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THE FOUNDING OF PEKING UNION MEDICAL COLLEGE: POLICIES AND PERSONALITIES

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To improve medicine in China was the first program of The Rockefeller Foundation after it was established in the spring of 1913. The base of the Chinese program was the Peking Union Medical College, which enrolled its first premedical students in 1917 and the first medical students in 1919. It was established at a standard to equal the best medical schools the low status of medicine in a society dominated by an abstract Con- in America or Europe and did so. It stands today as the most successful international program in medical education and was for a time one of the

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I am grateful for the material made available by the China Medical Board from its archives, especially the documented draft of the history of the C.M.B. by Miss Mary Ferguson, former registrar at Peking Union Medical College. Miss Ferguson discussed many aspects of Peking Union Medical College with me; her recently published book, *China Medical Board and Peking Union Medical College*, New York, 1970, is cited in the references of this article.

Former members of the faculty, Visiting Professors, and students in the United States, Taiwan, and Hong Kong have given generously of their time to tell me about P. U. M. C.

The preparation of the original draft of this manuscript was made possible by an invitation from The Rockefeller Foundation to spend a month in residence at Villa Serbelloni, Bellagio, Italy.

world's leading medical schools. P. U. M. C., as it was known to its dedicated faculty and students, enrolled the outstanding medical students of China, at that time a country of more than 400 million people. They became the leaders of medicine and public health in China under the Kuomintang government. The \$45 million that The Rockefeller Foundation invested through its China Medical Board and at P. U. M. C. was only exceeded by its grants in the United States. No other medical school received a comparable benefaction from the foundation.

P. U. M. C. was a unique source of young American doctors who returned to the United States for distinguished careers in academic medicine. A program of Visiting Professorships brought outstanding medical scientists and medical educators to China.

While the contacts between Japan and the Dutch which began in the 17th century were based on medicine, the contacts between China and the West were based on mathematics, astronomy, and cartography, through Jesuit scholars who served as advisors to the Imperial Court at Peking. However, in the middle of the 17th century a Polish Jesuit, Father Michael Boym, prepared a treatise on Chinese medicinal botany, *Flora sinensis, ou traité des fleurs, des fruits, des plantes et des animaux particuliers à la Chine* (Vienna, 1656). Boym also prepared probably the first description for the West of some of the practices of Chinese traditional medicine, *Clavis medica ad Chinarum doctrinam de pulsibus* (Nuremburg, 1686).

The first medical missionary to reach China was Robert Morrison, who arrived at Macao on September 4, 1807.¹ He had studied a little medicine in a special course for missionaries at St. Bartholomew's in London. Morrison and Dr. J. Livingstone, a fully qualified surgeon of the East India Company who was posted to Macao, opened a dispensary there in 1820.

The first hospital was opened at Macao in 1827 by Thomas Colledge, an English surgeon. The legendary Dr. Peter Parker from Framingham, Massachusetts, who was awarded the M. D. at Yale in 1834 and had also attended lectures in theology, established an ophthalmic hospital at 7 Green Pea Street in Canton in 1835.² This lane was famed with sailors around

¹ For early missions see K. S. Latourette, *A History of Christian Missions in China*. London: Soc. for Propagating Christian Knowledge, 1929; Harold Balme, *China and Modern Medicine: A Study in Medical Missionary Development*. London: United Council for Missionary Education, 1921; Thos. Cochrane, *Survey of Missionary Occupation of China*. Shanghai: Christian Lit. Soc. for China, 1913; Chimin K. Wong, and Wu Lien-Teh, *History of Chinese Medicine*. Tientsin: Tientsin Press, 1932.

² There are a number of publications on Parker: George B. Stevens, *The Life, Letters*

the world as "Hog Alley" for its succession of brothels, dives, and opium dens which surrounded Parker's ophthalmic hospital. With Chinese assistants at his side, Parker moved from chair to chair practicing the ancient technique of "couching" to dislocate the opaque lens in patients with cataract. He was the first surgeon in China to perform mastectomy, hysterectomy, and, in 1847, the first operation under a general anesthetic, sulfuric ether. On February 21, 1838, Parker and Colledge established the Medical Missionary Society of China, one objective of which was to educate Chinese youths in Western medicine.

At first the missionaries were isolated in South China, but under the Treaty of Nanking (1842 and 1843), the British, and in 1844 Americans and French, were permitted to trade, to establish residence, and to open hospitals in five ports, Canton, Shanghai, Ningpo, Amoy, and Foochow. The island of Hong Kong was ceded to Great Britain to become a Crown Colony. After the Treaties of Tientsin in 1858, the missionaries were allowed to enter the interior of China.

Western medicine first came to Peking three years later, 1861, when Dr. William Lockhart opened the Peking Hospital of the London Missionary Society on premises rented from the British Legation. The first Western medical school was opened by the missionaries at Tientsin in 1888, and other schools were subsequently established at Canton, Shanghai, and Chee-loo. All were based in inadequate and ill-equipped facilities with at best a few missionaries as teachers, assisted by Chinese apprentices and interpreters. But the missionaries confronted problems of a cultural nature which transcended the inadequacies of their humble environment.

The most important of these was the total dedication of the Chinese to the traditional system of medicine, *Chung-i*, which dated to the dawn of Chinese civilization and was rooted in Chinese culture.³ A second was fucian philosophy. A French priest described the practice of medicine in

and Journals of the Rev. and Hon. Peter Parker M.D., Missionary, Physician, Diplomatist. The Father of Medical Missions and Founder of the Ophthalmic Hospital in Canton. Boston: Congregational Sunday School and Publ. Soc., 1896. A recent objective analysis of Parker is "Peter Parker, Bodies or Souls" in Jonathan Spence, *To Change China. Western Advisors in China. 1620-1960.* Boston: Little, Brown, 1969. From the missionary side, W. W. Cadbury and M. H. Jones, *At The Point of a Lancet. One Hundred Years of Canton Hospital 1835-1935.* Shanghai: Kelly and Walsh, 1935.

³ Edward H. Hume, *The Chinese Way In Medicine.* Baltimore: Johns Hopkins Press, 1940; William R. Morse, *Chinese Medicine.* New York: Hoeber, 1934; H. Wallnofer and A. von Rottauscher, *Chinese Folk Medicine.* New York: Crown Publ., 1965; John Z. Bowers, "Chung-I: Chinese traditional medicine," *Asia*, 1966, 5: 62-69; Joseph Needham, and Lu Gwei-Djen, "Chinese Medicine," in F. N. L. Poynter, ed., *Medicine and Culture.* London: Wellcome Institute of the History of Medicine, 1969.

the middle of the 19th century as a dumping ground: "The profession of medicine is considered an excellent conduit or wastepipe to carry off all the literary bachelors who cannot attain to the superior grades or pretend to the mandarinatate."⁴

A third obstacle was China's historic rejection of intercourse with the West. As the all-powerful "Middle Kingdom," for centuries she had scorned every effort by Western nations to establish relationships. The militant aggressiveness of Western nations as expressed in The Opium Wars (1839-1842), the Anglo-French seizure of Canton resulting in the Treaties of Tientsin (1858), the occupation of Peking with the wanton destruction of the Imperial Summer Palace in 1860, and the vengeance of the Western powers after the Boxer Rebellion in 1900 only heightened, and with justice, the xenophobia of the Chinese. Even climatic aberrations were attributed to the presence of the missionaries. In a letter to London at the time of the Boxer Rebellion a missionary complained: "The want of rain is being put down to the Christians."⁵

Beyond the conflicts with the foreign powers, China was in almost constant civil turmoil. There was continuing agrarian unrest owing to absentee landlordism, official levies, and natural disasters leading to disease and famine. Armed bandits and rebel groups not only harassed but physically attacked the missionaries.

Yet another barrier to Western medicine was the Chinese adoration of the human body as a sacred treasure which, for this life and the spiritual hereafter, must remain unmarred. Surgery and dissection were therefore opposed bitterly.

Here it is appropriate to ask: "what then was the lure of China?" First, China was the last great country to open to the West. Beginning with the Portuguese in 1520, the Dutch, the British, and the French had all been rebuffed, until the middle of the 19th century, save for the use of Canton as an entrepôt. For the missionaries, for the foreign traders, and for the adventurers, China presented the last great golden opportunity.

The eyes of Americans were now turned to the west. We held our first Oriental colony in the Philippine Islands. American clipper ships were returning from Canton with silks, porcelain, screens, paintings, and other prized Chinese art forms for our museums and the mansions of the wealthy. The admission of Washington and other Western territories

⁴ Evariste Regis Huc, *Christianity in China, Tartary and Thibet*. London, 1857, vol. III, p. 209.

⁵ Files of The London Missionary Society, North China Folder, 1895-1945, p. 23, 1900. Letter from Dr. G. P. Smith, Tientsin.

to statehood heightened our westward expansionism, and with the entire Pacific shore now a part of the nation we naturally looked further west.

A third factor was the deep religious awakening that swept the United States, including the campuses of our colleges and universities. We were especially concerned with the salvation of the heathen who "bows down to wood and stone." For physicians, China offered limitless opportunities to apply their skills in the conquest of disease. Smallpox, tuberculosis, typhus fever, parasitic diseases, and essentially every form of malnutrition abounded. A final and enduring element was the sensuous lure of the mysterious East.

At the beginning of the 20th century the missionaries decided to concentrate their efforts in a few strong "union" medical colleges supported by groups of societies, rather than the customary small institutions with a single and inadequate base. At this time the Boxer Rebellion, which took the lives of more than 100 Protestant missionaries, focused the attention of the missionaries on the seat of the rebellion, Peking. As the political, historic, and cultural capital of China, it was the logical site for a new program in medical education, and the first Union Medical College was opened in Lockhart Hall in Peking on February 12-13, 1906, under Dr. Thomas Cochrane of the London Missionary Society.⁶

At the opening ceremony, Sir Robert Hart, Inspector General of Customs, spoke prophetic words about the future of the school:

If it does not develop into the Imperial College of Surgeons of China, it will prepare the way and produce such a college, and it will yet see other offspring, other medical schools and colleges, seats of the truest learning and the broadest culture in every quarter of this deathless empire.⁷

The school was supported by a union of three British and three American societies, with title to the property held by the most influential group working in China, The London Missionary Society. Mandarin was the language of instruction, as in all other schools, and the curriculum covered five years.

