Rockefeller Family, the papers of individuals associated with the philanthropies and the Family, and archives of other related twentieth century philanthropies. Major collections at the Center include: the Rockefeller Family archives; Rockefeller Brothers Fund archives; Special Collections, including the Bureau of Social Hygiene archives, Commonwealth Fund archives, Laura Spelman Rockefeller Memorial archives, and Russell Sage Foundation archives.

Through their programs, the Rockefeller and other philanthropies whose records are at the Center sought to locate the most promising individuals, institutions, and fields where funding would help complete research projects or create institutions which would themselves make a signal contribution. The philanthropies sought to back projects which, if successful, would demonstrate a new path. This ambition — to set the pace — extended to all areas of their respective involvements.

Most files in the Center's collections document the administration of corporate philanthropic grants or personal gifts. The files contain several types of documents: routine administrative and financial correspondence and reports, reports from the institutional and personal recipients of support describing their work, and reports and comments by representatives of the donor of support. As such, these files document personal and institutional activity and the relationships between important figures and institutions.

A list of important subjects covered in the Archive Center's collections appears in Table 4. This listing is designed to emphasize the necessity for cross-collection searches for many topics. It is not meant to be exhaustive, either as to subjects represented in Archive Center holdings or as to collections relevant to subjects listed.

Unpublished registers, including folder title listings, or folder title listings alone, are available at the Center for virtually all open collections. For many collections, card or microfilm indexes, most fruitfully searched for personal or institutional names, are also available.

A published guide to archival and manuscript collections is available upon request; a published guide to photographs is also available.

Most records in the Center's collection are in English. Documents in German, Spanish, or French appear in Rockefeller Foundation project and general correspondence files, and in Field Office files, including the Paris Office file. The agricultural field office files contain occasional material in Spanish and Portuguese languages. Many documents written in languages other than English have been translated into English by the office which received the foreign language document. Little Asian-language material appears. Some German language material appears in Rockefeller University faculty collections. An extensive photograph collection is also available which illustrates, among other topics, Rockefeller Foundation and General Education Board grants, and Rockefeller Family history. Various collections at the Center also contain maps and blueprints.

Most records at the Center are open for research. Restrictions vary according to collection.

The Center is open to qualified scholars. Hours of operation are Monday-Friday 9:00 A.M. - 4:45 P.M. It is preferable to contact the Center staff prior to visiting. Information on transportation and accommodations is available upon request.

Photocopies are available at a cost of \$.35 per sheet for the first 1000 copies and at a higher rates for copies over 1000. The Center maintains a program of grants-in-aid to scholars undertaking topics that require research in the records at the Center. Additional information and application materials are available on request.

Tables

Table 1: Selected Titles from the Publications of the Peking Union Medical College

- In *Peking Union Medical College Publications*, 1922-1923
- "Studies of Gas and Electrolyte Equilibria in the Blood," by Donald D. Van Slyke, Hsien Wu, and Franklin C. McLean.
- In *Peking Union Medical College Publications*, 1930 (O-S)
- "Causes of Blindness Among the Chinese," by S.P. Chang. Reprint from *National Medical Journal of China* 1930, vol. 16.
- In *Peking Union Medical College Publications*, 1930-1931 (I-N)
- "Changes of Serum Proteins in Undernutrition," by Schmorl M. Ling. Reprint from *Chinese Journal of Physiology*, 1931, vol. 5, no. 1.
- "Infantile Scurvy: Report of a Case," by K.I. Hsu. Reprint from *National Medical Journal of China*, vol. 16, 1930.
- In *Peking Union Medical College Publications*, 1935-1936 (A-E)
- "The Pathological Anatomy of Human Kala-azar With Special Reference to Certain Hitherto Less Well recognized Changes," by C. H. Hu. Reprint from *The Chinese Medical Journal Supplement I*, pp. 1-12, 1936.
- "Ascaris in Liver Causing Fetal Hemorrhage; Report of a Case," by K.Y. Chin. Reprint from *The Chinese Medical Journal Supplement I*, 1936.

