

Letter to Editors and Readers

Commentaries of the 50th Anniversary of the Relaunch of the Chinese Physiological Society in Taiwan

Dedicated to an Academician of the Academia Sinica and Professor Emeritus HWAI-SZE FANG of the Department of Physiology at the National Taiwan University in Taiwan for His 95th Birthday

Mei-Ling Tsai

*Department of Physiology, College of Medicine, National Cheng Kung University,
Tainan, Taiwan, Republic of China*

Preface

At the age of 95 years old, Professor Emeritus Hwai-Sze Fang (方懷時), an Academician of the Academia Sinica, has a unique position in Chinese physiological history. He is the only living member who has witnessed the glorious period of our Society in Mainland China in the 1930s, economic hardship during wartime in the 1940s, and the re-establishment of the Chinese Physiological Society (CPS) in Taiwan in the 1950s. The year of 2009 is the 95th birthday of Professor Emeritus H.-S. Fang. It is also the 50th anniversary of the relaunch of the Chinese Physiological Society and the Chinese Journal of Physiology in Taiwan. To celebrate these special occasions, Professor Emeritus H.-S. Fang will help us to trace the history of the CPS and the Chinese Journal of Physiology (CJP), from their establishment in Beijing in the 1920s to their relaunch in Taipei in the 1950s. His narrative and important historical records remind us to commemorate the pioneers of this field, many of whom have passed on, and to honor the individuals who have developed physiological education and research in Taiwan.

Physiological Education before the Establishment of the Chinese Physiological Society

In 1860, when the British Empire and the Second French Empire defeated the Qing Dynasty in Beijing during the Second Opium War, the Westernization Movement and the Modernization of Law and Defense System were launched. In addition, the School of Combined Learning (同文館) was established in 1862, with the aim of offering instructions in various foreign languages. As language skills improved, the School then started to offer courses covering natural sciences and Western technologies. Finally, in 1871, medical

courses, including physiology, were introduced. Based on the curriculum of Western medical education, the first public medical school (Viceroy's Hospital Medical School) was founded in Tianjin by Dr. Maehenrie from the UK in 1881. At that time, all medical sciences, including physiology, were taught in English. After Dr. Maehenrie passed away, it was taken over by the Qing Government and renamed as Northern Medical School in 1894. Due to the Yihetuan incident (義和團事件) in 1900, the school was closed. In 1902, the school was reopened and renamed as the Medical School of the Northern Army, the former institute of the National Defense Medical College.

Corresponding author: Dr. Mei-Ling Tsai, Department of Physiology, College of Medicine, National Cheng-Kung University, Tainan 70101, Taiwan, ROC. Tel: +886-6-2353535 ext. 5436, Fax: +886-6-2362780, E-mail: mltsai@mail.ncku.edu.tw

Received: August 14, 2009; Accepted: September 30, 2009.

©2009 by The Chinese Physiological Society. ISSN : 0304-4920. <http://www.cps.org.tw>



Prof. Der-Pei Feng (left) and Prof. Hwai-Sze Fang (right) in the Department of Physiology, College of Medicine, National Taiwan University, Taipei, Taiwan, October, 1992.

More faculties from Japan were recruited and the Japanese medical education system was introduced into China (8).

Establishment of the Chinese Physiological Society before World War II

In 1911, the Chinese revolution led by Sun Yat-sen broke out and overthrew the Qing Dynasty, bringing two thousand years of Chinese feudal monarchy to an end. In the years immediately after this, the American medical education system became more popular in the country. As part of this movement, the Peking Union Medical College (PUMC) was founded in 1916 by the China Medical Board, with an endowment from the Rockefeller Foundation. Since the aim of the College was to give medical education comparable with that provided by the best medical schools in the United States and Europe, many of the faculty, including the President of PUMC, were recruited from overseas, and all lectures were delivered in English. In 1924, Robert Kho-Seng Lim (Robert K.S. Lim, 林可勝) was recruited as a visiting professor at the College after receiving his Ph.D. degree under the instruction of Edward Sharpey-Shafer in the Medical School of Edinburgh University in 1916 and

working in the team of A.J. Carlson at the University of Chicago. In 1925, he was appointed as the Head of the Department of Physiology (2).