Because Cochrane had successfully treated her head eunuch, Li Lienying, the Empress Dowager granted the Imperial Sanction and a gift of £1,400 when Cochrane started to raise funds for the school. A clipping in the files of the London Missionary Society reads:

⁶ Thos. Cochrane, *Survey of the Missionary Occupation of China*, Shanghai: Christian Lit. Soc. for China, 1913.

A series of articles in the Peking Union Medical College Weekly Calendar, 1939-41, gives a detailed account of the development of the Union Medical College and Western medicine in Peking.

⁷ P. U. M. C. Weekly Calendar, 1939-41, vol. XXXIX, p. 60.

The Empress Dowager has shown her interest in the Union Medical College at Peking by a munificent donation of Taels 10,000 to its funds. . . . Dr. Cochrane was recently summoned to the palace to treat the chief eunuch Li in a difficult illness. His success has no doubt afforded to her Imperial Majesty a valuable object lesson in the efficacy of foreign medical skills.⁸

At about this time the religious missionary revival on American campuses stimulated the establishment of two medical schools in China related to American universities. The first of these, sponsored by the Yale Foreign Missionary Society, was Yale-in-China at Changsha in rugged Hunan Province, where medical instruction was undertaken in the fall of 1908 by Edward H. Hume, M. D.⁹ After a gift of \$150,000 for a teaching hospital from Edward S. Harkness of New York in 1913, a formal cooperative agreement for the establishment of a full-fledged medical school to be known as Hsiang-Ya was reached between the Yale Mission and the government of Hunan Province. ("Hsiang" was the literary name for Hunan Province and "Ya," the first syllable of the Chinese name for Yale.) The cooperative agreement was successful for a time, and the medical school, its teaching hospital, opened in 1917, and the affiliated nursing school gained stature and expanded. But Hunan was a center of political, cultural, and military turmoil; and radicals, joined by students of the school, unleashed their frustration and mounting xenophobia on Yale-in-China. Hume resigned in 1926, and the school was closed the following year, when the American government ordered the evacuation of all citizens because of concern for their safety.

The missionary zeal of Harvard medical students was responsible for the founding of Harvard of China at Shanghai in 1912 as a five-year experiment, with Charles W. Eliot as president of the Board of Trustees.¹⁰ The dean and professor of tropical medicine was a Hopkins graduate (1905), Henry S. Houghton, who had spent five years studying parasitic diseases at Wuhu General Hospital of the Methodist Mission. The clinical program was based in the twenty-bed hospital of the Chinese Red Cross

⁸ London Missionary Society, 1904. Eastern No-3349. Arrival No. 5557. From T. Cochrane, Peking, dated Aug. 27, 1904.

⁹ Edward H. Hume, *Doctors East, Doctors West, An American Physician's Life in China*. New York: Norton, 1946; Spence, *op. cit.* fn. 2 above, pp. 161-183; William Reeves, Jr., "Sino-American Cooperation in Medicine: The Origins of Hsiang-Ya (1902-1914)," in *American Missionaries in China*, Harvard East Asian Monographs # 21, Cambridge, 1966, pp. 129-182.

¹⁰ Harvard Medical School of China. Annual Reports of the Executive Committee of the Corporation, 1911-1917; Jean A. Curran, "The Harvard Medical School of China." *Harvard M. Alumni Bull.*, Christmas, 1963.

Society. The level of the premedical education of a majority of the students was inadequate for the standards set by the school, and the attrition rate was consistently over 50 percent. There were no missionary ties, and adequate financial support could not be developed. The school was closed in 1917, but the assets were subsequently taken over by the China Medical Board. A third effort was made at Canton, where in 1904 the Christian Association of the University of Pennsylvania assumed the responsibility for the medical work of the Canton Christian College under Dr. Josiah C. McCracken. In 1909 McCracken and the other members of the Pennsylvania mission moved to St. John's University in Shanghai.

Religious influences were also important in the decision of The Rockefeller Foundation to establish a program in medicine in China. As early as the middle of the nineteenth century, Mr. John D. Rockefeller, a devout Baptist, began to make modest gifts to religious and missionary programs, principally those relating to his denomination. Toward the close of the century, he undertook a thorough analysis of his vast fortune and outlined a program for its future distribution. Frederick T. Gates, a Baptist minister and secretary of the American Baptist Education Society, joined Mr. Rockefeller in 1892 as his advisor on philanthropy—seemingly a strange role for a clergyman. But Frederick T. Gates, in the words of Raymond B. Fosdick,

combined bold imagination and large horizons with shrewd business capacity and driving energy . . . he was one of the chief architects of that extraordinary group of foundations which Mr. Rockefeller established in the first two decades of the century.¹¹

In 1902 the Rockefeller Institute for the advancement of medical research was opened with William H. Welch, dean of the Johns Hopkins Medical School, as president of the Board of Trustees and Simon Flexner, his former student, as the first director.¹² A year later, the General Education Board was incorporated to strengthen education for both blacks and whites in the South. In 1909 the Rockefeller Sanitary Commission, the forerunner of the International Health Board, was established to eliminate hookworm disease in the South. Thus medicine, public health, and education were the pillars for the first major programs supported by Mr. Rockefeller.

China was an early interest of Frederick Gates, and in 1909 he persuaded

¹¹ R. B. Fosdick, *The Story of The Rockefeller Foundation*. New York: Harper, 1952, p. 1.

¹² G. W. Corner, *A History of The Rockefeller Institute, 1901-1953: Origins and Growth*. New York City: Rockefeller Inst. Press, 1964.

Mr. Rockefeller to support Professor Ernest Dewitt Burton of the Department of Theology at the University of Chicago in an Oriental Education Commission to explore the possibility of programs in China.¹³ Gates had hoped that the commission would recommend the development of a great university. But because of anti-foreignism and the insistence of the crumbling Manchu dynasty on direct control of any educational institution, Burton judged that the time was not propitious for such a program. Burton noted the sad state of medicine in China—there were no more than 400 students of Western medicine in the vast Empire with its population of over 400 million—one student of Western medicine for each million of the Chinese people.

Gates was above all a man of conviction, and Burton's negative report in no way altered his enthusiasm for China. The striking success of the Sanitary Commission in its campaign against hookworm strengthened his resolve to see a Rockefeller-sponsored program in medicine in China. After The Rockefeller Foundation was chartered in the spring of 1913, Gates, with both insight and missionary zeal, took it to be his responsibility to turn the eyes of the new foundation to China. In this he was joined by Jerome D. Greene, secretary of the foundation, and they proposed to the president, Mr. John D. Rockefeller, Jr., that he should bring together a small group to consider what The Rockefeller Foundation might do in China. The meeting, called the China Conference, was held on January 19-20, 1914, with Mr. Rockefeller, Jr., as chairman. It included representatives of the principal missionary boards working in China and several medical missionaries who had served there. Other participants included Harry P. Judson, president of the University of Chicago, Simon and Abraham Flexner, Welch, Charles W. Eliot of Harvard, John R. Mott of the International Y. M. C. A. and later a Nobel Laureate for Peace, and several members of the staff of The Rockefeller Foundation and the General Education Board. In his opening remarks Mr. Rockefeller cautioned the group: "We are not committing ourselves to anything in China . . . there is a great opportunity, a great need."¹⁴

The presence of Charles W. Eliot at the meeting proved to be a distinct boon for the aspirations of Gates and Greene. Two years earlier Eliot, on a mission for the Carnegie Endowment for International Peace, had studied the state of Japan and China.¹⁵ His report set forth in strong

¹³ Ernest DeWitt Burton and Thomas Crowder Chamberlin. Report of The Oriental Education Commission of the University of Chicago, Part V, China, December, 1909.

¹⁴ M. E. Ferguson, *China Medical Board and Peking Union Medical College*. New York: China Medical Board of New York, Inc., 1970, p. 16.

¹⁵ Charles W. Eliot, *Some Roads Towards Peace: A Report to the Trustees of the*

terms the pressing need to develop Western medicine in China, not only because of the appalling medical problems, but also as the medium to introduce inductive reasoning. He noted the striking differences between East and West:

Since the Oriental, except recently in Japan, has been a student of the abstract he has never practiced inductive philosophy to which the West owes its remarkable progress in the last four hundred years. . . . In contrast the Oriental has proceeded by intuition and meditation and has accepted his philosophy and religion largely from authorities.¹⁶

Eliot was struck by the wretched state of medicine in China:

They have no knowledge of the practice of scientific medicine and no knowledge of the practice of surgery in the modern sense . . . the treatment of disease in the mass of the Chinese population is ignorant, superstitious, and almost completely ineffectual.¹⁷

We find the gift of Western medicine and surgery to the Oriental populations to be one of the most precious things that Western civilization can do for the East. . . . There is no better subject than medicine in which to teach the universal inductive method.¹⁸

These findings and recommendations were the basis for Eliot's remarks when he was asked to open the discussions on January 19, 1914.

President Eliot also brought to the meeting the richest understanding of medical education of any university president in America. After assuming the presidency of Harvard in 1869, his first major project had been to convert the Harvard Medical School from a proprietary institution strongly opposed to university concepts to a center of academic excellence rooted in the traditions and practices of the university. In this he was singularly successful, and at the time of his retirement in 1909 he listed for Edward Everett Hale, the great Unitarian clergyman, "the best fruits of my forty years' work." First among these was "The re-organization and endowment of the Medical School."¹⁹

As president of the Trustees of the Harvard Medical School of China, President Eliot also had first-hand experience with the problems of developing a medical school and teaching hospital in that country. It was only natural then that Eliot forcefully advocated the need for the founda-

Endowment. Washington, D.C.: Carnegie Endowment for International Peace. Publication No. 1, 1914.

¹⁶ *Ibid.*, p. 1.

¹⁷ *Ibid.*, p. 21.

¹⁸ *Ibid.*

¹⁹ Henry James, *Charles W. Eliot, President of Harvard University, 1869-1909*. Boston: Houghton Mifflin, 1930, vol. 2, p. 170.

tion to establish a medical program in China. Others joined him in this position.

Based on the discussions at the China Conference, the Trustees of The Rockefeller Foundation, on January 24, 1914, "voted to establish a Commission to study and report on conditions of public health and medicine in China."²⁰ The chairman, Harry Pratt Judson, LL. D., a trustee of the foundation, a member of the General Education Board, and president of the University of Chicago, was endowed with singular administrative abilities. Francis Weld Peabody, M. D., professor of medicine at Harvard and a leading statesman in American medicine, was the second member, the third being the American Consul-General at Hankow, Roger Sherman Greene, the brother of Jerome Greene. The secretary was George Baldwin McKibben, J. D.