Table 2: Selected Titles of Articles from the Nursing Journal of China

- "The Continuous Intravenous Infusion," by Hwang Chung, January 1936
- "How the Public Health Nursing Field Can Best Be Supervised," January 1936
- "Health Education in Shensi Province," by Shao Chen Tec, April 1937
- "The Nurse as a Pharmacist," by Oen Kyung Li, January 1938
- "The Nurse in X-ray Service," by Alice Wilcox, July 1938
- "The Origin and Use of Drugs," by J. Bruce-Bays, April 1939
- "A Vacuum and Pressure Apparatus," by Emily J. Simpson, April 1939
- "Nursing Care of the Eyes," by Helen Rudine, July 1939
- "Home Visiting of Patients in Plaster Casts," by Yang Chih, October 1939
- "Religion and Hospitalization," by Newton E. Davis, April 1940
- "Mental Health," (note), April 1940
- "The New Health Food . . . Product of China," by Q.H. Chan, July 1940
- "Some Common Things Ought to be Disinfected in Hospitals," by Yang Chih, October 1940
- "A Sneeze," (note), April 1941

Table 3: Select Rockefeller Foundation Grants To Chinese Institutions

This partial list of RF grants to Chinese institutions includes funding for projects in medicine, science, and agriculture.

- Central China College - Herpetological Studies, 1933-1934
- China Subcommittee of the Committee of Science and its Social Relations, 1939
- Chinese Chemical Society, 1938
- Lingnan University - Agriculture, 1937-1948
- National Agricultural Research Bureau, 1935-1947
- National Bureau of Industrial Research-Forest Products Laboratory, 1941-1961
- Sleeper Davis Memorial Hospital, 1929-1930
- University of Nanking - Agriculture, 1935-1949
- Wuhan University - Biology, 1935-1941
- Yenching University - Agricultural Sanitation, 1939-1941
- Marine Institute of Biology, 1920-1936
- Peiping University Medical College - Black, 1925-1944
- Tsing Hua College, 1928-1933
- University of Chekiang - Genetics, 1937-1949
- Yenching University - Chemistry, 1936-1938
- University of Nanking - Language Teaching Equipment, 1947-1952
- China Institute of Economics and Statistical Research, 1932-1935

Table 4: Important Subject and Related Major Archival (Institutional) Collections at the Rockefeller Archive Center

- **Agriculture** (Rockefeller Foundation including field offices; International Education Board; Agricultural Development Council; International Basic Economy Corporation)
- **Asia** (Rockefeller Foundation, including CMB; CMB, Inc. - PUMC; Rockefeller Family Office; Asia Society; JDR 3rd Fund)
- **Black History**, including history of Black education (General Education Board; Rockefeller Brothers Fund; Laura Spelman Rockefeller Memorial)
- **Education** (General Education Board; International Education Board; Rockefeller Brothers Fund)
- **Humanities and Culture** (Rockefeller Foundation; Rockefeller Family Office; JDR 3rd Fund; Asia Society; Rockefeller Brothers Fund)
- **Medicine** (Rockefeller University; Rockefeller Foundation; CMB, Inc. - PUMC)
- **Public Health** (Rockefeller Foundation, especially International Health Board; CMB, Inc. - PUMC; Bureau of Social Hygiene; Commonwealth Fund; Rockefeller Sanitary Commission)
- **Religion** (Rockefeller Family Office; Laura Spelman Rockefeller Memorial; China Medical Board; China Medical Board, Inc.; General Education Board; Sealantic Fund; Rockefeller Brothers Fund)
- **Social Science, Development of** (Laura Spelman Rockefeller Memorial; Rockefeller Foundation; Russell Sage Foundation)
- **Social Welfare**, including housing (Laura Spelman Rockefeller Memorial; Rockefeller Family Office; Russell Sage Foundation; Rockefeller Brothers Fund; Bureau of Social Hygiene; Rockefeller Foundation).

