Hong Kong’s Eastern and Western medical history

On 1 July 1997, 156 years after the British first set foot on the island, Hong Kong reverted to Chinese rule. In that time it has changed from what the Foreign Secretary Lord Palmerston called ‘a barren island with hardly a house on it’¹ to a metropolis of some 6 million people. In line with this, its medical facilities have grown from a handful of traditional Chinese practitioners to a comprehensive Western medical system that matches any in the world. However, this transformation has not always been a smooth one. This article will review Hong Kong’s turbulent medical history, concentrating on the differences between the Eastern and Western approaches in the nineteenth century, which influenced not only the shape of medicine in the Colony but also the Western attitude to Chinese medicine for years ahead.

Cession of Hong Kong
In the middle of the nineteenth century as Britain’s empire grew, she was keen to increase her trade with foreign powers, particularly in the Far East. However, the Chinese Celestial Empire saw all foreigners as barbarians and imposed severe restrictions. Tensions came to a head in 1839 when the Chinese attempted to confiscate opium which the British East India Company was illicitly selling at Canton (Guangzhou)². The ‘First Opium War’ followed, at the end of which Hong Kong was ceded to the British. On 2 February 1841 Captain Charles Elliot RN, the Chief Superintendent of Trade and Britain’s Plenipotentiary to China, issued a proclamation announcing British sovereignty. British traders were relieved to have a permanent trading base of their own, rather than relying on Portuguese Macao or suffering the restrictions at Canton. Lord Palmerston was far from pleased, however, commenting that ‘Hong Kong will not be the mart of trade any more than Macao is.’ Hong Kong consisted of little more than fishing villages, and Elliot assured the few hundred inhabitants that they would ‘be governed, pending Her Majesty’s further pleasure, according to the laws, customs and usages of the Chinese, every description of torture excepted’¹. These words, intended to appease the native population, and smooth the running of the colony, were to have important repercussions many years later, for the practice of traditional medicine was certainly a Chinese ‘custom and usage’ and it would be claimed that it had been given official approval and recognition.

The early years; white man’s grave
The colony rapidly expanded with Chinese labour from Canton, but for the early European settlers, it was a ‘white man’s grave’². In 1843, the year that the first Colonial Surgeon was appointed, nearly a quarter of the troops and a tenth of the civilian population died, and the early settlers considered abandoning the colony altogether³. In addition to cholera, dysentery and typhoid there was the mysterious ‘Hong Kong fever’ which was probably malaria⁴. The high incidence of disease was attributed by some to the unnatural environment of the island: ‘In the intervals of rain a nearly vertical sun acts with an intense evaporating power, and a noxious steam or vapour rises from the fetid soil, yielding a gas of a most sickly and deleterious nature.’³ The growing Chinese community was affected by phthisis (pulmonary tuberculosis), beriberi and smallpox. Opium smoking was common, but Dr PBC Ayres, Colonial Surgeon from 1873 to 1897, considered it to be ‘a luxury of a very harmless description.’ It remained legal in Hong Kong until 1940.

The first Western doctors in Hong Kong were those of the colonial services and medical missionaries. Dr Benjamin Hobson (1816–1873) of the London Missionary Society moved a general hospital from Macao to Hong Kong in 1843. However, if the missionaries hoped it would be easy to preach Christianity through the healing of the sick they were mistaken; they found that in Hong Kong, as in China, Western medicine was not easily accepted. Although the hospital was popular for its cheap rice, it was not a great success, and closed in 1853⁶.

Chinese traditional medicine
The Chinese already had an elaborate medical system of their own. Traditional practitioners performed four procedures: inspection, smelling and auscultation, history taking, and examination of the pulse. The organs of the body were classified according to the five elements – metal, wood, water, fire and earth. Diseases were accounted for by an abnormal reaction between the elements – an imbalance of the dual forces, the Yin and the Yang. Treatment was aimed at restoring the equilibrium through herbal cures, dieting or acupuncture. Any physical contact between a female patient and the traditional practitioner was taboo; instead, he would feel the pulse transmitted down a piece of string tied around her wrist⁴. The Chinese were very suspicious of Western medical practices. How could a small spoon of medicine be as effective as a bowl of herbal treatment? They were frightened of
surgical operations, with their high incidence of sepsis and perioperative death, and autopsies horrified them; it was rumoured that the removed organs were ground up to make medicine.