Judson visited the White House, where President Howard Taft expressed his full support for the mission, as did Secretary of State William Jennings Byran. The last leg of the journey to China was the ten-day trip from Moscow to Peking using the Trans-Siberian Railway; they arrived at Peking on April 18, 1914.

During the next four months the commission visited seventeen medical schools that were considered to be representative of the state of medical education in China. At that time the central government maintained two medical schools—Peking Medical Special College and Peiyang Military Medical College at Tientsin. There were three provincial schools—at Kiangsu, Chekiang, and Tientsin. The commission concluded that the Peiyang Medical School at Tientsin was the best of the governmental institutions. It had been developed on the foundations of the first formal program in Western medical education in China, which was established at Tientsin by a Scottish physician, John Kenneth MacKenzie, in 1881. The funds for the school were donated by the Viceroy of Chihli, Li Hung-chang, whose wife had been cured of a lingering illness by MacKenzie.

The Medical Missionary Association had approved nine missionary union schools which were located in Moukden, Peking, Tsinanfu, Chengtu, Hankow, Nanking, Hangchow, Foochow, and Canton. The commission felt that the missionary schools at Shanghai and Changsha also had merit. There were German medical schools at Tsingtau and Shanghai, a French medical school in Shanghai, and the South Manchuria Railway Medical School of the Japanese in Moukden. The South Manchuria Railway was a diversified monopoly which operated mines, industries, educational insti-

²⁰ *Medicine in China*, China Medical Commission of The Rockefeller Foundation, New York, Chicago: Univ. of Chicago Press, p. V.

tutions, and hospitals, as well as the railway. Because the medical school was well financed, it soon became a first-rate research center and attracted some of Japan's leading medical scientists. The Hong Kong College of Medicine had been founded for Chinese in 1887 by the great pioneer of tropical medicine, Sir Patrick Manson. There were two students in the first class, one of whom was Sun Yat-sen. In 1912, when the new University of Hong Kong was opened under Crown sponsorship, the former College of Medicine became its Faculty of Medicine.²¹ In both curriculum and character it became, for a time, as British as any medical school in the United Kingdom. There were three medical colleges for women in China.

There were also a number of second-rate "medical special colleges." They corresponded to the *semmon gakko* in Japan, into which students without any premedical education were admitted directly from middle school into a four-year curriculum. Since practically all of the Chinese who studied medicine in Japan entered *semmon gakko*, they naturally carried this pattern back to China.

The report of the commission describes in detail each of the seventeen medical schools that were visited. One of these was the Union Medical College in Peking. It was housed in five buildings which included Lockhart Hall, a men's hospital of sixty beds, a women's hospital of thirty beds, an outpatient department, and a dormitory, Oliver Jones Hall, the gift of G. Oliver Jones of Liverpool in 1907. The staff consisted of fourteen foreign doctors for a student body of ninety-five medical students in a five-year curriculum and forty-three in the preparatory department with a one-year program. The commission stated: "The Union Medical College at Peking, while its organization is not wholly satisfactory, appears to be more firmly established and better supported than any other missionary institution in the country."²²

The commission's general impression of the state of medical education was mixed:

. . . there is no medical school now in China which is adequately equipped and no school which is adequately manned. Some of the schools, however, have really high standards and sound ideas, and the advanced men on other faculties have the right policies in mind.²³

There were 244 mission hospitals in China, and the total of 446 foreign doctors to staff them included a surprisingly high percentage (26 percent)

²¹ Francis E. Stock, "Medical education and practice in Hong Kong." *Lancet*, 1962, 2: 714-716.

²² *Op. cit.*, fn. 20 above, p. 44.

²³ *Ibid.*, p. 33.

of women. One-quarter of the missionary hospitals were exclusively for women, but the commission noted that Chinese males were beginning to accept the ministrations of female physicians. They acknowledged the improved professional competence of the missionaries in general:

As in any large group of men, one finds almost every type among the medical missionaries in China. On the whole the standard both of medical and of general efficiency is high, and not a few would have made their mark professionally anywhere in the world. The day of the half-trained medical missionary is rapidly drawing to a close.²⁴

The wide range of demands on the doctor who went to China required: "a much broader training than his brother who remains at home. . . . Two years of hospital work, after finishing the medical course, should be the minimum requirement and it is of great advantage to have some specialty training."²⁵ Beyond his varied professional responsibilities, the missionary doctor had innumerable other roles, which included business and financial manager of the hospital, evangelist, architect, builder, and handyman.

The doctor would usually take a few boys into the hospital and train them to serve as nurses and dressers and to do minor surgery. The commission was not enthusiastic about the training of these medical assistants, because "The great difficulty is that there is no means of controlling the type of work that they will do, and they are almost sure to deteriorate as soon as they leave the hospital."²⁶

The major disease problems were syphilis, hookworm, and tuberculosis, especially tuberculosis of the bone. Smallpox was "considered by the people as a matter of course";²⁷ cholera had at times been epidemic in the south.

A principal task facing the commission was to identify the cities and the institutions where programs should be established. They chose Peking as by all odds the best place in China for a strong and influential medical school. They based their decision on a number of points: Peking had been the capital continuously under three dynasties and would probably continue to fill that role; it was, as well, the educational center of the country; students came to Peking from all parts of China; it was easily accessible by rail or by sea; and the Peking dialect had been that of the ruling classes for many centuries.

²⁴ *Ibid.*, p. 69.

²⁷ *Ibid.*, p. 3.

²⁴ *Ibid.*, p. 65.

²⁵ *Ibid.*, p. 66.

The commission was also impressed with the fact that the Union Medical College was the only school recognized by the Chinese government. It had an excellent site and several buildings that would be useful for many years.

For all these reasons the Commission feels that it is most important that a strong medical school should be maintained at Peking, and that, if possible, the very creditable beginning made by the missionary societies, and their experience, should be utilized by assisting their institution instead of founding a new one.²⁸

On the other hand, the commission concluded that the second program in medical education, to be developed in Shanghai, would require a fresh start in a new medical school. They felt that there was no medical school in Shanghai that was established on a truly permanent and satisfactory basis. Since Francis W. Peabody was a Harvard professor, it is impressive that the commission maintained a completely objective position toward the Harvard Medical School of China. They referred to its "excellent" work but went on to say:

The school has, however, as already noted, no buildings of its own, the funds for its maintenance come mainly from subscriptions pledged for a short period which is about to expire. Its financial position is therefore not entirely secure. While the attitude of this school toward the missionary movement is sympathetic, it has the great advantage of being entirely free from religious restrictions. Most of the staff have now a good grasp of the medical educational situation in China and with their local experiences are well qualified to become the nucleus of a strong medical faculty.²⁹

The commission suggested that all forces interested in medical education in the lower Yangtze basin should merge their resources into a single new school at Shanghai.

Since Canton was the seat of Western influence going back to Peter Parker, it was not surprising that there were more students studying medicine in Canton than in any other city and that the profession of medicine was highly esteemed. The reputation and the remarkable clinical material at the Canton Hospital founded by Parker were important assets, and the recommendation was that support should go to Canton Christian College for a program in medical education using the Canton Hospital.

There was no uniform pattern of operation in the missionary hospitals. Many were based in old native homes with small, dark, poorly ventilated rooms and the barest facilities for baths and lavatories. Central heating was impossible, and there was no running water. The buildings that had been specially constructed for hospital purposes were usually of native

²⁸ *Ibid.*, p. 45.

²⁹ *Ibid.*, p. 51.

grey brick and were two or three stories in height. Since few cities had a proper water system, it was usually necessary to establish a pipeline from a cistern. In the older northern hospitals, the patients lay on a brick platform, a *k'ang*, which had a fireplace and flue at its base to keep the patients warm. The commission suggested that the dirty bedding and clothing of the patients was a reason for the high incidence of typhus fever among foreign doctors—the deadliest enemy of the medical missionary in north China. Some of the hospital staffs were reluctant to bathe and clean up the patients for fear this would drive them away. For similar reasons, they permitted relatives and friends of the patients to come and go freely, and the wards were heavily contaminated. Because of the overwhelming pressures for patient care, there was little clinical laboratory diagnosis, save in the largest cities. Similarly, in many hospitals the doctors did not have time to work up their cases: “this is one of the things that the doctor does not have, so he is forced to take a hasty look, guess, and trust that he is prescribing correctly.”³⁰ They attributed the fact that the Chinese preferred their indigenous medicine to that of the West to this hasty style of the doctor's practice. On the other hand, the Chinese appreciated Western surgery, since so little, and then only minor, surgery was performed by the Chinese practitioners.

A major question that faced the China Medical Commission and continued to be troublesome in the formative years was the standard for the new programs in medical education. Should the foundation concentrate on a few centers of excellence or spread its funds to assist a larger number of institutions? Recognizing the pressing need for doctors in China, should the emphasis be on quality or quantity? The commission's recommendation was clearly for quality:

That medical instruction in which the Foundation is concerned should be on the highest practicable standard. Such standard at the present time seems to include as a requirement for admission to a medical school the training of a middle school (roughly equivalent to an American High School), supplemented by two years of pre-medical work devoted to instruction primarily in English, Chinese, physics, chemistry and biology.³¹

The inadequacies of the missionary hospitals was a point of special concern to the commission. Their recommendations included an expansion of staff, an increase in salaries for Chinese doctors and foreign nurses, and an increase in equipment. The administrative burden on the missionary doctors could be alleviated by the appointment of non-medical business managers, while the medical care programs would be strengthened by the

³⁰ *Ibid.*, p. 64.

³¹ *Ibid.*, p. 91.

development of clinical diagnostic laboratories. There should be several medical reference library centers which would offer easy access to current advances in medical sciences. The training of nurses, which was woefully inadequate, should be encouraged.

Other recommendations included aid to Yale-in-China, the establishment of two model tuberculosis hospitals; six fellowships for Chinese to study abroad; scholarships for needy medical students; ten annual postgraduate fellowships for missionaries; and special instruction for Chinese graduates in residency programs at Rockefeller Foundation-supported medical schools.

These recommendations were adopted by the trustees of The Rockefeller Foundation as a working basis, and on November 30, 1914, they voted to establish the China Medical Board of The Rockefeller Foundation to implement a program in medicine in China.