To introduce physiological research into China and to improve communication between local scientists and Western physiologists, Lim organized the Beijing branch of the Society for Experimental Biology and Medicine. With the support of Hsien Wu in the Department of Biochemistry and B.E. Read in the Department of Pharmacology, Lim founded the Chinese Physiological Society in 1926. In addition, he invited seven well-known physiologists to join as honorary members of the Society in order to build strong links with the rest of the world. The distinguished physiologists included J.J. Abeland and A.J. Carlson in the USA, E. Abderhalden in Germany, J. Bacroft, F.G. Hopkins, and E.S. Schafer in the UK, and I.P. Pavlov in Russia (3).

Since 1927, when the Chinese Journal of Physiology published its first issue in English, the Journal quickly established itself as a leading platform for such research works in Asia. Many papers that were first published in the Journal went on to be cited by various textbooks, including Human Physiology (edited by Houssay in Argentina), the Handbook of Physiology (Sec. I, Vol. II), the Physiological Basis

of Medical Practice (edited by Best and Taylor in Canada), Principles of Human Physiology (edited by Starling in the UK), and Lehrbuch der Physiologie des Menschen (edited by Landois-Rosemann in Germany).

Of Lim's protégés, some of his students, including Der-Pei Feng (馮德培), Chih-Teh Loo (盧致德), and Shi-Chun Wang (王世濬), later became Academicians of the Academia Sinica. In addition, Anne-Cheng Liu (柳安昌) received his Ph.D. training in the laboratory of Walter Cannon in the USA, and then became the first head of Physiology at the National Defense Medical Center in Taipei. Of the trainees in his laboratory, Chih Chin Wang (王志均) later became an Academician of the Chinese Academy of Sciences, and Hwai-Sze Fang, the subject of this text, became an Academician of the Academia Sinica.

Similar to China, Taiwan also had no Western Medical Schools in the Qing Dynasty, except for missionaries who helped the Taiwanese with Western medicine. Due to the Sino-Japanese Treaty of Shimonoseki, signed in 1895, Taiwan was ceded to Japan. To improve the island's medical care system, the Japanese government built the Taipei Hospital and transformed the Hospital to Japanese-based medical school (The Governor-General's School of Medicine) in 1897. During the glorious period between 1927 and 1937 in Mainland China, when physiological studies rapidly developed, medical education in Taiwan also underwent systemic reform. The Governor-General's School of Medicine was converted into Taipei Medical College in 1922 (4). To further improve the quality of higher education in Taiwan, Taihoku Imperial University (now National Taiwan University) was founded in 1928 to offer Ph.D. programs, Taipei Medical College became the affiliated Department of Medicine in 1936. Tsungming Tu (杜聰明) was the only Taiwanese faculty member in Taipei Medical College who was promoted to the position of professor at Taihoku Imperial University (6). He was later transferred to the pharmacology section at the university's medical department. All professors from Japan, including two in the physiology section, were actively involved in Society activities in Japan.

The Hardships Faced by the Chinese Physiological Society during World War II

In 1933, the Medical School of the Northern Army changed their education system from Japanese to American one. In 1937, the Sino-Japanese War led to the outbreak of World War II in Mainland China, and in 1939, when the war broke out in Europe, both government and medical schools were relocated from northern to southern China. Many trainees at PUMC

went back to their medical schools and helped school reconstruction in southern China. Chinese faculty at PUMC joined the Red Cross Force in China. Robert K.S. Lim became a field director in the Chinese Red Cross Medical Relief Commission. In addition, he formed Emergency Medical Service Training School to support our military force. Therefore, the Society was no longer active. To sustain the academic activities of the Society with regard to its publications, Professors Quia Cai (蔡翹) and Kilbon organized the Chinese Physiological Society, Chengdu Branch, and published Proceedings of Chinese Physiological Society, Chengdu Branch, between 1941 and 1945.