Notes

Abbreviations Used:

RF - Rockefeller Foundation Archives

R.G. - Record Group

CMB - China Medical Board Records

CMB, Inc. - China Medical Board, Inc. (Peking Union Medical College) records

1. RF, R.G. 4 (CMB), box 20, folder 360 (Presbyterian Mission Hospital, North, Changteh, Hunan), list dated October 1915.
2. RF, R.G. 4 (CMB), box 76, folder 1784 (Protestant Episcopal Mission Hospital, Anking), copy of Taylor to L.C. Goodrich, October 14, 1922, attached to Goodrich to Greene, October 8, 1922.
3. RF, R.G. 4 (CMB), box 76, folder 1773 (Pre-medical Education), Gee's report of meeting with Edsall, December 13, 1926.
4. RF, R.G. 4 (CMB), box 82, folder 1856 (Resident Director), Gee to Greene, January 10, 1927.
5. RF, R.G. 4 (CMB), box 30, folder 617 (American Medical Association).
6. RF, R.G. 4 (CMB), box 38, folder 848 (China Institute).
7. RF, R.G. 4 (CMB), Box 38, folder 845 (China Foundation for the Promotion of Education and Culture). See letters of January 27, 1927, and February 28, 1927, Fan to Greene, and attachments, and Greene to Fan, April 13, 1927. The China Foundation files span folders 842-846.
8. Brief historical background sketches of the CMB and the PUMC appear throughout the CMB, Inc. Collection. A brief historical sketch covering the CMB, CMB, Inc., and PUMC is included in Schneider, Laurence A. "Using the Rockefeller Archives for Research on Modern Chinese Natural Science," *Chinese Science*, volume 7, December 1986. Professor Schneider also analyzes the Rockefeller archival sources from the point of view of the researcher. Published book-length histories which cover the CMB, CMB, Inc., and the PUMC include John Z. Bowers, *Western Medicine in a Chinese Palace: Peking Union Medical College 1917-1951* (New York, 1972); Mary Brown Bullock, *An American Transplant: The Rockefeller Foundation and Peking Union Medical College* (Berkeley, 1980); Mary E. Ferguson, *China Medical Board and Peking Union Medical College* (New York, 1970). In addition, the Rockefeller Foundation archives includes a 27-volume Historical Record (unpublished), with appendices, which is filed in RF, R.G. 1.1, 601A China Medical Board-Historical Record (boxes 24-33). Several of these sources have been consulted in the preparation of this paper.
9. Raymond B. Fosdick, *The Story of The Rockefeller Foundation* (New York. Harper and Brothers, 1952), pp. 88-89.
10. CMB, Inc., box 133, folder 965 (Radiology ÷ Graduate Course, 4th, 1926); box 134, folder 966 (Radiology ÷ Graduate Course, 5th, 1927).
11. CMB, Inc., box 48, folder 339 (Directors ÷ PUMC ÷ Annual Report, 1925-1927), "Annual Report of the Acting Director . . . 1925-1926," page 70.
12. CMB, Inc., box 48, folder 339, pages 70-72.
13. CMB, Inc., box 75, folder 531 (Hygiene ÷ Staff ÷ Grant, J.B. ÷ Proposal for Development), "A Proposal for a Department of Hygiene for Peking Union Medical College, by John B. Grant, 1923," pp. 15, 18, 40.
14. See CMB, Inc., box 75, folder 531, "A Proposal for a Department of Hygiene" and RF, R.G. 1.1 (Projects), 601 (China), box 4, folder 50 ("Permeation of the Curriculum with a