Mr. John D. Rockefeller, Jr., was the first chairman of The China Medical Board. The first director was Wallace Buttrick, a Baptist minister, who was also president and secretary of the General Education Board. Buttrick had assumed the responsibility for administering the new General Education Board in 1903, and in his added capacity at the China Medical Board became a leader in the founding of P. U. M. C. He has been described by Raymond Fosdick as "a man of sturdy judgment and massive common sense."³² Roger S. Greene was appointed resident director in China.

Dr. Buttrick appreciated, as did Mr. J. D. Rockefeller, Jr., the anxieties of the missionary societies about the future of their programs. Therefore, on January 15, 1915, just one month after the first meeting of the China Medical Board, Buttrick and Roger Greene met with representatives of the three American Mission Boards—Presbyterian, Methodist, and Congregational—that were cooperating with the London societies at the Union Medical College. They asked the missionaries for "a free hand in the development of the Union Medical College," after stating that the China Medical Board was prepared to receive requests for financial assistance to the missionary hospitals.³³

The attitude of the missionaries about the new program in Peking was described by the dean of the medical school at Tsinan:

. . . they had to face the fact that the best modern standards were now to be introduced into China and that they might be accused of offering second-rate medical training. Some felt that they should continue many low grade medical schools but the leaders insisted that they should concentrate on just that number of medical

³² Fosdick, *op. cit.*, fn. 11 above, p. 12.

³³ M. Ferguson, Documents.

schools that they could make absolutely efficient. . . . To retire at so promising a stage was unthinkable for that would mean the surrender of a wonderful opportunity of infusing medical instruction with Christian ideals and principles, and of winning a large number of future leaders of the medical profession for the service of Jesus Christ.³⁴

The missionaries were deeply concerned that the Christian emphasis at the Union Medical College should not be abandoned under the new program. They were fortunate that Mr. John D. Rockefeller, Jr., shared his father's deep commitment to the Christian Church. To give them further assurance that the religious nature of the school would be continued, he addressed a letter on March 15, 1915, to all American and British medical missions working in China. He stated that existing schools and hospitals would be assisted and new medical schools would be established. He then turned to the religious question and committed the Board: ". . . to select only persons of sound sense and high character, who were sympathetic with the missionary spirit and motive, who were thoroughly qualified for their work professionally, and who would dedicate themselves to medical ministrations in China."³⁵ He added that the Board could not follow the missionary pattern of specifically examining denominational affiliations, as well as tests of faith. As Ferguson has pointed out:

As the years went by, Mr. Rockefeller more and more looked upon his letter as a personal commitment to the mission boards to maintain the Christian character of the institution—a conception which not only influenced administrative policies but seriously affected the careers of some individuals.³⁶

The missionaries were also apprehensive about the recommendation that English should be the language of instruction instead of Mandarin. The preparation and translation of medical texts in Chinese and the creation of an adequate medical terminology had been for many years a major part of the missionary effort. As early as 1850, Dr. Benjamin Hobson at Canton had begun to publish texts on anatomy and physiology, surgery, medicine and materia medica, midwifery and pediatrics, and general physics. The missionaries felt that it was important to have Mandarin continue as the principle language of instruction, since in due course all instruction should be in Chinese.

In the spring of 1915, Wallace Buttrick sailed to England to win the support of the British societies that held a stake in the school and to negotiate for the purchase of the property. The minutes of a meeting at

³⁴ H. Balme, *op. cit.*, fn. 1 above, pp. 122-123..

³⁵ M. Ferguson, *C.M.B. and P.U.M.C.*, *op. cit.*, asterisked fn. above, p. 22.

³⁶ *Ibid.*, p. 23.

the London Missionary Society on April 25, 1915, state that on joining discussions with the Eastern Committee, Buttrick "gave the strongest assurance that if the transfer was carried out the work of the College would be continued on its present line as a Christian Mission College."³⁷ He cited Dr. John R. Mott, now a member of the China Medical Board, as an example of the high Christian character associated with the Peking project. An important voice was that of the founder of the Union Medical College, Dr. Thomas Cochrane, who placed himself squarely behind the proposed transfer on the grounds that it:

. . . afforded a great opportunity for continuing the work of the college and the hospital on a scale far beyond anything possible by the unaided efforts of the societies interested, and would, in his judgment, greatly further the prospects of successful evangelistic work amongst the medical students and in the hospital.³⁸

The Eastern Committee approved Buttrick's proposal for the purchase of the school in principle but emphasized the religious question: "its chief concern is that, if the transfer is made, the missionary side of the work of the college should be maintained and increased."³⁹ More specifically it was proposed that the church building and a street chapel should be continued in any new physical plant, and that the missionaries should have "liberty to do all in their power to maintain the religious tone and work of the College and Hospitals."⁴⁰ The sale was consummated in New York at a price of \$200,000, and the China Medical Board of The Rockefeller Foundation took over the Union Medical College on July 1, 1915, at which time the annual budget was \$53,000.

The Union Medical College was filled with rumors and speculation about the future, and morale was at a low ebb. The number of missionary doctors on the staff had dropped, and the archives in London show that this was another cause for concern:

Resolution of the Joint Board. That the attention of the Directors of the London Missionary Society be called to the serious depletion of the staff of the Union Medical College, Peking, and that they be earnestly requested to use every endeavour to fill the vacancies on the Society's staff at the College at the earliest possible moment.⁴¹

(To be continued)

³⁷ London Missionary Society. Director's Minute Book, 1914-1918.

³⁸ *Ibid.*, p. 162.

³⁹ *Ibid.*, p. 163.

⁴⁰ *Ibid.*, p. 164.

⁴¹ Records of London Missionary Society's Examination Committee, 1915.

THE FOUNDING OF PEKING UNION MEDICAL COLLEGE: POLICIES AND PERSONALITIES (Concluded)

JOHN Z. BOWERS

The "massive common sense" that Raymond Fosdick ascribed to Wallace Buttrick made him well aware of the massive problems he faced as the director of the China Medical Board in launching the new medical school in Peking. The time had come to chart a detailed course for development; to get down to the specific problems. Building on a small missionary school, the Board was now committed to establish an institution at a standard equal to the best in the United States. Peking was ten thousand miles from New York City, and Buttrick had never visited China. This was the first major program of The Rockefeller Foundation, and he was totally devoted to the success of the Rockefeller programs. His experience in medical education had been limited, so he turned to two of his colleagues who stood at the summit of American medicine, William Welch and Simon Flexner. He persuaded them to join him on a medical commission to China. During the fall of 1915 they visited Japan, Korea, and then China; their longest stay was for three weeks in Peking.

Welch and Flexner played the dual roles of investigators and diplomats. They made an objective analysis of the actual state of medicine and medical education in China, with special emphasis on factors that would affect future developments in Peking. They also took every opportunity to persuade the missionaries that the language of instruction at Peking should be English. Flexner stated that, although he had favored Chinese before his visit to China, he was now persuaded that teaching at P. U. M. C. must be in English, and Welch took a similar position. They based their arguments in part on the lack of a medical literature in Chinese; there were no periodicals that could bring to China the latest medical discoveries. The Chinese language had few scientific terms, and textbooks would be obsolete before translations could be completed. The recruitment of a faculty at the required level of excellence would be impossible if Chinese were the language of instruction. Looking back years later, Flexner judged this effort to have been successful: "Since the missionary body was as eager as the commission to raise medical standards in China, such arguments prevailed; English was agreed on as the language of instruction."⁴²

⁴²S. Flexner and James T. Flexner, *William Henry Welch and the Heroic Age of American Medicine*. New York: Viking Press, 1941, p. 403.

Welch and Flexner were mindful of the anxieties of the missionaries that there should be a proper balance between the scientific and the religious nature of the projected school. Through discussion at each institution they emphasized that, as Mr. Rockefeller, Jr., had stated in his letter of March 15, 1915, the faculty would be selected from persons who supported a Christian character. Welch restated the aims and opportunities at Peking and called for the support of the missionaries in an address to a Shanghai luncheon group, the Saturday Club, on October 30, 1915, shortly before their departure from China:

It is the purpose of Mr. Rockefeller and the Foundation to connect this work of the China Medical Board with the missionary effort. I doubt if a similar opportunity has ever come to the missions before. If they connect themselves with this larger endeavor how vastly greater will their influence and the beneficial scope of their work become. I am sure they will rise to the opportunity with its great promise for the future.⁴³

Welch and Flexner laid their report before the China Medical Board in January, 1916, and reaffirmed the goal of excellence. They wished to establish "as good a medical college as can be found anywhere in Europe or America . . . with an excellent staff of teachers, well-equipped laboratories and a good teaching hospital and dispensary."⁴⁴ The admission standards should also follow those of the leading medical schools in the United States. This, they believed, would probably require the medical school to establish its own premedical course.

No member of the existing faculty was judged to be qualified to lead the development of the new program, and outside leadership was deemed essential. English must be the language of instruction since it would be impossible to train students properly in modern medicine in Mandarin. The students currently enrolled should be transferred to other institutions. Instead of waiting until the school was in suitable facilities, staffed and equipped for a full five-year program, they recommended a step-like development adding a year each year as Welch had done at Hopkins. Beyond the number of important recommendations that resulted from their mission to China, Welch and Flexner returned with a deep commitment to the success of the program—a commitment which was to prove especially important in the recruitment of faculty.

Meanwhile, a board of trustees for P. U. M. C. had been constituted

⁴³ *Papers and Addresses by William Henry Welch*. Baltimore: Johns Hopkins Press, 1920, vol. III, p. 172.

⁴⁴ Ferguson, M., *C. M. B. and P. U. M. C.*, *op. cit.*, asterisked ftn. above, p. 24. See also: Papers of Simon Flexner at American Philosophical Society, Philadelphia, Pennsylvania.

with John R. Mott as Chairman and Wallace Buttrick as Secretary. Other members included Mr. Rockefeller, Jr., Welch, Frederick T. Gates, Simon Flexner, and representatives of the affiliated missionary societies. At their first meeting they received and approved the recommendations of Welch and Flexner. The sixty-odd students in the premedical class and in the first two years of medical school were transferred to the School of Medicine of Shantung Christian University at Tsinanfu. The China Medical Board made grants totalling \$200,000 (Mexican) to that school to assist in meeting the demands for new faculty, supplies, and equipment occasioned by this sudden expansion of the student body.

