In 1954, I joined the Colonial Service in England as an Education Officer (Technical) and set sail on RMS Canton, a Peninsular and Oriental Line passenger ship. The voyage to Hong Kong took 31 days. I was posted to the Government’s Technical College, in Wood Road, Wan Chai, where my duties were those of a senior lecturer in the Department of Building. I was a fairly typical, expatriate member of staff on a four-year tour of duty.

At 34, my total pay including basic salary, expatriation pay and cost of living allowance, was just over $2,400 a month (in Hong Kong dollars). This was considered a good starting salary.

Expatriates then held almost all the important positions in the College. No localisation had taken place in the Government’s Education Department. In 1954, except for Medical and Health, all government department heads were expatriates. Every 21st April, the Queen’s birthday, there was the pomp and pageantry of a military parade along the streets of Kowloon. For government officers of my rank and above this was followed by a garden party at Government House attended by a good mix of expatriates, Chinese, Eurasians and dignitaries of other nationalities. Hong Kong was very colonial.

But I am getting ahead of myself. This is

A brief history of technical education in Hong Kong — with special reference to the Polytechnic University

By Dr D. D. Waters

Your glazing is new and your plumbing’s strange, But otherwise I perceive no change...

Rudyard Kipling 1865–1936
an article about technical education and the times in which it operated. Before continuing let me say it is an honour to have been invited to write about an institution which many of us regard with affection: namely The Hong Kong Polytechnic University. As we shall see, like many distinguished educational establishments around the world, it started from humble beginnings.

Virtually all the technological universities in Britain, such as Loughborough and Strathclyde, and the “new”, ex-polytechnic universities, started life as technical institutes or colleges. The same happened in Australia. Similarly in the United States, as the frontier moved west in the latter part of the 19th century, the prairie states established mechanical or agricultural colleges or institutes. Many of these have become large, state universities.

But first things first.

**Early days**

As early as 1863 vocational training in carpentry, tailoring, shoemaking, printing, bookbinding and gardening was provided for 12 boys by a Father Raimondi. Classes were held not far from the Roman Catholic Mission House, which stood in Wellington Street, in what was then called the City of Victoria.

You can almost picture the carpentry classes using the same kind of Chinese tools and labour saving stools-cum-benches which are still used in industry today. With the latter one can hold a piece of timber being worked with one’s foot and plane “downhill”. This makes good workstudy sense. As a footnote I recall one of our late carpentry instructors at the old Technical College always using his Chinese plane when he wanted an especially good finish on a piece of timber. There is something to be said for Chinese tools.

But retracing our steps: in the 1870s up to 100 boys, in addition to learning the Chinese language, were taught carpentry, shoemaking and printing by Roman Catholic brothers at the Reformatory at West Point. The original way of learning a trade was for an apprentice to follow a master craftsman from whom the lad picked up “tricks of the trade”. These were seldom written down or made known to those outside their fraternity. A Chinese apprenticeship implied being almost a slave to one’s master. In early years it meant being the master’s cook, servant, laundryman and general dogsbody. In addition to paying respects and burning joss sticks to patron deities (such as Lu Pan for the building trades), in the first year or two a boy did little more than watch a master ply his trade as well as “fetch and carry”. If the lad disobeyed he was scolded or beaten.

Returning to institutional training: the first prize-giving ceremony at the Li Shing Scientific and Industrial College was held in 1905. More than 70 students had enrolled but by examination time, with a high dropout rate, only 35 remained. Some things never change! The founders of that College considered the objectives were to raise China from her “low industrial condition” and to educate her sons in modern science and industry, and to train them to use their hands as well as their brains.

**We hope to train independent workers and not mere “hands” to...**

*Dr Dan Waters on today’s PolyU campus*

At the invitation of Profile, Dr D.D. Waters, also dubbed “Mr Technical Institute”, has contributed this warmly personal account of the origins of technical education in Hong Kong, which is also an interesting profile of this Institution in its early days.

Dr Waters, now in his eighties, has taught building at the Hong Kong Technical College, forerunner of PolyU, since sailing from England to Hong Kong in 1954. He assumed headship of the Building Department in 1963 before being appointed Principal of Hong Kong’s first Technical Institute at Morrison Hill five years later.