- Preventive Viewpoint," 1928). See also general correspondence and reports by Grant in RF, R.G. 1.1 (Projects); RF, R.G. 2 (General Correspondence); and RF, R.G. 5 (International Health Board/Division), including both correspondence and reports files.
15. CMB, Inc., box 66, folder 465 (Health Station, 1924-1926), "Report for September 1925," pp. 1-2.
 16. CMB, Inc., box 85, folder 600 (Madsen ÷ Maxwell Woo Fund), Mass Education Movement file, Grant to Greene, May 31, 1932, and attached "Memorandum of Cooperation Between the Peiping Union Medical College and the Mass Education Movement," dated May 26, 1932, by Grant.
 17. RF, R.G. 1.1, 601 (China), box 7, folder 70, (Mass Education Movement), Heiser to Grant, February 19, 1931.
 18. RF, R.G. 1.1, 601 (China), box 7, folder 70, undated proposal from Grant, titled "Ting Hsien ÷ January 1931; Fundamental Considerations of Policy," with letter from Grant to Heiser, January 22, 1931.
 19. CMB, Inc., box 69, folder 484 (Hospital--Minutes), "(Minutes of the) Committee on the Hospital," July 11, 1935.
 20. CMB, Inc., box 69, folder 484 "(Minutes of the) Committee on the Hospital," July 3, 1936, Document Record No. 14, "Principles Governing the Use of Drugs," attached.
 21. CMB, Inc., box 142, folder 1032 (Social Service), memorandum of March 24, 1923, Van Gorder to Sloan, attached to Greene to Houghton, January 27, 1923; memorandum of May 15, 1923, Greene to Edwin Embree, Secretary, China Medical Board.
 22. CMB, Inc., box 136, folder 983 (Religion), "Report on Dept. of Religious and Social Work, PUMC, 1919-1920," pp. 2-3, 5-6.
 23. CMB, Inc., box 36, folder 252 (Curriculum), Wilbur to Greene, March 17, 1924, p. 1.
 24. CMB, Inc., box 36, folder 252, Dunlap to Greene, July 31, 1924.
 25. CMB, Inc., box 58, folder 407 (Field Studies ÷ Anthropology ÷ Weidenreich, F.), Weidenreich to Houghton, October 16, 1936, p. 1.
 26. CMB, Inc., box 59, folder 412 (Field Studies ÷ Kala-azar), Report of August 19, 1924, pp. 2-5.
 27. CMB, Inc., box 124, folder 899 (Policy and Program) Greene to Pearce (Director for the Medical Sciences, The Rockefeller Foundation), September 12, 1929.
 28. CMB, Inc., box 124, folder 899, Greene to Eggleston, April 18, 1930.
 29. RF, R.G. 4 (CMB), box 77, folder 1785 (Protestant Episcopal Mission Hospital, Anking), Taylor to Goodrich, August 18, 1924 (copy), attached to Goodrich to Greene, September 11, 1924. See also this paper, Endnote 2 and related text.
 30. CMB, Inc., box 124, folder 900 (Political Situation), "Surgical Work of the Peking Union Medical College at the Nanyuan Army Hospital, December 1925 to January 1926," pp. 1, 2, 8.
 31. CMB, Inc., box 27, folder 187 (Appropriations ÷ PUMC ÷ Budget ÷ Greene), Greene to Eggleston, August 8, 1933.
 32. Bullock, *An American Transplant*, chapter 1, "The Dedication."
 33. For a general history of the Rockefeller Foundation, see Fosdick, *The Story of The Rockefeller Foundation*. The account here of the evolution of Foundation program is informed in a general way by the Fosdick history.
 34. Jonathan Spence, *To Change China; Western Advisors in China, 1620-1960* (Boston: Little, Brown and Company, 1969).
 35. Randall E. Stross, *The Stubborn Earth; American Agriculturalists on Chinese Soil, 1898-1937* (Berkeley: University of California Press, 1986), pp. 187, 188, 206, 211.
 36. James C. Thomson, Jr., *While China Faced West; American Reformers in Nationalist China, 1928-1937* (Cambridge: Harvard East Asian Series 38, Harvard University Press, 1969), pp. 151, 196 ff.
 37. Thomson, *While China Faced West*, pp. 131-132.