Attention now turned to answering the call for new leadership at Peking. There were few choices among men of proven scientific and administrative ability. A majority of the medical schools in the United States were led, if one could call it leadership, by busy practitioners of medicine who had no concern for, or indeed actively disdained, medical science. Eyes turned to the Rockefeller Institute and Simon Flexner. Rufus Cole, M. D., director of the hospital of the Rockefeller Institute and a pioneer investigator of lobar pneumonia, had expressed to Flexner his admiration for a young assistant resident physician, Franklin C. McLean. A graduate of the University of Chicago and the Rush Medical College in 1910, McLean had served for three years as professor of pharmacology and materia medica at the University of Oregon Medical School. During this period he developed the first clinical method for the quantitative determination of the blood sugar. Flexner shared Cole's opinion of McLean, and on June 20, 1916, at the age of twenty-eight, he was appointed professor of internal medicine and physician-in-chief of the Peking Union Medical College.

McLean made his first visit to China in the summer of that year, sailing from Vancouver on July 13, 1916, in the company of Charles A. Coolidge, who had been retained as consulting architect by the China Medical Board. McLean worked hand in hand with Roger Greene, Field Director of the China Medical Board, and visited all of the significant medical programs in north and central China. Their most immediate problem was the two-year premedical requirement recommended by the first China Medical Commission. The better schools in the United States, which numbered no more than twenty, required two or more years of college-level premedical education. Some of the other schools demanded a high school education or its equivalent, while a third and dwindling group really had no admission requirements—save the tuition fee. When McLean came to China he had in mind the suggestion of Welch and

Flexner that, to achieve excellence, P. U. M. C. might find it necessary to start its own premedical program. McLean and Greene concluded that the colleges and universities of China, admirable as their goals might be, were simply not prepared to educate students at a level that would qualify them for admission to the new medical school. On December 20, 1916, the Executive Committee of the Trustees of P. U. M. C. approved their recommendation that there should be a Preparatory Department offering a three-year program including the premedical sciences, English, and Chinese. Selection would be based on a stiff entrance examination after one year of study in an approved college. Subsequently the China Medical Board made a series of grants to strengthen premedical education in a group of selected colleges, looking toward the day when they would replace the Preparatory Department.

The development of a nursing school at a standard comparable to that projected for the medical school was placed near the top of the list of priorities. McLean and Greene also laid out a functional plan for the physical plant with a separate building for religious programs. All these and other recommendations were included in a 50-page report, "Present Conditions at the Union Medical College in Peking with Suggested Plans for Development."

While McLean had come to China to push the academic side, Coolidge had been asked to lay the groundwork for the construction program. Coolidge was a natural selection, since he had worked with Simon Flexner as chief architect for the construction of the first buildings of the Rockefeller Institute. He had also designed the new medical school buildings on the Harvard Quadrangle, constructed with marble which had been discarded as inferior for the New York City Post Office.

The construction program at Peking was beset by problems which included lack of experience in China, managerial deficits, and the impact of the World War. The Judson Commission had estimated in 1914 that a capital outlay of \$595,500 to \$695,000 would be required. When Coolidge went to China in the summer of 1916, The Rockefeller Foundation had made an appropriation of \$1 million for new construction and for the purchase of land and equipment.

While Coolidge was the choice in New York, Roger Greene in Peking was pressing for the appointment of a Chicago architectural firm, Shattuck and Hussey, Inc., primarily because Hussey had been in China for five years supervising the construction of centers for the International Y. M. C. A. On his return from China, Mr. Coolidge gave an estimate of \$3,214,068 as the cost of the physical plant—three times the sum that

had been appropriated. Shattuck and Hussey countered with a statement that they could complete the construction program within the million dollars that had been appropriated by The Rockefeller Foundation. On January 23, 1917, Shattuck and Hussey were employed as the architects for the program; Coolidge was continued as a consultant to the project.

With the American declaration of war on Germany on April 6, 1917, hulls that formerly carried cargo from the United States to the Orient were diverted to the Atlantic sea-lanes; the manufacture and shipment of war materials became the top American priority. As purchase prices and shipping costs soared, the time required to move materials from an American factory to China became months instead of weeks. After long delays, a second order would be placed for materials, only to have both orders arrive simultaneously. The rate of exchange of U. S. dollars to the Chinese unit of currency, "dollars Mex," became less favorable. Faced by these mounting problems and anxious to get the job done, the Board gave Hussey combined responsibility for the construction program as well as design—a step which Coolidge had earlier warned against as poor managerial practice. Coolidge soon proved to be correct, and Hussey's role was reduced to that of architect. By the end of 1918 the costs were at \$6 million, one year later at \$7 million, and when the plant was completed, the total investment of The Rockefeller Foundation stood at \$7½ million.

P. U. M. C., with its classic Chinese design, was probably the most beautiful medical school in the world. Viewing the campus in July, 1919, the great philosopher-educator John Dewey observed:

The Rockefeller buildings are lovely samples of what money can do. In the midst of this weak and worn city they stand out like illuminating monuments of the splendor of the past in proper combination with the modern idea. They are in the finest old style of Chinese architecture: green roofs instead of yellow, with three stories instead of one.⁴⁵

Bertrand Russell visited Peking a year later and recognized the beauty of the plant but was less charitable about American aims in China:

The Rockefeller Hospital is a large conspicuous building, representing an interesting attempt to combine something of Chinese beauty with European utilitarian requirements. The green roofs are quite Chinese, but the walls and windows are European. The attempt is praiseworthy, though perhaps not wholly successful. The hospital has all the most modern scientific apparatus but, with the monopolistic tendency of the Standard Oil Co., it refuses to let its apparatus be of use to anyone not connected

⁴⁵ John Dewey and Alice Chipman Dewey. *Letters from China and Japan*. New York: Dutton, 1920, p. 273.

with the hospital. . . . The Peking Union Medical College teaches many things beside medicine—English literature, for example—and apparently teaches them very well. They are necessary in order to produce Chinese physicians and surgeons who will reach the European level, because a good knowledge of some European language is necessary for medicine as for other kinds of European learning. . . . Although the educational work of the Americans in China is on the whole admirable, nothing directed by foreigners can adequately satisfy the needs of the country. . . . Americans . . . always remain missionaries . . . not of Christianity, though they often think that is what they are preaching, but of Americanism. What is Americanism? "Clean living, clean thinking, and pep," I think an American would reply. This means in practice, the substitution of tidiness for art, cleanliness for beauty, moralizing for philosophy, prostitutes for concubines (as being easier to conceal), and a general air of being fearfully busy. . . . If the American influence prevailed it would no doubt by means of hygiene save the lives of many Chinamen, but would at the same time make them not worth saving.⁴⁶

During his visit to Peking, Russell developed pneumonia and years later reluctantly recorded his debt to P. U. M. C.:

I probably owe my life to The Rockefeller Institute in Peking which provided a serum that killed the *pneumococci*. I owe them the more gratitude on this point, as both before and after I was strongly opposed to them politically, and they regarded me with as much horror as was felt by my nurse.⁴⁷

The high cost of construction at Peking was the primary reason for the abandonment of the plans for a development in Shanghai. On April 6, 1916, the China Medical Board had stated that it would establish a medical school in the great port city at a cost not to exceed \$1 million capital and \$250,000 annual expenditure. Henry S. Houghton, former dean of the Harvard Medical School of China, was invited to join the staff of the China Medical Board and assigned as director of the Shanghai Red Cross Hospital, which had been used by Harvard and acquired by the board. In addition to his responsibilities at the hospital, Houghton spent half of his time assisting Roger Greene in the work of the board, which brought him into continuing contact with developments and the staff at P. U. M. C.

A provisional charter was granted on April 12, 1917, to the Shanghai Medical School of The Rockefeller Foundation, and a board of trustees was constituted with Vincent as chairman and Buttrick as secretary. The following month Houghton was appointed acting dean of The Shanghai Medical School of The Rockefeller Foundation, and initial appro-

⁴⁶ Bertrand Russell, *The Problem of China*. New York: Century Co., 1922.

⁴⁷ *The Autobiography of Bertrand Russell, 1914-1944*. Boston: Little, Brown, 1951, p. 189.

priations were committed for equipment and land acquisition. In the face of the financial problems at Peking, Dr. Buttrick, Roger Greene, and Houghton were asked to make a special study of possible developments in Shanghai. In May, 1920, The Rockefeller Foundation endorsed an action passed by The China Medical Board one month earlier to abandon the project for a medical school in Shanghai.

The development of a new faculty at Peking was now the first priority and Franklin McLean, with the support of Welch, Flexner, and others, proved an effective recruiter. McLean was highly intelligent, handsome, totally dedicated to P. U. M. C.—and he had the lure of China and the new Rockefeller Foundation as added attractions to young Americans whose eyes had been opened to the world by the Great War. The first appointment was William Warren Stifler, who was teaching physics at Columbia, to be head of that department and dean of the Preparatory Department. Stanley L. Wilson from the University of Chicago was head of the program in chemistry. Charles Packard, a radiobiologist from Columbia, was the first head of biology; later Packard was director of the Marine Biological Laboratory at Woods Hole, Massachusetts, 1940-49. Aura E. Severinghaus, also from Columbia, succeeded Packard as head of biology and Stifler as dean. Severinghaus was later associate dean at the College of Physicians and Surgeons of Columbia University and a leader in broadening and strengthening preparation for medical education in the United States. An instructor in English, Luther Carrington Goodrich, the son of missionaries in China, became one of the world's most distinguished sinologists as professor of Chinese at Columbia. Lester Severinghaus, an instructor in English, was later the headmaster at Haverford School near Philadelphia. Instruction in Chinese was handled by Mr. Ma Kiam, who subsequently headed the Department of Chinese at Yenching University, a Christian institution in Peking.

The Preparatory Department was opened in Lockhart Hall on September 11, 1917, with eight premedical students, and thirteen days later the cornerstone for the first new building, which was to house the anatomy department, was laid by the Minister of Education, The Honorable Fan Yuan-lien. Franklin McLean restated the standards of excellence that had been set for P. U. M. C. :

. . . to establish here an institution devoted to medical teaching and research and the care of the sick, complete in every respect, and with the high standards of work that are already existent in the best of similar institutions abroad. . . . It is the best of our modern medicine that we desire to give to China, that China may take advantage of our own recent progress.