Given this background, it is not surprising that the government Civil Hospital, established in 1850, was not popular with the indigenous population. Most of the patients were Europeans or government employees. Even if the Chinese had not been frightened by the medical practices, the 1 dollar charge and restrictions on visiting were a deterrent. As one commentator put it: ‘Nearly all Chinese in the colony would rather die like dogs than enter the Government Civil Hospital’.

The I-tze and the Tung Wah hospital

One of the early spiritual needs of the immigrant Chinese population was a temple to house the ancestral tablets of the dead, and in 1851 the ‘I-tze’ temple was established. It soon became a home for the dead too, as coffins awaited shipment back to China. Traditionally it was unlucky to have someone die in the house, and it was not long before the dying were also brought to the I-tze. There were no medical facilities, but tea and food were provided. The I-tze was also a refuge for the homeless and the destitute, and it became squalid, overcrowded and dilapidated.

Members of the Hong Kong government were either ignorant of the conditions or did not care. However, in 1869 scandal erupted when the Registrar General stumbled across the I-tze whilst investigating the death of someone from the emigration depot. He was horrified: ‘At my first visit there were, dead and alive, about nine or ten patients in this so-called hospital . . . One room contained a boarding on which lay two poor creatures half-dead, and one corpse, while the floor, which was of earth, was covered with pools of urine. The next room contained what the attendants asserted to be two corpses, but on examination one was found to be alive . . .’.

The scandal highlighted the need for a Chinese hospital, and in 1869 the Tung Wah hospital was founded. It was to be run by the Chinese according to their own customs, using traditional medicine. It was financed by the Chinese community, along with a contribution from the government’s ‘embarrassingly large Gambling Fund’ – which had been raised by selling gambling licences. The hospital committee included the most powerful and wealthy Chinese businessmen in Hong Kong. It was the first Chinese group to be recognised by the government as representatives of Hong Kong’s Chinese community. They were to become a powerful political force.

Only Chinese doctors were employed at the Tung Wah, and there was no formal training or qualification. Applicants to work at the hospital wrote a medical treatise, and if it was judged acceptable they were hired for 3 months at a time. The death rate was very high. In 1872, 187 (31%) of the 922 patients admitted died, compared with the Civil Hospital’s 13%; by 1888, the death rate at the Tung Wah was over 60%. The high mortality did not worry the Chinese; it merely reflected their view of the hospital as a place to die. The Tung Wah was particularly attractive in this respect as there were no autopsies, and coffins and burial were free. The hospital also ran outpatient dispensaries, and was very active in the campaign against smallpox – originally using a Chinese inoculation method, but later Jenner’s cowpox vaccine. So, whilst the government medical officers managed to vaccinate only a few dozen people each year, the Tung Wah was vaccinating thousands.

The Tung Wah’s activities soon expanded to include community and social services such as housing the poor, free schooling, and repatriating the destitute. It also provided relief in times of disaster and natural calamity, both in Hong Kong and China, and was involved in founding the Po Leung Kok, a society for the prevention of kidnapping into prostitution or slavery. The hospital’s Board of Directors became spokesmen for the Chinese community, and the government approached them on issues ranging from street lighting to bankruptcy laws. They also acted as arbitrator in local disputes, and were described as being the ‘governing body of the Colony in all Chinese matters’.

The Alice Memorial Hospital and the Hong Kong College of Medicine

In addition to the Civil Hospital, other early government institutions included the smallpox hospital, the lunatic asylum, and a hospital that confined prostitutes with venereal diseases, known as the ‘Lock Hospital’. Non-government institutions included the Seamen’s Naval and Military Hospitals. It was not until 1887 that the first hospital devoted to the treatment of Chinese patients on Western principles was established: the Alice Memorial Hospital was founded, largely with a donation from Dr Ho Kai (1857–1914), the first Hong Kong Chinese to train in Western medicine. Ho Kai (later Sir Kai Ho Kai) studied at Aberdeen University and completed his training at St Thomas’ in London, becoming Licentiate of the Royal College of Physicians and Member of the Royal College of Surgeons. He also trained as a barrister and took up this profession on
his return to Hong Kong. He sat on the Sanitary Board and Legislative Council for many years, and as much as anyone else, he made Western medicine available to the Chinese.