In 1972, he joined the Education Department to oversee the setting up of additional Institutes, and subsequently became Assistant Director (Technical Education). Dr Waters was made a Companion of the Imperial Service Order in 1981 for his work in technical education. In 1998 he was awarded a Bronze Bauhinia Star for his work in heritage conservation.
be always under the direction of foreigners. Fine sounding words indeed at a time when the aim of most schools in the Colony was to train clerks.

During the Governorship of Sir Matthew Nathan (1904-1907) the Government started to show interest in elementary technical education. This culminated in the founding of the Technical Institute in 1907. It came under the control of the Director of Education and was housed in Queen’s College then sited on Hollywood Road. This first Technical Institute was absorbed into the Hong Kong University when the latter opened in 1912.

Post-World War One

The development of technical education was slow. But in 1926 the Salesian Roman Catholic Fathers, who have done so much to promote technical education, commenced shoemaking, carpentry, tailoring and printing courses and, at about the same time, the old Taikoo Dockyard in Quarry Bay started classes for their apprentices.

In 1931, a committee was formed under the chairmanship of Sir William Hornell, then Vice-Chancellor of Hong Kong University, to consider the possibility of introducing a system of technical education. The Report’s three main recommendations were:

- the setting up of a junior technical school,
- the provision of evening classes for apprentices, and
- the commencement of full-time classes at a later date.

As a result the Junior Technical School, the Government’s first venture into full-time technical education, was up and running by 1932. This secondary school ran a narrow, four-year course designed mainly as pre-apprentice training for the engineering trades. I remember JTS, as it was usually called, in the mid 1950s when the Headmaster, an Englishman, was a patternmaker (a craftsman who made timber moulds for metal castings in a foundry) and proud of it. It was not until 1957, when the name was altered to Victoria Technical School (VTS), that a standard secondary school curriculum was phased in.

Meanwhile in 1934, the Far East Flying Training School had commenced training pilots and engineers for the civil aviation industry. The Far East Flying and Technical School Limited, as it was later renamed, sited at Kai Tak Airport, was a private institution. It closed in 1983 because of the rapid expansion of government sponsored technical education.

Further progress was made in 1935, when the Salesian Society founded the Aberdeen Trade School. This provided a sound general education, together with training considered comparable to an apprenticeship. This school, too, was converted into a secondary technical school in the late 1950s.

The first government post-secondary technical institution was the Government Trade School which opened in Wood Road, Wan Tsai (using the old spelling), in 1937. This was the founding institution, which has since been upgraded to become our present day Polytechnic University. The old building stood on the corner where the Vocational Training Council’s 19-storey block stands today. The Trade School ran courses in building, mechanical engineering and marine wireless operating.

The two-storey (a third floor was added in 1953) Trade School, with fine face-brickwork, was well constructed on the lines of other colonial-style buildings erected between the two World Wars. It had high ceilings with paddle-fans which necessitated us staff using paperweights on our desks. There was virtually no air-conditioning then an exception being the Hong Kong and Shanghai Bank (HSBC), completed in 1935, reputed to have been the first air-conditioned building in Asia.

At the Technical College a Navigation Department was added in 1951, Commerce in 1954 and Textiles in 1957. Girls were first admitted to full-time technical courses in 1955. The three-storey building on Wood Road was demolished in 1988, seven years after it had become an annexe of the Morrison Hill Technical Institute. There are antiquarians in Hong Kong today who believe the old Technical College building should have been designated as a protected building.

Retracing our steps: when the Pacific War broke out in 1941, technical education was provided at secondary, trade school and post-secondary levels, but on a limited scale. At the time the Trade School did not receive a great deal of support from employers, except from the dockyards and members of the then called Building
Contractors’ Association. The latter even erected the Trade School at cost price under the supervision of Mr Tam Shui-hong, an affable, elderly builder. In addition, generous contractors sometimes donated a load of bricks or sand for use in our practical classes.

