INTRODUCTION

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Introduction

In Jules Verne’s novel *Around the World in Eighty Days*, when the Englishman Phileas Fogg and his French valet Jean Passepartout made a brief stop in Hong Kong on their voyage around their world, Passepartout gazed out onto the port on Victoria Harbour and encountered this stunning sight:

*At the Victoria port he found a confused mass of ships of all nations, English, French, American, and Dutch, men-of-war and trading vessels, Japanese and Chinese junks, sampans, tankers, and flower-boats, which formed so many floating parterres.*

Verne’s description of the busy harbour in 1872 testifies to the construction of military installations and harbour infrastructures begun by the British soon after they took over Hong Kong from the Chinese in 1842. In less than half a century, western engineering construction of all sorts had transformed the face of the small rural settlement. In the following century Hong Kong was to become a flourishing city of metropolitan dimensions – known to westerners as the Pearl of the Orient, with a prosperous and beautiful harbour.

During the first ten years of colonial rule, significant areas of land were reclaimed to meet economic and population growth. The internal and external transportation networks underwent improvement, and large-scale public works projects were introduced, bringing sweeping changes to the life style of the inhabitants. These engineering projects were among the earliest western public works in the Far East.

The gas generating plant on Whitty Street was the first of its kind to be built in Asia. In 1862, Governor Hercules George Robert Robinson (1824-1897, in

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office 1859-1865), fifth Governor of Hong Kong, signed an authorisation letter contracting William Glen to the franchise of gas supply to the city of Victoria. On 31st May 1862, the China Gas Company was established to provide gas to street lamps on Hong Kong Island.1 On 3rd December, the company laid 24 kilometres of gas pipes and erected 500 gas lamps. Customers of gas lighting included the Hong Kong Hotel, Jardine Matheson and the Hong Kong Dispensary.2 Gas supply in Hong Kong preceded the Shanghai Gas Co. Ltd. (established in 18653) by three years and the gas business and gas street lighting of Yokohama (started in 1872) by ten years.

In 1883, the Government of Hong Kong enacted the Tramways Ordinance, announcing the construction of six tramway lines – five lines for trams and a funicular for the Peak Tram. The Peak Tram came into service in 1888 as the first of its kind in Asia and also the earliest mechanised transportation device in Hong Kong, seven years ahead of the Kyoto Electrical Railway (opened in 1895, operated by Kyoto Denki Tetsudo, the Kyoto Electric Railway Co. Ltd.), and ten years before Siemens built the first tramway of China in Beijing (then called Peking) in 1899.5 The tramway lines on Hong Kong Island came into service in 1904 and became the earliest tramway system in the Far East.

Though not the first city to build an electric plant, Hong Kong was one of the earliest cities in the Far East to start engineering projects on public electricity supply. The Wanchai power plant of the Hongkong Electric Company near Wing Fung Street went into operation in 1890 and began supplying electricity to street lamps in Central at 6 p.m. on 1st December. This was less than ten years later than the operation commencement of the Edison Electric Light Station, the first public power plant in the world, and just three years later than the opening of the Tokyo Electric Power Company’s public power station in 1887.

Other forms of western communication technology invented in the nineteenth century were soon introduced into Hong Kong. In as early as 1863, Jardine Matheson established a local telegraphic service for its offices in East Point (stretching from today’s Paterson Street and Sugar Street in Causeway Bay to the city of Victoria in Central), less than twenty years after Samuel Morse sent the world’s first telegram from Washington to Baltimore, and five years ahead of Japan which in 1869 opened her first internal telegraphic line linking Tokyo and Yokohama.