The hospital was named after Ho Kai’s young English wife Alice, who died of typhoid 2 years after arriving in Hong Kong. It was run by the London Missionary Society and received free professional advice from local doctors in private practice. These included Dr (later Sir) Patrick Manson (1844–1922) and Mr (later Sir) James Cantlie (1851–1926). Manson had arrived in China in 1866 and worked at the Chinese Imperial Maritime Customs, first at Formosa, and then at Amoy where he made his famous observations on the mosquito’s role in the transmission of filariasis. In 1883 he moved to Hong Kong to set up a private practice, and was joined soon after by fellow Aberdeen graduate Cantlie who took over the surgical work. Ho Kai, Manson and Cantlie realised that, if Western medicine was ever to become acceptable to the Chinese, more of them would need to be trained in it. They founded the Hong Kong College of Medicine for the Chinese within the Alice Memorial Hospital in October 1887. At the inauguration, Manson, as dean, declared the object to be ‘the spread of medical science in China, the relief of suffering, the prolongation of life.’ At the first graduation ceremony, Cantlie expanded on the theme: ‘we hand our offering to the great Empire of China where science is yet unknown, where the ignorance of our own mediaeval times is current, where the astrologer stalks abroad with the belief that he is a physician.’ That the great Empire seemed willing to accept Western medical advances was indicated by the agreement of Li Hung Chang, the Viceroy of Canton, to be the college’s Patron. Cantlie envisaged a two-way process, and urged the newly qualified students to bring back from China knowledge of herbal remedies, to be tested in the West.

In its early years the Hong Kong College of Medicine was something of a hot-house for young Chinese reformists and revolutionaries. Its small intake of 12 students in the first year included Sun Yat-Sen, the revolutionary who was to topple the Ch’ing dynasty and, in 1912, become the founder and first President of the Chinese Republic. When the University of Hong Kong was established in 1911, the College of Medicine was absorbed into the new Faculty of Medicine, and the British General Medical Council granted full recognition to its qualifying degree MB BS. The Alice Memorial Hospital merged with three other affiliated hospitals in 1922 to form the awkwardly named Alice Ho Miu Ling Nethersole Hospital. A second university, the Chinese University of Hong Kong, opened in 1963 and later included Hong Kong’s second medical school.

Manson left the Colony in 1889 and Cantlie in 1897. They were to have an immeasurable influence on tropical medicine in Britain, Manson as founder of the London School of Tropical Medicine in 1898, and Cantlie as the founder of the Journal of Tropical Medicine in 1898, and the (later Royal) Society of Tropical Medicine and Hygiene in 1907.

The Hong Kong plague of 1894

Probably the most important event in the Colony’s medical and social history was the famous plague epidemic of 1894. It heralded not only the discovery of the plague bacillus but also the introduction of Western medicine into that stronghold of traditional practice, the Tung Wah hospital.
In the 1890s plague was spreading through southern China. It erupted in Canton in the spring of 1894, and Hong Kong’s first case was identified in May at the Civil Hospital, by the acting superintendent Dr JA Lowson (1866–1935) (Fig 2). There had been rumours of an outbreak in Hong Kong for some time, and when Lowson and Colonial Surgeon Ayres visited the Tung Wah hospital they found many more cases, and were critical of the hospital’s failure to identify and report the disease. Most cases came from the Chinese quarter of Tai Ping Shan which was notorious for its overcrowding and filth (Fig 3). Successive Colonial Surgeons had urged the government to take action against the insanitary conditions, and specific recommendations had been made in the Chadwick Report of 1882. Although a Sanitary Board was eventually formed, the changes had never been implemented.

With the outbreak of plague the Sanitary Board introduced strict measures to try to control the epidemic. These included house to house searches for infected cases, disinfection of affected properties, and isolation of contacts in houseboats moored in the harbour. Plague patients were to be removed to the hospital ship Hygeia which had previously been used during smallpox epidemics, and corpses were to be rapidly disposed of in quicklime. The measures were not well received by the Chinese community and, when attempts were made to remove patients from Tung Wah Hospital, riots broke out. Doctors had to carry pistols for their own safety. The Tung Wah hospital committee was accused of trying to use the crisis to further its own political ends, and at one point the Hong Kong governor ordered the gunboat Tweed to be anchored opposite the hospital.