Post-World War Two

Some have claimed that during the War the Trade School was used as an opium factory; equipment was shipped off to Japan and the building was slightly damaged by shellfire. Nevertheless in 1947 the Government Trade School (in that year renamed Hong Kong Technical College), the Junior Technical School, the Aberdeen Trade School and a number of centres running evening classes in technical subjects reopened. They were soon operating at pre-war capacity. Nineteen fifty-three saw the addition of the Ho Tung Secondary Technical School for girls in Causeway Bay, and Tang King Po Secondary School in Kowloon. The latter also comprised a trade school, which conducted classes in printing, shoemaking and tailoring.

My early memories of the old government Technical College (TC as it was affectionately known) in Wood Road, in the mid 1950s, are crystal clear: like views at that time during the winter, over to Kowloon and above and beyond Lion Rock. The Wan Chai streets and alleys were more cluttered then with numerous, bustling stalls and small shops. I could go to a barber’s shop in the then narrow Tin Lok Lane, not far from Wood Road, and have a haircut, a shampoo, a shave and a manicure for $2.70. Being a generous chap I gave a 30 cents tip. The College was quite hemmed in then and the quadrangle only allowed for limited parking. Students, however, still played basketball. They also played “kicking the shuttlecock” (踢毽) which I too enjoyed playing.

The Hong Kong Funeral Parlour was just around the corner from the College. Brass bands leading funeral processions along the street would strike up tunes such as, Abide With Me, Polly Wolly Doodle All The Day and, Yes, We Have No Bananas. There was a small flower market close by. Even when the College moved to Hung Hom there was a funeral pavilion next door. This caused consternation with respect to our feng shui as relatives of our staff fell sick. We had to move our desks and take precautions. Thankfully, it all died down.

At the Technical College in Wood Road, student-teacher contact hours varied from about 21 to 25 (or even more) a week, and our Principal insisted, at one time, that all classes had a twenty-minute weekly test first thing every Monday morning. I was impressed by the students’ ability in mathematics, science and draughtsmanship. English was not up to the same standard. Metaphorically, students did not “step on the teacher’s shadow”.

In the 1950s there were many more Chinese middle schools compared to Anglo-Chinese secondary schools. With the former the medium of instruction was Chinese, except for English lessons. For Anglo-Chinese schools the medium was largely English. We teachers accepted that Chinese middle school students were more capable in mathematics and science subjects but that their English was of a lower standard than that of Anglo-Chinese school graduates. In those days we complained about the standard of English of students who were admitted to our College just as people found fault in the 19th century and just as employers complain today.

In the 1950s, the first choice of most students who completed Secondary Form Five was to carry on through Lower and Upper Six Forms and then enter Hong Kong University. The next choice was often Northcote or Grantham Teacher Training Colleges. An alternative was to enter our government Technical College.

Chinese teachers sometimes spoke of students being more receptive to Chinese methods of imparting knowledge such as dictated notes. “If they write it down they remember it”, teachers used to say. Even Professor F. S. Drake, an Englishman heading the Department of Chinese at Hong Kong University, sang the praises to me of rote learning.

In January 1955 in So Kon Po, where some of our students were attached for on-site training, I found craftsmen being paid $5 a day and women labourers $1.50. Some of the latter were straightening nails, knocked out of dismantled formwork, so the nails could be re-used. A few years later it became cheaper to buy new nails.

When our full-time students took up their first jobs they could expect, on average, a salary of $300 a month in the mid 1950s.
after a three-year, full-time, post secondary course. Whereas a clause in the Government's Public Works Department specifications read that if our building graduates could not find employment main contractors were obliged to take on two trainees on each major site. Their pay was $150 a month. One evening student used to walk home from the College in Wood Road to Shau Kei Wan in order to save the 10 cents tram fare. Students did not lack the will. In 1971, I met one of our old students studying for a doctorate at Manchester University. His father, he told me, was an illiterate coolie.

Hong Kong’s population increased, post-war, at about one million per decade. In the mid 1950s it stood at around two and-a-half million. Made possible by rising standards of prosperity, impetus was given to the further development of technical education. As early as 1953 the “Technical Education Investigating Committee”, which produced the Burt Report, concluded that a technical college in Kowloon was essential. The Chinese Manufacturers’ Association (CMA) offered to donate one million if the Government provided a similar sum and a site. The College commenced classes in November 1957 on its new Hung Hom campus. The physical move from Wan Chai, helped by “big man coolie teams” for lugging heavy equipment, took us three days.