However, during the war, both Professors Takenaka (竹中繁雄) and Hosoya (細谷雄二) at the Taihoku Imperial University were still devoted to their physiological research. Tzung-Huan Kuo (郭宗煥) and Zhen Chang (張鎮) both worked with Professor Hosoya. The former eventually became the founder and first chairman of the physiology section at the Taipei Medical University in 1960, while the latter became the first chairman of the physiology section at Kaohsiung Medical University in 1954.

The Re-Launch of the Chinese Physiological Society after World War II

At the end of World War II, with the Japanese surrender in 1945, the National Defense Medical Center (NDMC) was formed by the amalgamation of the Army Medical College led by Zhang Jian (張建) and the Wartime Health Personnel Training Center and its thirteen branches in Shanghai led by Robert K.S. Lim. Robert K.S. Lim was then appointed the first president of the National Defense Medical College, which many of the faculty members of PUMC joined (7). In 1947, civil war broke out in Mainland China. As Chairman of the National Military Council, Chiang Kai-shek attempted to eradicate the Chinese Communists, but ultimately failed. One year before the retreat of the Nationalist government to Taiwan in 1949, the NDMC was relocated from Shanghai to Taiwan. With the support of the American Bureau of Medical Aid to China (ABMAC) and the China Medical Board (CMB), Chih-Teh Loo, dean of the NDMC in Taiwan, was able to reconstruct medical schools and recruit new faculty members. Later, in the 1970s, he was also involved in the establishment of Yang-Ming Medical College, now medical school of the Yang-Ming University, in Taipei. Anne-Cheng Liu, working as a head of the physiology section, accelerated faculty development with CMB fellowships. Meanwhile, S.T. Chiang (姜壽德), who helped to establish a respiration-related laboratory, later became the first head of Physiology at the Yang-Ming Medical College in 1975.

In 1945 when Taiwan was retroceded to the Chinese government, Professor Tsungming Tu was appointed the first dean of the Medical College after the Department of Medicine at the Taihoku Imperial University was renamed as the Medical College of the National Taiwan University. One Japanese faculty in Physiology had moved back to Japan. To fill the vacancy, new staff members were recruited, including Duo-Ching Cheu (邱德金), a member of the Taiwan New Cultural Association with a Ph.D. from Tokyo Imperial University (1) who was appointed the head of Physiology, Ming-Tsung Peng (彭明聰), a protégé of Professor Tsungming Tu in Pharmacology, transferred to Physiology, and Professor H.-S. Fang, from National Kiangsu Medical College, was recruited to join the physiology faculty. In 1949, the People's Republic of China was established in Beijing, while the Nationalist government retreated to Taiwan and established the rival Republic of China. Reform in medical education then proceeded with a shift from the Japanese to American system at the Medical College of the National Taiwan University (4). In 1954, H.-S. Fang, as the head of Physiology, invited visiting professors from overseas to further improve the quality of both research and teaching.

In 1954 when medical education reform approached the end, Professor Tsungming Tu left the institution and established a new medical college, Kaohsiung Medical School. Meanwhile, Professor Zhen Chang was recruited as the head of Physiology. In 1958, the China Medical University (CMU) was established in Taichung to provide systemic training in Chinese Herbal medicine and pharmacy. In 1960, Taipei Medical University was founded by a group of physicians who sought to commemorate the founding of Taipei Medical College during the Japanese colonial era in the 1920s. Tzung-Huan Kuo became the first head of Physiology at a new university, Taipei Medical College in 1960.