(The premedical program at P. U. M. C. was closed in 1924, by which time other institutions, assisted by the China Medical Board, were educating students at a standard to qualify them for P. U. M. C.)

Mr. John D. Rockefeller, Jr., retired as president of The Rockefeller Foundation and chairman of the China Medical Board in 1917. He was succeeded in both positions by George E. Vincent, formerly president of the University of Minnesota; a brilliant, highly articulate man whose love for excellence made him an ideal leader for the new program in Peking. Until his retirement as chairman of the China Medical Board in 1935 he was deeply committed to the success of P. U. M. C.

In December, 1917, McLean's title was changed to director of the college. He then went on active service in the Army Medical Corps. With all phases of the program moving ahead rapidly, there was an urgent need for a medical administrator to work with Roger Greene on the scene in Peking. The obvious and excellent choice was Henry S. Houghton, who was in New York to fill the shoes of Wallace Buttrick, who had been called to Britain as an educational consultant to His Majesty's government. Houghton arrived in Peking on February 15, 1918, and for the next ten years, as acting director and then director, he was the linchpin of the school. He was deeply respected, to the point of reverence, by his colleagues as an intelligent, tactful, firm, and totally dedicated leader. He left the school in 1928, returned in 1934, and was held in Peking as a prisoner of war by the Japanese throughout World War II.

The first class of seven medical students, including five graduates of the Preparatory Department, entered P. U. M. C. on October 1, 1919. They met a faculty that represented the excellence that had been the key word for P. U. M. C. from its birth. A handful of faculty members from the old Union Medical College remained at the school. They included William G. Lennox, who later returned to Harvard, where he carried out pioneering studies on the physico-chemical basis of epilepsy and the use of anti-epileptiform agents.

The first new faculty member, Edmund Vincent Cowdry, Ph. D., a Canadian histologist, had come to Peking from Hopkins in September, 1918, to establish the Department of Anatomy. One of his important contributions was a survey on medical education, primarily in anatomy, in China, based on visits to nineteen medical schools and questionnaires sent to seven others.⁴⁸ Education in anatomy was satisfactory in only two schools, the University of Hong Kong and the South Manchuria Railway School in Moukden.

⁴⁸ E. V. Cowdry, "Anatomy in China," *Anatomical Record*, 1920-21, 20: 32-60.

The other schools were tragically understaffed, and Cowdry reckoned that there were no more than two dozen full-time teachers of anatomy in the total of twenty-six schools. In only twelve schools did the students have an opportunity to dissect a cadaver, while the others taught exclusively by lecture, a system which had serious deficiencies since the teachers often could not speak Chinese and did no more than draw sketches on the blackboard with the structures labeled in English. A Chinese interpreter explained the sketches to the students, who copied them, memorized them, and were required to reproduce them in exact detail the following morning.

The problems in obtaining cadavers at P. U. M. C. were no different than those at other institutions. For his own laboratories Cowdry was able to obtain just four bodies in a year-and-a-half. The native anxieties about marring the human body were brought home to him when all of the servants not only ran from the building but absolutely refused to return after the first cadaver was carried into the anatomy building.

The age-old conviction that the practice of medicine was a fourth- or fifth-rate occupation continued to pose grave problems for the advancement of medical education. Another major hurdle was the belief that medicine could do little for disease; the attitude was "apathetic and fatalistic . . . , believing that it is a visitation of providence in punishment for transgressions."⁴⁹

Cowdry was the leader in the founding of the earliest Chinese medical scientific society, The Anatomical and Anthropological Association of China, which held its first meeting at P. U. M. C. on February 26, 1920. There were fifty-three members, and thirty-two papers were presented or read by title. In 1921 Cowdry returned to the Rockefeller Institute for personal reasons. He was the first person to observe rickettsiae in animals other than man through his studies on heartwater, a disease of sheep, goats, and cattle in Pretoria. In 1928 he moved to Washington University in St. Louis as professor of cytology and later of anatomy.

When Cowdry returned to New York he was succeeded by his deputy, Davidson Black, a Canadian anthropologist who, through his painstaking examination of a fossil tooth excavated west of Peking, launched the studies that led to the identification of Peking man. After assuming the headship, Black expressed to the director of the local prison his displeasure over the fact that the few cadavers that were made available invariably arrived at the morgue with their heads chopped off. A few

⁴⁹ *Ibid.*, p. 38.

weeks later, several healthy prisoners were marched into the anatomy building under guard. Black was handed a note from the prison director, "Kill them any way you like."⁵⁰

China offered the investigator practically every bacterial and parasitic disease; it was a treasure chest for the microbiologist. The first leader of the Department of Bacteriology and Parasitology combined with Pathology was Carl Ten Broeck, a 1913 graduate of the Harvard Medical School, who had subsequently worked with the great animal pathologist, Theobald Smith. More than a third of the infants in China died from tetanus neonatorum, and tetanus was widespread in adults. Working with Johannes Bauer, Ten Broeck developed a culture method by which they showed that one-third of the patients admitted to the hospital of P. U. M. C. had tetanus spores in their feces. In 1930 Ten Broeck succeeded Theobald Smith as director of the Department of Animal Pathology of the Rockefeller Institute at Princeton, where he led a research team that proved that the mosquito is the vector in equine encephalomyelitis. Bauer, working in the laboratories of the International Health Division of The Rockefeller Foundation, made important contributions to the application of the ultracentrifuge in virus research.

Parasitological studies were initiated by Ernest Carroll Faust, Ph. D., who joined the faculty in 1919. One of Faust's approaches to determining the prevalence of parasitic disease was through surveys of the incidence of the parasites in vertebrates of North China. In 1920 Henry Meleney, from Columbia University, College of Physicians and Surgeons, came to Peking with his brother, Frank. Henry Meleney collaborated with Faust in identifying a variety of the snail as the vector in Schistosomiasis Japonicum. Faust and Meleney became two of the world's leading parasitologists and experts in tropical medicine: Faust left P. U. M. C. in 1929 to join the Tulane University Division of Hygiene and Tropical Medicine as professor of tropical medicine and public health. Henry Meleney left P. U. M. C. in 1927 to join the faculty at Vanderbilt and later became professor of preventive medicine at New York University until his retirement in 1953.

One of the long line of medical Cruickshanks from Scotland, Ernest W. H. Cruickshank, was the first leader of the program in physiology. He had done his postgraduate training at the Institute of Physiology, University College, London, where he received a Doctorate in Science

⁵⁰ D. Hood, *Davidson Black, A Biography*. Toronto: Univ. of Toronto Press, 1964, p. 91. (A similar story has been told by Morse from the anatomy department of the West China University Medical School in Chengtu.)

in 1919. His research interests were in acid-base balance and experimental tetany.

The first biochemist on the faculty was Hsien Wu from Fukien Province. Supported by a Boxer Indemnity Scholarship, he had worked in the laboratories of Professor Otto Folin, head of biochemistry at Harvard. They collaborated in the development of the Folin-Wu Method—a revolutionary procedure for the preparation of a protein-free filtrate of the blood which made possible a quantitative determination of all of the important constituents of the blood from a single 10 c. c. sample. Wu joined the staff of P. U. M. C. in 1920 and after five years was appointed associate professor and head of the Department of Biochemistry, the first Chinese to become a department head at the school.

When the papers relating to the transfer of the Union Medical College were prepared, the London Missionary Society made a special request that Bernard Emms Read, Ph. D., who was described as “the senior chemist,” be retained on the staff of the new school.⁵¹ A graduate of the London University College of Pharmacy, Read came to the Union Medical College in 1909. He was primarily a pharmaceutical chemist and was appointed to teach biochemistry and pharmacology after China Medical Board fellowships for studies in biochemistry and nutrition, principally at Yale. Read was interested in the pharmacological properties of Chinese botanical products.

Carl C. Schmidt, M. D., came to Peking in 1922 from the laboratories of Alfred Newton Richards at Pennsylvania and was given the task of setting up the first teaching program in pharmacology while Read was on leave. A young Chinese pharmacologist, K. K. Chen, joined Schmidt in 1923 and appeared at the laboratory one Monday morning with *Ma Huang*, a material that a native practitioner claimed had merit in treating asthma. Chen first tested *Ma Huang* on an animal that Schmidt had used to prepare a student exercise; a sharp vasopressor response was elicited. Subsequent experiments by Schmidt and Chen elucidated the cardiovascular effects of the pharmacologically active principle, ephedrine, its similarity to epinephrine, and its absorption from the intestinal tract.

Franklin McLean resigned as director of the college, April 6, 1920, and Henry S. Houghton was appointed acting director. McLean, now that the directorship was a full-time post, wished to concentrate his energies on the Department of Medicine and the laboratory. McLean's prin-

⁵¹ *Director's Minute Book, 1914-18*, London Missionary Society, Tuesday, April 27, 1915, p. 164.

cial colleague in the Department of Medicine, Oswald H. Robertson, had worked with Peyton Rous and Joseph R. Turner, Jr., at the Rockefeller Institute in developing a medium based on Locke's solution supplemented with dextrose and sodium citrate, which maintained viability in erythrocytes for as long as one month. To test this new method, Robertson gained an assignment to the British Expeditionary Forces on the front lines in Belgium and successfully transfused blood which had been drawn twenty-eight days earlier. The blood was stored in a jerry-built ice chest made of packing cases, but "His primitive installation was the world's first blood bank. . . . It was twenty years ahead of its time."⁵²

A former medical missionary for the Southern Baptists at Yangchow, Adrian S. Taylor, M. D., was the first head of surgery. The first missionary to be awarded a fellowship for advanced study by the China Medical Board, Taylor spent one year, 1915-16, at Harvard to catch up with the advances in medicine and surgery that had occurred since his graduation at Charlottesville in 1908. His excellent record at Harvard earned a continuation of his fellowship, and he moved to Hopkins to train with the great William Stewart Halsted. Here he replaced Jerome P. Webster, M. D., who later joined Taylor at Peking to develop the residency training program in surgery. Halsted was intensifying his efforts to introduce silk as the ideal suture material during Taylor's years in Baltimore, and Taylor returned to Peking an ardent champion of silk. In turn, young surgeons went back to the United States as advocates of silk, which led Webster to comment "silk was largely introduced to American surgery through the operating rooms of Peking Union Medical College."⁵³

Jui-heng Liu, B. S., M. D., a Harvard graduate of 1913, joined the surgery department in 1922 after two years with James B. Murphy in tumor transplant research at the Rockefeller Institute. Liu was destined for a leading career in medicine and health in China and to appointment as the minister of health for the nation.

