Editorial

Japanese Medicine in the Recent Hundred Years

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Medical knowledges in Japan were transmitted mainly from China and Korea until the 16th century when modern western medicine was introduced to our country by Portuguese and Dutch doctors. Phillipp Franz von Siebold from Germany came to Japan in 1823 and promoted the spread of western medicine. From 1857 to 1862, Pomp van Meerdervoort from Holland opened a teaching clinic at Nagasaki, and lectured on medical science and physics. Since then, a number of Japanese of brilliant intellect have been brought up by him and scattered all over the country to distribute their medical knowledges. Meanwhile, in an attempt to study western science chiefly by Dutch literature, Institute for European Bibliography was founded in Tokyo in 1862.

In 1858, Otamagaike Vaccination Institute was established in Tokyo, and western medicine has rapidly become familiar among the Japanese. In 1877, this Vaccination Institute developed to the Faculty of Medicine, University of Tokyo, the oldest University in our country, where medical education was performed at first by German professors and later by Japanese professors. Afterwards, a number of medical schools have been established at various districts of Japan and they became the center of medical education and research in Japan. At present, the population in Japan is approximately 96,000,000 and there are 46 medical schools.

From 1880 to 1913, many Japanese investigators who received the modern education contributed to the world medicine while they were studying abroad. In 1889, S. Kitazato succeeded in pure culture of *Clostridium tetani* under the direction of Koch in Germany and he also established the immuno-therapy for diphtheria in cooperation with Bähring. In 1906, M. Tawara discovered the atrioventricular node at Aschoff's laboratory. In 1909, S. Hata and Ehrlich introduced Salvarsan as a chemotherapeutic agent for syphilis. In U.S.A., J. Takamine succeeded in crystallization of adrenaline in 1909. In 1913, H. Noguchi detected the

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presence of *Treponema pallidum* in the brain and spinal cord of the patients with tabes dorsalis and those with general paralysis. Meanwhile, K. Shiga performed a notable work in Japan and discovered *Shigella bacillus* in 1897 as a causative agent of dysentery. Some other unique studies such as discovery of *Schistosoma japonica* by F. Katsurada, studies on the cardiovascular structure of the Japanese by B. Adachi, studies on the Ainos by Y. Koganei etc. were also carried out in Japan.

However, it was after the World War I that the works of real originality were made by the Japanese. In the field of bacteriology, *Lep-tospira icterohaemorrhagiae* was discovered by R. Inada, causative agent of rat-bite fever by K. Futaki. Discovery of *Rickettsia orientalis* and its culture by M. Nagayo and first recognition of the elementary bodies of virus of lymphogranuloma by Y. Miyagawa are also well known. In the field of cancer research, it is worthy of special mention that K. Yamagiwa succeeded in producing an artificial cancer by long term stimulation of rabbits' ear with tar. Following this distinguished work, successful production of hepatic cancer was made by T. Sasaki and T. Yoshida using amidoazotoluene and by R. Kinoshita using butter yellow. Moreover, T. Yoshida produced artificial sarcoma in rats. In the field of neurology, studies on vagus area by K. Kosaka, medulla oblongata by G. Fuse, spinal parasympathetics by K. Kure, red nucleus by T. Ogawa and K. Hirasawa, and autonomic nervous system by S. Okinaka have been the noticeable achievements. Among the diseases, in which the name of Japanese physicians is referred, Masugi's nephritis, Hashimoto's disease, Takayasu's disease, Oguchi's disease etc. are well known. In clinical medicine, studies on gastroscope in the University of Tokyo, surgical treatment of esophageal cancer by K. Nakayama, pathogenesis of peptic ulcer by M. Ohi, cardiac surgery by S. Kimoto and S. Sakakibara, percutaneous cerebral angiography by K. Shimizu, Kanamycin by H. Umezawa, Mitomycin-C by T. Hata and so on have drawn attention.

After the World War II, it has become easy for us to obtain foreign literature without delay and the Japanese medicine is now making progress in parallel with that in the other advanced countries. However, because of the economical state in our country, only a limited amount of grants are available for the medical research works, and it is difficult to set up the institutes which are supported by sufficient number of staffs and expensive equipments as in U. S. A. or U.S.S.R. Accordingly, as a general trend, the Japanese medicine has to find its way of development not like the American or Russian medicine but like the European medicine. It is anticipated that the Japanese medicine will contribute to the world medicine in a similar way as the European medicine will do.