With regard to international telegraphic connections, an American company was the first to draw up plans to lay a submarine telegraphic line between Hong Kong and Shanghai, but the project failed because of opposition from the Qing Government. Later, in 1870, Hong Kong joined the international telegraphic network when the Great Northern Telegraph Company began constructing a submarine telegraphic line from Deep Water Bay in Hong Kong to Shanghai. In the following year, China Submarine Telegraph completed a submarine telegraphic line from Singapore to Telegraph Bay in Hong Kong. The telegraphic message sent by John Pender, Chairman of the company, to mark this historic occasion took a transmission period of 53 minutes to reach the Hong Kong Chamber of Commerce. The company further laid a submarine cable from Hong Kong to Nagasaki via Shanghai, establishing Hong Kong’s important position in the Far East’s global telegraphic network.6

2 / Robin Hutcheon, The Blue Flame: 125 Years of Towngas in Hong Kong (Hong Kong: Hong Kong and China Gas Co. Ltd., 1987), p.3.
3 / Hong Kong and China Gas Co. Ltd., The Blue Flame: 140 Years of Towngas (Hong Kong: Hong Kong and China Gas Co. Ltd., 2002), p.27.
4 / For Shanghai Gas Co., Ltd., see the website of Shanghai shi difangzhi bangongshi 上海市地方志辦公室, “Yingshang Shanghai Meiqi Gongshi” 英商上海煤氣公司 http://www.shtong.gov.cn/node2/node2245/node4516/node55028/node55049/node55065/userobject1ai42270.html.
6 / For the development of telegraphic networks in Hong Kong, see Gertrude Layton, Hong Kong’s Telecommunications Story (Hong Kong Communications Association of Hong Kong, 2007), pp.19-23.
When the telephone was invented by Alexander Graham Bell in 1876, its great potentials were quickly recognised abroad. One year after the invention, Joao Maria da Silva, a civil servant of the Hong Kong Government, assembled two telephones and demonstrated their operation in front of Governor John Pope Hennessy (1834-1891, in office 1877-1883), representatives of the Royal Navy and other government officers in the Government House. Unfortunately, the Government was not interested in setting up a telephone network. Two weeks after da Silva’s demonstration, Siemens of Germany installed a telephone network for China Merchants’ Steam Navigation Company in Shanghai. Telephone services were not installed in Hong Kong until 1881.7

The importation of elevators is another example illustrating Hong Kong’s forward-looking sentiment in using advanced engineering facilities ahead of other cities of the Far East. The Otis Elevator Company installed the first elevator in Hong Kong for the Hong Kong Hotel in 1888,8 two years before Japan’s first elevator was installed in Ryounkaku (凌雲閣) in Asakusa (淺草) in 1890, and twenty years earlier than China’s first elevators – two Otis elevators installed in 1907 in the Palace Hotel in Shanghai’s International Settlement.

Bringing in technological innovations from the West also involved bringing in western engineers, especially British engineers. Many western engineers worked in Hong Kong for long periods of time and some made Hong Kong their permanent home. To protect the interests of their profession and facilitate social rapport and professional exchange among peers, these engineers based in Hong Kong imitated their British counterparts and established their own professional body. From the 1880s onwards, western engineers in Hong Kong grouped themselves together to form their engineering society, and when changes forced the society to close down a new society would spring up in its place. Thanks to the activities of these successive engineering societies and their promotion of professional expertise and engineering education, the vitality of the profession was upheld up to the present day. Amongst all these developments, the year 1975 was a milestone in the history of the profession. In that year the Engineering Society of Hong Kong attained legal status and became the Hong Kong Institution of Engineers (HKIE) which was incorporated as a statutory professional body.

This book opens with Hong Kong’s early years and takes the reader through more than 130 years of engineering history. Our narrative tells how professional engineering societies were established one after another and eventually achieved the status of a statutory professional body. The succession of societies forms the skeleton of our book, and many details are given on how a body of mainly offshore engineers was gradually transformed into a professional body with international standing. Highlight is also given to the role of these societies in initiating and promoting engineering education in Hong Kong. Finally, a general description of engineering achievements in Hong Kong in the 130 years before 1975 is presented, showing the reader how Hong Kong, by using her own resources together with emerging technologies imported from the West, has developed into an international metropolis crowned by remarkable engineering achievements.