A British medical missionary, J. Preston Maxwell, M. D., B. S., M. D. (London), who had been in China for more than a decade, was the first professor of obstetrics and gynecology. His studies on the distortion of the pelvis from osteomalacia and the resultant problems of delivery, illustrated by excellent radiographs by Paul C. Hodges, are cited in obstetrical texts today.

A former teacher of physiology at Harvard of China, Paul C. Hodges

⁵² Corner, *op. cit.*, ftn. 12 above, pp. 143-144.

⁵³ Conversation with Jerome P. Webster, M. D.

was the first head of the roentgenology department. He had returned to Washington University in St. Louis to complete his medical training when Harvard was closed. Paul Hodges developed simple diagnostic radiological units which withstood the vicissitudes of the Chinese electrical supply and made possible the introduction of roentgenography in a number of mission hospitals. Like Oswald Robertston, he, too, was in due course lured back to Chicago by Franklin McLean.

Public health had two "fathers" in China: Wu Lien-Teh, director and chief medical officer of The Manchurian Plague Prevention Service, and John B. Grant, a member of the International Health Board of The Rockefeller Foundation and head of the Department of Hygiene and Public Health at P. U. M. C. Wu Lien-Teh, a graduate of Cambridge University, played a leading role in the control of the dreadful epidemic of pneumonic plague that took 60,000 lives in Manchuria and North China, 1910-1911.⁵⁴ As a result, an International Plague Conference of leading bacteriologists and public health officials from a number of countries was convened at Moukden in April, 1911, with Wu Lien-Teh as chairman. The conference recommended the establishment of the North Manchurian Plague Prevention Service, the first organization for public health in China. The first general public health programs did not begin until 1920, when the municipality of Canton established a department of sanitation, prevention, and offices of public health education and of statistics. At about the same time a public health program was launched in Shanghai.

John B. Grant, the son of a Canadian missionary in China, studied medicine at Ann Arbor and in 1918 began graduate studies in public health under the sponsorship of The Rockefeller Foundation, a relationship that was to last for forty-two years.⁵⁵ In 1921 he was assigned to the faculty at Peking to establish a Department of Hygiene and Public Health. Four years later, in 1925, in cooperation with the local health authorities, John Grant created the first community health center for the education of medical and nursing students in a temple in the second left inner ward of the East City of Peking. Since over 85 per cent of the population of China were peasants, Grant later established a teaching health center

⁵⁴ Wu Lien-Teh, *Plague Fighter, The Autobiography of a Modern Chinese Physician*. Cambridge: Heffer, 1959; Carl F. Nathan, *Plague Prevention and Politics in Manchuria 1910-1931*. East Asia Research Center, Harvard University. Cambridge, 1966.

⁵⁵ Conrad Seip, ed., *Health Care for the Community. Selected Papers of Dr. John Grant*. Am. J. Hygiene Monographic series, no. 21. Baltimore: The Johns Hopkins Press, 1963.

in a rural county of 400,000 inhabitants 100 miles west of Peking. Many of the P. U. M. C. graduates, fired by the inspiration of John B. Grant, entered careers in national and international public health work. Through his former students, as well as through his own expertise, he was influential in shaping the philosophy and programs of the Ministry of Health of the new National Government.

With Franklin McLean's resignation as director, new faculty arriving in Peking, and students enrolled, there was an urgent need to put the college in academic order. Some of the problems included the role of administration, the role and organization of the faculty, the appointment or election of committees for the hospital and the medical school, and the development of proper academic programs. There was a need to establish procedures and to recognize the role of the China Medical Board vis-a-vis the governance of Peking Union Medical College.

Henry Houghton had spent just one year at the Rockefeller Institute after graduating from Hopkins and then had shipped out to China. Although he had served effectively for five years as dean of Harvard Medical School of China, he was not familiar with the operation of American academic medical centers. It was essential for him to visit some of these centers. Further, in view of the fact that the school was to go into full operation in the new physical plant the following year, President Vincent had asked Houghton to return to New York to present and defend the budget for that year.

There could hardly have been a more suitable replacement for Houghton than Dr. Richard M. Pearce, director of the new Division of Medical Education established by The Rockefeller Foundation in 1919. The Trustees of the foundation had continued to bear in mind the charge laid down in the articles of incorporation "to promote the welfare of mankind throughout the world." The General Education Board through Abraham Flexner was moving rapidly to strengthen medical education but by charter was restricted to the United States. The new division was intended to strengthen medical education around the world. Pearce held Simon Flexner's former chair in pathology at the University of Pennsylvania when he came to the foundation in 1919. In addition to the need for an experienced medical educator as a replacement for Houghton, a year in Peking would offer Pearce, in his new responsibility in worldwide medical education, an opportunity to become acquainted with other programs in countries of the Far East, such as Japan, The Philippines, and Siam. Pearce and his family arrived in Peking in October, 1920.

Meanwhile the Trustees of P. U. M. C., in conformance with the aca-

demic tradition that they wished to see established, had asked the Administrative Board for a recommendation to the Executive Committee for a permanent director. Shortly after Houghton left Peking, Pearce asked for a nomination and the recommendation was unanimous for Henry S. Houghton, effective January 1, 1921.

In his year as acting director of P. U. M. C. Pearce left an indelible stamp on the school; he defined priorities of policy and organization and established rich academic traditions.

Nursing Education

Peking Union Medical College established nursing as a respected profession for women in China. For centuries nursing had been barred to women, and the only nurses were a small number of men who had been trained in the missionary hospitals. Thus when the new Union Medical College opened a nursing school in 1906 admission was restricted to men.

The dire shortage of nurses was emphasized by the first China Medical Commission: "The need of more graduate nurses in China is of course imperative. At present there are 140 foreign nurses in the country and these are distributed in about 100 hospitals. Thus, less than *one hospital in two* has a graduate nurse at all and few have more than one."⁵⁶ The first steps were taken by the China Medical Board when five scholarships were granted for Chinese women to come to the United States for training in nursing. A small grant was also made to the Nurses Association of China to support the translation of nursing texts. Welch and Flexner re-emphasized the need for a nursing school as an essential part of the program at P. U. M. C. The decision was to establish a program at the highest possible standard, comparable to that of the medical college, with small classes of no more than twenty-five students chosen through a rigorous admissions procedure.

Miss Anna Dryden Wolf, assistant director of the Johns Hopkins Hospital School of Nursing, was the first director of the school in Peking. Beyond her work at Hopkins, she had the additional qualification of having spent her formative years with her missionary parents in India. For Miss Wolf the opportunity at Peking was unique. Practically all of the nursing schools in the United States at that period, including Hopkins, were operated primarily to provide nursing students to take care of patients. The emphasis was on service. At Peking, on the other hand, there would only be such service as was necessary to learn the application of the nursing arts, the emphasis being on education and training.

⁵⁶ China Medical Commission, *op. cit.*, fn. 20 above, p. 73.

Two educational programs were established; the first led to a Diploma in Nursing. Subsequently a baccalaureate-level program was developed with the liberal arts phase at Yenching University. Classes began on September 28, 1920, with three Chinese students enrolled in the diploma course. The faculty, in addition to Miss Wolf, included twelve American nurses whom she had recruited specifically to teach nursing. There was also a program of fellowships for graduate study abroad sponsored by the China Medical Board. The first such award went to Miss Lily Tseng for study in England and the second to Miss Elizabeth Kong for study in America.

Anna Wolf moved to the University of Chicago in 1925. After serving as director of nursing at the university clinics, she organized the nursing school and services at the New York Hospital-Cornell Medical Center. In 1940 she returned to Hopkins as director of nursing.

Dedication

There has never been another assemblage of intellectual might, of prestige, of diplomatic rank, and of global representation for the dedication of a medical school equal to that which converged on Peking for the week beginning September 15, 1921.⁵⁷ It included foreign ministers from such countries as Denmark, Cuba, and Brazil; the Ministers of Education, the Interior, and Foreign Affairs represented the Chinese government and Governor-General Leonard Wood, M. D., The Philippine Islands. The American delegation, led by John D. Rockefeller, Jr., included William Welch and Francis Peabody, returning to see the fruits of their earlier missions to China. A. B. Macallum, professor of biochemistry at McGill, Theodore Tuffier, professor of clinical surgery at Paris, Florence R. Sabin, professor of histology at Hopkins, and George E. de Schweinitz, professor of ophthalmology at Pennsylvania and president of the American Medical Association, were among the distinguished physicians. A familiar figure to the missionaries and old China hands was Dr. Thomas Cochrane, who had come out from London to see the new college on the site of the school which he had founded fifteen years earlier. From other Asian countries came Dr. Sahachiro Hata, representing the Kitasato Institute in Tokyo, Dr. Antonio Sison, professor of medicine at the University of the Philippines, and Dr. A. de Waart, director of the Government Medical School in Java. Victor G. Heiser, director for the East of the International

⁵⁷ *Addresses & Papers*, Dedication Ceremonies and Medical Conference. Peking Union Medical College, September 15-22, 1921, Peking, China [Concord, N.H.: Rumford Press], 1922.

Health Division of The Rockefeller Foundation, symbolized the globe-encircling activities of the foundation.

The medical missionaries pouring into Peking from across China must have had reactions that were bitter-sweet as they compared the beautiful and well-equipped buildings now being dedicated with the simple and often inadequate facilities in which they worked.

At the dedicatory ceremonies, John D. Rockefeller, Jr., opened his address by reading a cable from his father :

My highest hopes are centered on the Peking Union Medical College which is about to open its doors. May all who enter, whether Faculty or Students, be fired with the spirit of service and sacrifice and may the Institution become an ever-widening influence for the promotion of the physical, mental and spiritual well-being of the Chinese nation.⁵⁸

Mr. Rockefeller traced the events leading to the selection of China, which he ascribed in part to his father's long-standing interest in the country. The high cost of the physical plant was attributable to the World War and to the inexperience of the China Medical Board in dealing with construction programs in the Orient.