To forestall further violence, the transfer of patients to the Hygeia was abandoned, and Chinese patients were taken to a temporary hospital in a ‘glass works’ factory run by doctors from the Tung Wah hospital. In addition, a police barracks was converted into the Kennedy-town hospital. However, many people had
already decided to leave for Canton. This was not only to escape Hong Kong's unpopular plague measures but also to ensure that if they died they would be buried with due ceremony on Chinese soil, rather than being hastily dumped in a ditch. Each morning corpses were found in the street, and at the height of the epidemic there were nearly 100 new cases per day, with a mortality of 95%.

Discovery of the plague bacillus

Chinese superstition related the cause of the plague to construction of the Peak Tram. It was reported that the god Lu-Tsu, who lived in the 8th century, had appeared and offered a specific treatment which comprised more than 15 different roots and herbs\(^1\). The Western doctors suspected the disease was caused by a bacterium. This was during the 'golden age of bacteriology' when one disease after another had succumbed to Pasteur's 'germ theory' and Koch's 'postulates'. Lowson inoculated the blood from his first patient into a guinea pig; although it died, he was unable to isolate any organism.

In June, help arrived in the form of Shibasaburo Kitasato\(^1\) (1852-1931) (Fig 2), the famous Japanese collaborator of Robert Koch, and Alexandre Yersin\(^1\) (1863-1943) (Fig 4) who had studied under Pasteur. Both men had already made important microbiological discoveries; Kitasato had isolated a pure culture of the tetanus bacillus, and with Behring, developed an antitoxin. Yersin had worked with Roux to prove that the widespread effects of diphtheria were due to a toxin – the first isolation of a bacterial exotoxin. Kitasato arrived in Hong Kong a few days before Yersin and, working at the Kennedy-town hospital, was the first to see an organism, though he was unsure of the Gram stain and thought it motile\(^1\). Yersin's progress was at first frustrated by a lack of cooperation from the British authorities. Eventually he obtained some autopsy material by bribing the sailors charged with disposing of the corpses\(^1\). He dissected out the buboes, the swollen lymph nodes that characterise the plague, and had no difficulty identifying the organism – a gram negative bacillus that stained with aniline dyes, particularly at the ends\(^1\). Over the past 100 years there has been much debate as to who deserves the credit for identifying the plague bacillus\(^1,10,18-23\). Although Kitasato's discovery was a few days before Yersin's and was published first, his description lacked precision, and he may have been describing a contaminating Streptococcus\(^18,24\). Yersin's accurate description and undisputed culture of the true plague bacillus has been acknowledged in the taxonomic naming of the bacillus, Yersinia pestis.

At the end of the 1894 plague epidemic, the officially recorded number of deaths was 2,552, though the true number was probably much higher. The victims included two men of the Shropshire Light Infantry who had searched plague-infected houses, and one of Kitasato's team who had inoculated himself during an autopsy. Plague continued to be a problem in Hong Kong for the next 20 years, and claimed more than 20,000 lives\(^1\). A bacteriology institute was built in 1905 to facilitate research and support public health measures. It continued to be used as a laboratory until the 1960s, and now houses the Hong Kong Museum of Medical Sciences.

Into the 20th century

The plague epidemic marked a turning point in the medical history of Hong Kong. As part of a general clean up the Tai Ping Shan slums were razed to the ground, sanitary services were improved, and more
effective health legislation was implemented. The Tung Wah hospital received severe criticism for its medical practices and its failure to cooperate during the epidemic. In his annual report, Dr Ayres declared that ‘the so-called Chinese medical practitioners in China are really nothing more than empiricism and quackery’. Following the report of a special commission, a Chinese doctor trained in Western medicine at the Hong Kong College of Medicine was appointed as Medical Superintendent. Soon other Western-trained physicians were employed, and the Tung Wah group of hospitals joined more than 30 other institutions which are currently under Hong Kong’s hospital authority.