In 1947/48 there was a mere 25 full-time and 599 part-time students on roll at the Technical College in Wood Road. By the time the Technical College had moved to Hung Hom these figures had increased to 345 full-time and 5,532 part-time. Many of the latter were accommodated in outside centres. The aim, generally, was to recruit 40 students to a class.

Buildings added at Hung Hom over the next decade included an all-purpose hall, a dyeing and finishing block, an electrical engineering laboratory, a multi-storey craft workshop block, a heavy-current electrical laboratory as well as a library, a textile workshop block and a new classroom wing. In 1967, of the total building cost of $7.5 million at the Hung Hom Technical College, about 64 per cent of the funds had been donated.

Similarly, out of a total estimated cost of $6 million for equipment, 40 per cent had been donated. Although equipment has become far more sophisticated it is starting, with inflation, how prices have increased. Interestingly, none of the old Technical College buildings remain today. On wandering around the University’s Hung Hom Campus in 2001, after not having been back for 20 years, I had absolutely no sense of déjà vu. I could not spot a single landmark left over from pre-1972 times. The turnover of buildings tends to be more rapid in Hong Kong than in almost any other place in the world. The motto has generally been, “hungry for the new and forget the old” (貪新忘舊). It has to be said that none of the old Technical College buildings were impressive architecturally. The cost of the main classroom block in the 1950s was $2.40 a square-foot of floor area and the single-storey workshop block was $1.30. Although basic, they served their purpose.

In spite of the pace of development of technical education many of us were still dissatisfied in view of the rapid growth of industry and the need at the time for technical education. Funds allocated by the Government were strictly limited. For example the one-year, full-time, electrical engineering technician level, Radio Officers’ course, run in 1967–68, cost only $61,262 for a full year, including teachers’ salaries. With an average of 25 students this worked out at $2,450 each. Students paid a fee of $400 a year.

During the 1960s, the Technical College was mainly occupied with post Form Five technician level courses. But for entry to some part-time technician courses completion of Form Four was acceptable. The College also ran a limited number of post-Higher Diploma, endorsement courses rated at technologist level. Some led to membership of British, professional institutions. The College also ran evening Preliminary and General Courses to enable a student to raise his or her education level in English, mathematics and science. On completion, students would proceed to a technical course. Earlier, before the introduction of universal education, a large number of students followed such routes which meant attending classes three or four nights a week.

Believing that “local ginger is not hot” (本地薑唔辣) a number of our students on graduation left for Canada or Britain. In latter cases we arranged frequently for them to take up employment and to study on a day-release basis. Our students acquitted
themselves admirably. We teachers took pride that they were not afraid to get their hands dirty.

In the 1960s, the old TC (Kung Tsuen工專) was “all things to all men”. It even ran craft and pre-apprenticeship courses. A few of the students had only completed Form One or Form Two. Nine years of universal, compulsory, free education was phased in over a three-year period, starting from 1978. The impetus for the introduction of this education milestone came largely from Britain. Its announcement even surprised us officers in the Education Department.

Much rapid development in technical education took place under S.J.G.Burt (nicknamed “The Bull” in Cantonese) who joined the Wan Chai Trade School in 1938. He became Principal of the then fairly recently renamed Technical College in 1952 and served as such until 1963 when he joined the World Bank as an advisor on technical education.

Technical education depends much on personalities and Sidney Burt, although not always popular, has often been regarded, deservedly, as the “grandfather” of technical education. Instead of a briefcase he carried a Hong Kong, rattan basket and wore a Saigon linen, wet-wash suit, both carry-overs from an earlier era. In addition to driving us, his staff, hard he also pushed himself. Without work he was like a bear with a sore ear. Every morning he was surprised us officers in the Education Department, with no one really to represent technical education, it was always the odd man out. But Hong Kong still owes Sidney Burt a great deal for laying the foundations for the technical education system we have in place today.