Always having in mind his commitment to the missionary bodies, Mr. Rockefeller stated that recruitment for the faculty would be based not only on scientific capabilities but, as well, on " the finest idealism." ⁵⁹ But he did not hesitate to put the primary emphasis on excellence :

In fullest sympathy with the missionary spirit and purpose, we are desirous of furthering it as completely as may be consistent with the maintenance of the highest scientific standards in the Medical School and the best service in the Hospital.⁶⁰

It was this dichotomy of commitments—medical science versus the unyielding zeal of the missionaries—which posed continuing and at times thorny problems in the history of the college.

Congratulatory greetings were presented on behalf of the President of the Republic of China, the Ministry of the Interior, and the Ministry of Education, all of whom pledged full support of the college. They also acknowledged the supremacy of Western medicine over the indigenous system.

The program of the dedication week included morning and evening lectures, one of which was by Edward H. Hume, dean at Hunan-Yale. Hume traced the history of the development of Western medicine in China and cited the need for the Chinese to understand the distressing lack of trained physicians and facilities for the care of the sick. He agreed with John Dewey that it was " essentially a matter of transforming the

⁵⁸ *Ibid.*, p. 57.

⁵⁹ *Ibid.*, p. 63.

⁶⁰ *Ibid.*, p. 64.

mind of China.”⁶¹ A second need was for an elevation of standards through state control of education and practice. Hume reflected the feeling of some of the missionaries when he took a middle-of-the-road position, describing the language of instruction as still an open question. He noted that the number of women studying medicine would increase rapidly.

In another lecture Macallum pointed out the rising importance of biochemistry and nutrition. A. de Waart discussed medical education in the Dutch East Indies, going back to the training of medical auxiliaries known as *doktors-djawa* as vaccinators against smallpox. De Schweinitz discussed the relationships between pituitary neoplasms and the visual fields.

The staff of P. U. M. C. assured the visitors of the clinical and scientific vigor of the budding institution through case presentations and research reports from the various clinical departments, largely on special problems in China—syphilis, Kala-azar, leprosy, sprue, trachoma, osteomalacia, eclampsia, and tetanus. Dr. Wu Lien-Teh reviewed the management of the devastating epidemic of pneumonic plague in Manchuria.

During the ensuing years and until the eve of World War II, P. U. M. C. continued to attract the best medical students in China. During the 30's, leading graduates joined the faculty in increasing numbers. Several talented young American doctors destined for distinguished careers in academic medicine—Chester S. Keefer, later head of medicine at Boston University; Nicholson J. Eastman, later head of obstetrics at Hopkins—taught at Peking. Francis R. Dieuaide joined the faculty in 1924, became professor and head of medicine, and was a pillar and intellectual leader of the school until his departure in 1938. A. Ashley Weech spent two years at P. U. M. C. and returned to Cincinnati to become the chairman of a distinguished Department of Pediatrics. Harry Van Dyke, professor of pharmacology 1932-38, held the chair in pharmacology at the College of Physicians and Surgeons, Columbia University, from 1944 until his retirement.

The caliber of the Visiting Professors remained outstanding. A. Baird Hastings, Ph. D., soon to become Hamilton Kuhn Professor of Biological Chemistry at Harvard, was a Visiting Professor, 1932-33. Hastings had directed Van Slyke's laboratories at the institute while the latter was in Peking, 1922-23, and now it was his turn to enjoy the unique research opportunities in what he described as “The Rockefeller Institute in a Chinese Temple.”⁶² Hans Zinsser, the great Harvard microbiologist, was

⁶¹ *Ibid.*, p. 83.

⁶² Personal discussion with A. B. Hastings.

a Visiting Professor, 1938. Zinsser was particularly impressed with the excellence of the students, who, he felt, "differed from our own only in greater eagerness and appreciation."⁶³ One of the last Visiting Professors was Eugene L. Opie, 1938-1939, who was retiring as head of pathology at Cornell. To him a year at P. U. M. C. was "like living in the Arabian nights."⁶⁴ Other Visiting Professors included Reid Hunt, Walter B. Cannon, A. J. Carlson, David L. Edsall, Irvine McQuarrie, Mont R. Reid, and G. Canby Robinson.

In the early years it was necessary to import house officers from the United States; one of the first of these was Harold H. Loucks, M. D., a graduate of Western Reserve, who arrived in Peking in 1922. During the next two decades, until Pearl Harbor, he developed a distinguished career at P. U. M. C., becoming head of surgery in 1930. He was interned by the Japanese, repatriated on the Gripsholm in 1943, and sent to western China as a representative of the State Department. Harold Loucks returned to P. U. M. C. in 1948 in the dual capacity of professor and head of surgery as well as director of the China Medical Board. When the gates of Mainland China were closed in 1950, Loucks led the China Medical Board in an effective program to strengthen medical education in other countries of the Far East.

The military aggressions of the Japanese, beginning in earnest in China in July, 1937, made work there increasingly difficult. P. U. M. C. was seized by the Japanese on December 8, 1941, and used as a hospital until their surrender in August, 1945. For a time the school served as headquarters for the mission of General George Catlett Marshall in his unsuccessful efforts to establish peace and cooperation between Chiang Kai-shek and Mao Tse-tung. P. U. M. C. reopened in 1947 but was nationalized by the Chinese Communists on January 23, 1951.

In the same month that the school was nationalized, it was renamed *Chung-kuo hsieh-ho yi-hsueh-yuan* (Union Medical College of China). At the end of 1957 that name was dropped when the school was incorporated with the *Chung-kuo hsieh-ho ke-hsueh-yuan* (Academy of Medical Sciences of China). The hospital was separated and designated *Pei-ching hsieh-ho yi-huan* (Peking Union Hospital). In 1968 the name of the hospital was changed to *Pei-ching fan-ti yi-yuan* (Peking Anti-Imperialist Hospital).⁶⁵

⁶³ Hans Zinsser, *As I Remember Him*. Boston: Little, Brown, 1940.

⁶⁴ Personal discussion with E. L. Opie.

⁶⁵ Personal communication from William Hsu, Director, Union Research Institute, No. 9 College Rd. Kowloon, Hong Kong, B. C. C. July 14, 1970.

"Evil P. U. M. C." has been a favorite whipping post for the Chinese Communists. They affirm that the school was established as the instrument for launching "U. S. Imperialist Cultural Aggression Disguised as Friendship."⁶⁶ The emphasis on medical science and excellence is sharply criticized: "The school adopted a completely bourgeois and decadent educational system with long years of study and a crowded curriculum, the content of which was divorced from practice."⁶⁷ The Communists cite repeated instances where "the U. S. Imperialists used living Chinese working people as if they were mice and rabbits."⁶⁸ The fact that about 25 per cent of the P. U. M. C. graduates entered careers in public health was a source of pride to the faculty, but to the Communists this was an example of the close affiliation of the school with the bitter enemy of the Communists, the Kuomintang.

Was the emphasis on excellence, with small classes of meticulously selected students in a country of more than 400 million people riddled with disease and desperately short of doctors and nurses, correct for the new medical school in Peking? Or should the emphasis instead have been on meeting some of the immediate needs through a shorter educational program producing large numbers of general doctors? A third possibility was to spread the money to existing medical schools and hospitals.

At the time of the founding of P. U. M. C. the leaders of medical education and research in the United States were insisting on excellence. The advisors in the founding of P. U. M. C.—Welch, Eliot, the Flexners, and Peabody—were among those leaders, and it was only natural that they should establish excellence as the goal of the school that was to bring modern medical education to China.

The voice of Selskar M. Gunn, an officer of The Rockefeller Foundation who was in China, 1932-33, to study rural reconstruction, represents the criticism of P. U. M. C. In January, 1934, he reported, "Frankness forces me to state that I cannot feel satisfied that the huge contributions to the P. U. M. C. have been warranted in terms of accomplishment in China."⁶⁹ As a mover in rural reconstruction, Gunn felt that the staff and students and the educational program were isolated from the pressing needs in the rural areas.

Complaints that the impact of P. U. M. C. on medicine and public health

⁶⁶ *China Reconstructs*, November, 1968, p. 44.

⁶⁷ *Ibid.*, p. 47.

⁶⁸ *Ibid.*

⁶⁹ James C. Thomson, Jr., *While China Faced West*, Cambridge, Mass.: Harvard Univ. Press, 1969, p. 132.

in China did not justify the expenditures ignore the historical perspective. As an educational and research center, the school had an effective life span of only two decades, 1921-1941. The first graduates, three in number, received their degrees in 1924. At the beginning the only program in premedical education to meet the standard of excellence was in the school's Preparatory Department. During the ensuing years the number of adequately prepared students mounted slowly, but it was not until 1934 that the number of graduates reached the goal of twenty-five. Civil turmoil posed barriers for students who aspired to come to Peking and for the operation of the school. This was heightened rapidly by Japanese aggressions culminating in the outbreak of the Sino-Japanese war in 1937. The post-war period, 1947-1950 was solely an effort to re-establish the program and was abruptly terminated by the collapse of the Kuomintang and the victory of the Chinese Communists.

The long-range goal to train future faculty who could lead programs in Western medical education and research in other Chinese medical schools was thwarted by the short life span of P. U. M. C. There was also the need to convert the school as rapidly as possible to an institution led by a Chinese faculty—and the leading graduates of P. U. M. C. remained at the school to achieve this goal. From the beginning there was no intention that the leadership should be left indefinitely in foreign hands.

Of singular credit to the school stands the fact that about 25 per cent of the graduates entered careers in public health, to serve a country which faced the most massive public health problems in the world. They were the leaders in introducing modern public health to China. This reflects the deep dedication of their teachers to the welfare of China; P. U. M. C. was not an "ivory tower." Moreover, one of P. U. M. C.'s greatest contributions was to establish nursing as a respectable profession for women.

P. U. M. C. was a tragic victim of war. It was World War II, the ensuing civil war, and the victory of the Chinese Communists that terminated the world's most successful program in international medical education.

Addendum. In the course of my studies I have turned to a number of former teachers and students at Peking Union Medical College: K. P. Stephen Chang, Francis R. Dieuaide, H. B. Van Dyke, L. Carrington Goodrich, A. Baird Hastings, Paul C. Hodges, Chester S. Keefer, Oo-kek Khaw, Morgan Liu, Chih-ten Loo, Harold H. Loucks, Helen Vincent McLean (wife of Franklin C. McLean), Eugene L. Opie, T. M. P'eng, Mrs. Bernard E. Read, Carl Schmidt, Aura E. Severinghaus, Isidore Snapper, Donald D. Van Slyke, and Jerome P. Webster.