7 / Ibid, p.25.  
official, and Chinese newspapers of the time sometimes used other variations. For example, in 1919, when the fifth Governor Francis Henry May (1860-1922, in office 1912-1919) ceased office and was succeeded by Governor Reginald Edward Stubbbs (1876-1947, in office 1919-1925), the institution invited Governor Stubbbs to be its new Honorary President. At the same time and in the same pattern, Sir Claud Severn (1868-1933), Colonial Secretary at the time, was invited to be the institution's new Honorary Vice-President, taking over from Sir Charles Norton Edgumbe Eliot (1862-1931) who was then serving as the first Vice-President of the University of Hong Kong. In reporting these two events, the Chinese newspapers variously referred to the Institution of Engineers and Shipbuilders of Hongkong as "本港機器師會" (Bengang jiqishi hui) or "機器師會" (Jiqishi hui). Different Chinese names were used in different periods, being translations from the English original. Finally, the Engineering Society of Hong Kong (1947-1975), and later the Hong Kong Institution of Engineers (1975-date) were both officially named "香港工程師學會" (Xianggang gongchengshi xuehui). The following table shows the various Chinese names used in different periods:

<table>
<thead>
<tr>
<th>Date of source and English name</th>
<th>Chinese name</th>
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<tbody>
<tr>
<td>16&lt;sup&gt;th&lt;/sup&gt; October 1919</td>
<td>本港機器師會 (Bengang jiqishi hui)</td>
</tr>
<tr>
<td>18&lt;sup&gt;th&lt;/sup&gt; October 1919</td>
<td>機器師會 (Jiqishi hui)</td>
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Chinese newspapers generally referred to the Engineering Society of Hong Kong as "香港工程師學會" (Xianggang gongchengshi xuehui). Yet after the society was incorporated as the Hong Kong Institution of Engineers in 1975, the institution's Chinese name was given as "香港工程協會" (Xianggang gongcheng xiehui) in a 1997 publication commemorating the institution's 50th anniversary, while another Chinese name, "香港工程學會" (Xianggang gongcheng xuehui), appeared on the badge of the institution carried in the Spring 1973 issue of the institution's journal.

9 / "Gangdu yun cong jiqishi hui mingyu huizhang" 港督允充機器師會名譽會長, Xianggang huazi ribao 香港華字日報, 16<sup>th</sup> October 1919, p.A3; "Buzhengsi yun cong jiqishi hui mingyu fuhuizhang" 布政司允充機器師會名譽副會長, Xianggang huazi ribao, 18<sup>th</sup> October 1919, p.A3.

10 / "Gang gongchengshi xuehui huiyuan canggu Qingzhou yingni gongshi" 香港工程師學會會員參觀青洲英泥公司, Xianggang Gongshang ribao 香港工商日報, 18<sup>th</sup> October 1948, p.5.
11 / "Gongchengshi xuehui wenyuan Zhong Shiyuan jinri yanjiang xindai canpin zhi kongzhi" 工程師學會委員鍾世元今日演講現代產品之控制, Xianggang Gongshang ribao, 8<sup>th</sup> January 1958, p.6.
12 / "Gangdu zai Gongchengshi xuehui zhong biaoshi qiwang shaofeizhe weiyuanhui dali ezhi jianshang taijia ruguo" 港督在工程師學會中表示期望消費者委員會大力遏制奸商抬價如果運氣好當前困境可迅速過去, Xianggang Gongshang ribao, 10<sup>th</sup> March 1974, p.8.
13 / "Ying tumu gongchengshi xuehui huizhang Xialishi jueshi fanggang jiang canguan geda gongcheng jihua" 英土木工程學會會長夏理士爵士訪港將參觀各大工程計劃, Huaqiao ribao 華僑日報, 19<sup>th</sup> February 1975, p.C2.
14 / "Ying tumu gongchengshi xuehui huizhang Xialishi jueshi ligang sheng zhan bengang gongcheng jishu chengjiu" 英土木工程學會會長夏理士爵士盛讚本港工程技術成就, Huaqiao ribao, 24<sup>th</sup> March 1975, p.C2.