Although inpatients at the Tung Wah now receive only Western treatment, outpatients can still choose to be treated by a traditional herbalist. To this day, such practitioners need not be registered or hold any qualifications, for reasons dating back to Charles Elliot’s promise 15 years ago not to interfere with Chinese ‘customs and usages’. Moves are, however, being made towards establishing a register. Today there are over 7,000 Western-trained medical practitioners in Hong Kong, and postgraduate medical training is overseen by the Hong Kong Academy of Medicine. This academy has the potential to contribute to the development of training programmes in China, where there is currently no uniform training and no register of doctors. In the West, the increasing popularity of acupuncture, and the successful development of the Chinese herb qinghaosu into the artemisin anti-malarial drugs confirm, as Sir James Cantlie hoped, that as well as carrying forth into China ‘the message of modern science’, the West is learning from traditional Chinese practice.

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References

1 Cameron N. Hong Kong: The cultured pearl. Oxford: Oxford University Press, 1978.
2 Eitel EJ. Europe in China: Hong Kong. Oxford University Press, 1895; republished 1983.
3 Choa GH. A history of medicine in Hong Kong. In: Medical directory of Hong Kong, 2nd edn. Federation of Medical Societies of Hong Kong, 1976:11–27.
4 Choa GH. The life and times of Sir Kai Ho Kai. Hong Kong: Chinese University Press, 1981.
5 Sinn E. Power and charity: the early history of the Tung Wah hospital. Hong Kong: Oxford University Press, 1989.
6 Ayres PBC. Colonial Surgeon’s report for 1872. Hong Kong Government Gazette, 1873.
7 Manson-Bahr P, Alcock A. The life and work of Sir Patrick Manson. London: Cassell, 1927.
8 Stewart JC. The quality of mercy: the lives of Sir James and Lady Cantlie. London: George Allen and Unwin, 1983.
9 Cook GC. From the Greenwich hulks to old St Pancras: a history of tropical diseases in London. London: Athlone Press, 1992.
10 Solomon T. The role of Dr James A Lowson in the controversial discovery of the plague bacillus. Lancet 1997; in press.
11 Lowson JA. The epidemic of bubonic plague in Hong Kong, 1894. Hong Kong: Government Printer, 1895.
12 Dyer-Ball J. A Chinese view of the plague. Hong Kong Government Gazette 1895:423–5.
13 Obituary. Baron Shibasaburo Kitasato. Br Med J 1931;i:1141–2.
14 Solomon T, Alexandre Yersin and the plague bacillus. J Trop Med Hyg 1995;98:209–12.
15 Kitasato S. The bacillus of bubonic plague. Lancet 1894;i:428–30.
16 Mollaret HH, Brossollet J, Alexandre Yersin ou le vainqueur de la peste, Les inconnus de l’histoire. Paris: Fayard, 1985;320.
17 Yersin A. La peste bubonique à Hong Kong. Ann l’Inst Pasteur 1894;8:662–7.
18 Lagrange E. Concerning the discovery of the plague bacillus. J Trop Med Hyg 1926;29:299–303.
19 Millot Severn AG. A note concerning the discovery of the Bacillus pestis. J Trop Med Hyg 1927;9:208–9.
20 Scott HH. Conquest of plague. Br Med J 1953;i:1327.
21 Hirst LF. Conquest of plague. Br Med J 1953;i:1343–5.
22 Howard-Jones N, Was Shibasaburo Kitasato the co-discoverer of the plague bacillus? Perspect Microbiol Med 1973;16:293–307.
23 Bibel DJ, Chen TH. Diagnosis of plague: an analysis of the Yersin–Kitasato controversy. Bacteriol Rev 1976;40:633–51.
24 Howard-Jones N, Kitasato, Yersin and the plague bacillus. Clio Med 1975;10:23–7.
25 Halnan KE. The Hong Kong Academy of Medicine. J R Coll Physicians Lond 1992;25:442–4.
26 Vickers AJ. Can acupuncture have specific effects on health? A systematic review of acupuncture antimetis trials. J R Soc Med 1996;89:303–11.
27 Hien TT, White NJ. Qinghaosu. Lancet 1993;341:603–8.

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