Progress after the riots

The 1967 Riot Year was a bad time, what with bus, tram and ferry strikes, curfews, violent demonstrations and bombs. College life was affected as was life all over Hong Kong. There was even the odd bomb on campus. That it was an imitation one was not apparent at the time. Life was hard during those days especially for people living in, for example, resettlement estates. In addition to the “disturbances” there was a severe water shortage. In July and August, for those of us who lived in flats, water was on tap for four hours once every four days. Over the years it has been shown that water supply and social stability are closely related. The College soldiered on as best it could and staff and students were generally supportive. Yet in spite of the upheaval, believe it or not, 1967 was a good trading year for the Colony!

Moving on, the Principal and staff of the College had long felt a second government institution was needed which, although bolstered by some technician programmes, would concentrate on craft courses. This was why the Morrison Hill Technical Institute (MHTI) came into being. At the time, the odd member of staff believed this first technical institute should run craft courses only, but as things have developed, with technical institutes now running most of the territory’s technician programmes, this would have been a mistake. Institutes needed to gain experience in this field.

As the first member of staff of a TI, with the sobriquet “Mr Technical Institute”, I was officially appointed Principal of MHTI in July 1968, more than one year before it opened in borrowed premises at the Technical College in Hung Hom. The completion of the Morrison Hill building was delayed and we did not start classes there until September 1970. Earlier, consideration had been given to calling it the “Wan Chai Technical Institute” but the feeling was that this would have given it a “Suzie Wong” image.

I was glad the official opening ceremony was held on a hot day. Sir John Cowperthwaite, an outstanding Financial Secretary and a law unto himself, came up to me mopping his brow. “Principal”, he said, “I’ll see you get this hall (since demolished) air-conditioned!” In spite of his promise, it was many years and countless memoranda later before it actually was. I am talking of an Institute where, in 1970, one of the few air-conditioned rooms was the Principal’s office, and this was because an overseas advisor had been persuaded to write it into his recommendations. Administrative Officers talked dismally at the time of creating “a dangerous precedent” with other institutions jumping on the bandwagon.

Quarrymen started blasting away in 1926, at the solid granite hill on which the Morrison Hill Mission Society building originally stood. The Hill was not totally levelled until around 1970 when the new Technical Institute was opened nearby. Although we had wire netting screens protecting Technical College windows at
Wood Road in the 1950s, demolition teams still managed to break a few panes of our glass after they had beaten gongs as warnings and blasted away at 12 noon every week-day.

Moving on, in the early 1970s technical institutes were a new venture and for us staff it seemed at times almost a spiritual search for the mountain top. In the latter part of the 1960s it had become obvious that one technical institute was not going to be sufficient to serve Hong Kong’s industry which, before China started opening up in December 1978, was largely basic manufacturing. As a result the Industrial Training Advisory Committee (ITAC) (on which I sat) endorsed Education Department proposals that five Technical Institutes were required with a further three coming on stream later, making a total of eight. One of these, at Chai Wan, was upgraded to a Technical College in 1993.

Although many of us were dissatisfied with the pace of development, with Kwun Tong and Kwai Chung Institutes as proposed by the Education Department only coming into being in 1975, the Government’s Public Works Department wanted to delay the completion of the two new buildings still further. The then Governor, the late Sir Murray MacLehose, convened a meeting in Government House in early 1972. He soon let it be known "... there would be two more technical institutes by 1975". And there were. Lord MacLehose, as he became on leaving Hong Kong in 1982, was a man of decision and action.

Carrying on from there, Haking Wong and Lei Wai Lee Institutes opened in 1977 and 1979 respectively. With the legislation of the Apprenticeship Act and the Designated Trades Act part-time day-release courses built up rapidly.

Then, although at that time useful as guides, there was a tendency to put too much faith in the Government’s Labour Department manpower surveys. If a survey showed 129 tool and die makers were required some planners seemed to believe that this exact number could be trained and, from then on, it was just a question of slotting graduates into vacancies. Not enough thought was given to broad-based technical education. Today, with Hong Kong’s industrial base consisting largely of service industries, a new mix of courses has developed. Employees have had, frequently, to change jobs and learn to adapt.
In past years most of the expertise in technical education came from government servants, and right through the 1950s and ’60s technical education was very much government run. Nevertheless, a few of us could visualise that, before too long, this would have to change.