In the first 10 years after World War II, many faculty members in Physiology were devoted to the infrastructure of teaching and research. In 1959 when the National Science Council was established, national support offers research grant to further accelerate research activities in various fields. With financial support from the National Science Council and persistent efforts in both physiological education and research in Taiwan right after World War II, H.-S. Fang, M.-T. Peng, and C.Y. Chai (蔡作雍) became Academicians of the Academia Sinica in 1978.

In 1959 when the National Science Council was founded, Anne-Cheng Liu, the head of Physiology at NDMC, proposed a relaunch of the Chinese Physiological Society in Taiwan to meet the research and teaching needs of physiologists. To draw on the

vitality of the original society, first established in 1926, the names of the Chinese Physiological Society and Chinese Journal of Physiology were adopted. The journal started publishing again in 1960, with the format and volume number indicating its continuity with the original publication.

After the relaunch of the society, the presidents of the Chinese Physiological Society have undertaken tremendous efforts to maintain the integrity of the journal. To date, the presidents have been as follows: A.C. Liu from 1959-1970, H.-S. Fang from 1970-1973, C.Y. Chai from 1973-1977, H.H. Lu (盧信祥) from 1977-1981, S.T. Chiang from 1981-1984, M.-T. Peng from 1984-1987, M.T. Lin (林茂村) from 1987-1990, T.K. Young (楊志剛) from 1990-1994, H.I. Chen (陳幸一) from 1994-1996, P.S. Wang (王錫崗) from 1996-2000, T.H. Chiu (邱蔡賢) from 2000-2002, Eminy H.Y. Lee (李小媛) from 2002-2004, Y.T. Lau (樓迎統) from 2004-2008, and Julie H.Y. Chan (華瑜) from 2008-present. In addition, the editors-in-chief of the Journal who have worked hard to improve the quality and promote its international standing include A.C. Liu, C.Y. Chai, S.T. Chiang, T.H. Chiu, T.C. Fu (傅祖慶), Shirley P.H. Li (李碧雪), P.S. Wang, and Eminy H.Y. Lee.

As documented above, the visionaries who founded the Chinese Physiological Society realized that physiology was an emerging field with broad applications. Recent development in new approaches, including molecular and cellular tools, has been widely utilized in physiological studies. In addition, rapid development of bioinformatics analysis and large-scale analysis of genomes and proteomes provided new ways of exploring a new field of systems biology to our future physiologists.

Since it has been recognized that by becoming cognizant of the history and impact of critical technology and knowledge individuals will be able to make better use of such things, it is necessary to understand how the subject of physiology has evolved and how we can best determine the next step in the related studies. Therefore, it is hoped that this special issue may function as a bridge to connect physiologists in Taiwan with those in the wider world, and provide better communication in the field to enable new developments in Physiology and aid professional networking.

References

1. Chen, C.-K. The study of the social status of Taiwanese Physicians under Japanese rule (master thesis), Taipei, Taiwan: Department of history, National Taiwan Normal University, 1991.
2. Davenport, H.W. Robert Kho-Seng Lim: a biographical memoirs. *Natl. Acad. Sci.* 1980.
3. Fang, H.-S. Past and present of the Chinese Physiological Society. *Jing-Fu Med. News.* 9: 95-97, 1992.

4. Ong, S.I. Handing-over and restructuring of Taiwan University after World War II. *Bulletin of Taiwanese History of Edu. Res.* 32: 2-13, 2004.
5. Yan, Y.T. 110 years of Medical College in National Taiwan University. *Maple News and Commentary*. June, 167, 2007.
6. Yang, Y.L. The first generation of Taiwanese Doctor- Tsungming Tu. Taipei, Taiwan: Common Wealth, 2002.
7. Wu, S. Elite from Peking Union of Medical College in National Defense Medical College. *Natl Defense Med Yuen Yuen Quarterly* 23: 5-7, 2006.
8. Yeh, S.Y. The first public school. *Natl Defense Med Yuen Yuen Quarterly* 23: 5-7, 2007.