In 1968, a short memorandum arrived unexpectedly from Westminster, London, proposing that the government Technical College become an autonomous polytechnic. The initial driving force behind this development was largely from Britain in the wake of its own, then comparatively recently introduced, Polytechnic Act. The Hong Kong Government took it from there. Not everyone agreed with the upgrading. Some would have preferred that the Technical College at Hung Hom remained as such and a new polytechnic be established on an entirely new, larger, campus, along the lines of how the City Polytechnic came into being in 1984. This would have had advantages bearing in mind the Polytechnic University site, at the start of the 21st century, has become heavily developed.

Nevertheless plans went ahead and the government Technical College was “dis-established” (to use a government term) and upgraded to Polytechnic status in 1972. During the 1970s, in spite of occasional growing pains, its rate of expansion has been equalled in few, if any, parts of the world.

From then on, during the 1980s and ’90s, the Hong Kong Polytechnic continued to develop apace, becoming the largest tertiary institution in the territory based on enrolment. In the process, with China opening up and providing new, exciting opportunities, lower-level courses were shed to the seven technical institutes and the two newly established technical colleges while the Polytechnic itself graduated from providing technical education to providing technological education. Again, not everyone agreed with the latter policy and there were those, in the earlier years, who felt the Polytechnic should continue to concentrate on technician programmes. The first MPhil students were registered in 1984 and the first PhD students in 1991. The first honorary doctorate was conferred in 1989, appropriately on Sir Sze-yuen Chung, who has contributed so much at all stages of the Institution’s development.

Within the “pyramid” of technical and technological education, technical education is today provided by the autonomous Vocational Training Council’s Hong Kong Institute of Vocational Education (IVE). It comprises nine campuses made up from the past Chai Wan and Tsing Yi Technical Colleges and the seven technical institutes.

Today the Trade School/Technical College/Polytechnic, and the Polytechnic University as it became in 1994, is one of the best examples one can find anywhere in the world of “academic drift”. The University has a rich and varied history and much to be proud of in this, its 65th Anniversary Year.

Final thoughts

Since the Handover of Hong Kong from Britain to China, and in spite of “the present unfailingly looking back fondly upon the past”, education has been under the microscope. Today, it is fashionable to denigrate Hong Kong’s education system. Most people have been to school and many consider themselves experts. But, in spite of Hong Kong’s achievements, we must not be complacent.

Claude Burgess, Colonial Secretary from 1958-1963, described Hong Kong as having a problem of (too many) people. One sometimes wonders how other countries’ education systems would have fared if their populations had increased at the same rate as Hong Kong’s.

The proof of the rice dumpling has to be in the eating, just as a community judges its education system by its students. Many Hong Kong technical education graduates have gone to the top of their chosen fields all around the globe. A few from the Polytechnic, or its predecessor the Technical College, have even become Legislative or Executive Councillors. Nevertheless, it has not always been the outstanding students who have done best in the world of work.

In this short article it has not been possible to name many people who deserved to be mentioned. In any institution dedicated staff are obviously vital. In the pioneering days when funds were restricted such people gave shape to technical education. Some have already answered the last trumpet call. If you seek their monuments look around you.

If one cannot live with change Hong Kong is not the place to be. Certainly over the past half century the pace has been staggering. We teachers were invited in 1956, by past students, to a Chinese dinner in the woodwork workshop at the old Technical College in Wood Road. They engaged outside caterers. The food was cooked in the corridor. The cost was around $100 per Chinese table seating 12 persons. Now, every Christmas, I am graciously invited by my past students — some of whom have already retired — to a Technical College/Polytechnic/Polytechnic University Ball at the Grand Hyatt. My, my, how things have changed! I still keep in touch with old students, both locally and overseas, some of whom I taught nearly half a century ago.

In the colonial 1950s and ’60s many residents seemed to behave as if the lifestyle in those times would continue forever. The subject of 1997 and the Handback to China was a taboo subject. In those days it would have been almost impossible to forecast with any degree of accuracy what technical education would be like now as we move on into the 21st century. In the same way, looking into the crystal ball today, to decide what technical education will be like in the middle of the 21st century we are faced with similar difficulties. It is a fascinating subject. I believe that, whatever the future may bring, The Hong Kong Polytechnic University will be well positioned to respond to all challenges.