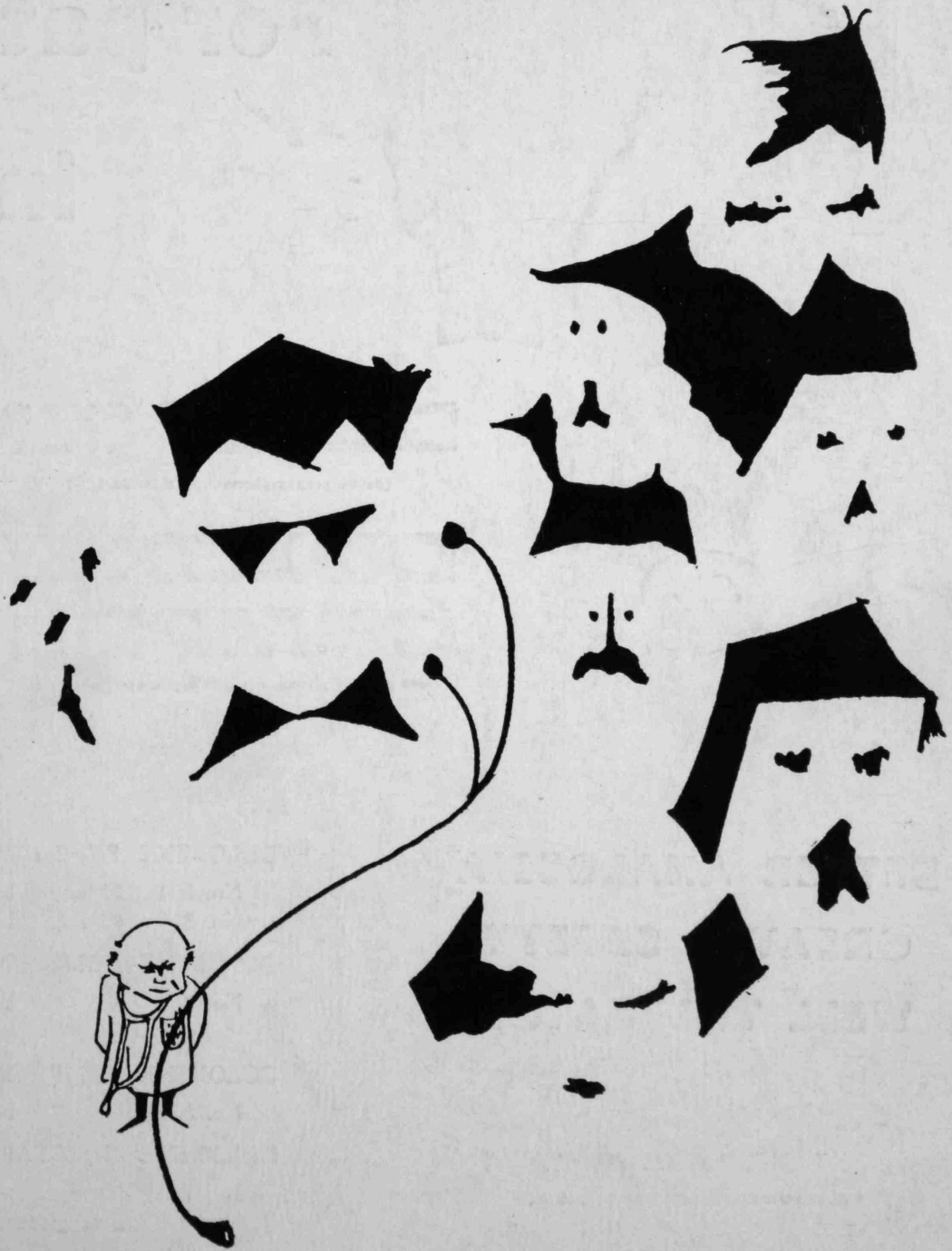


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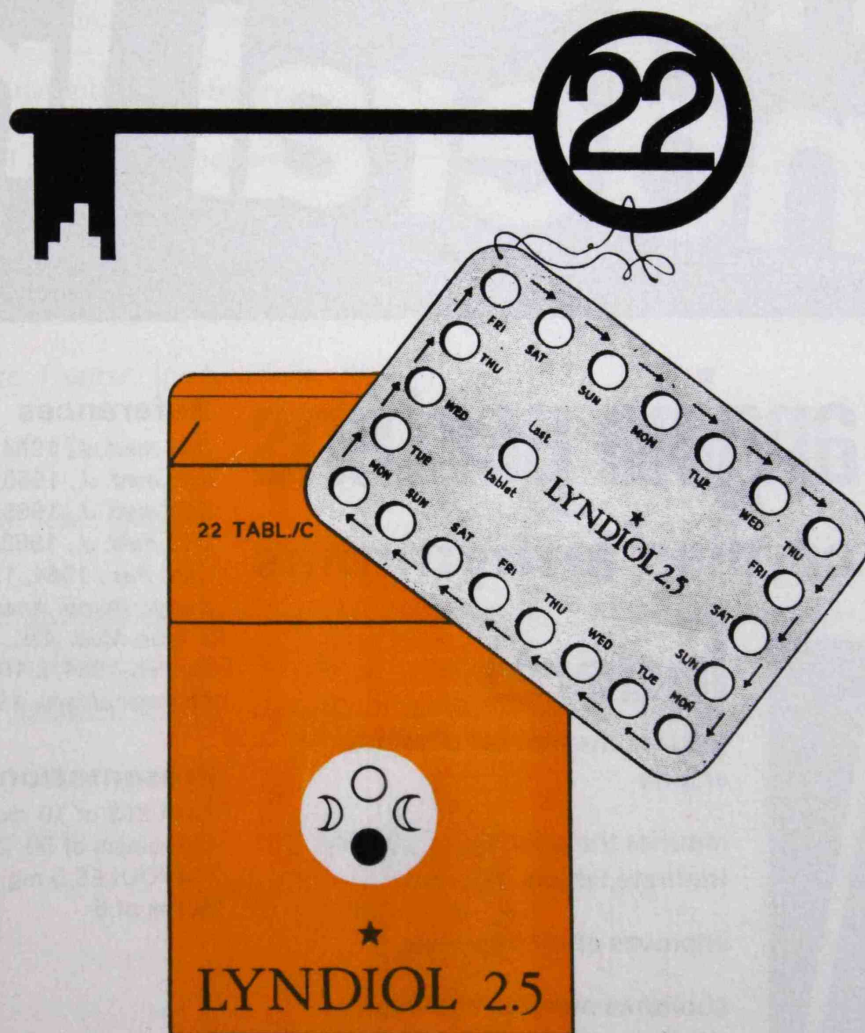
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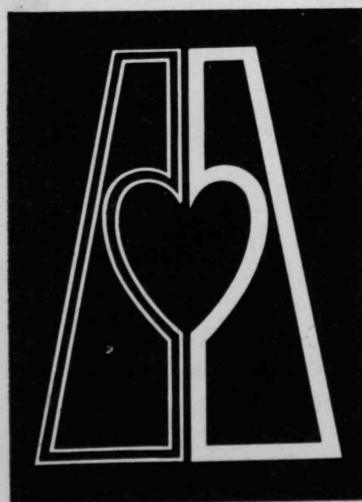
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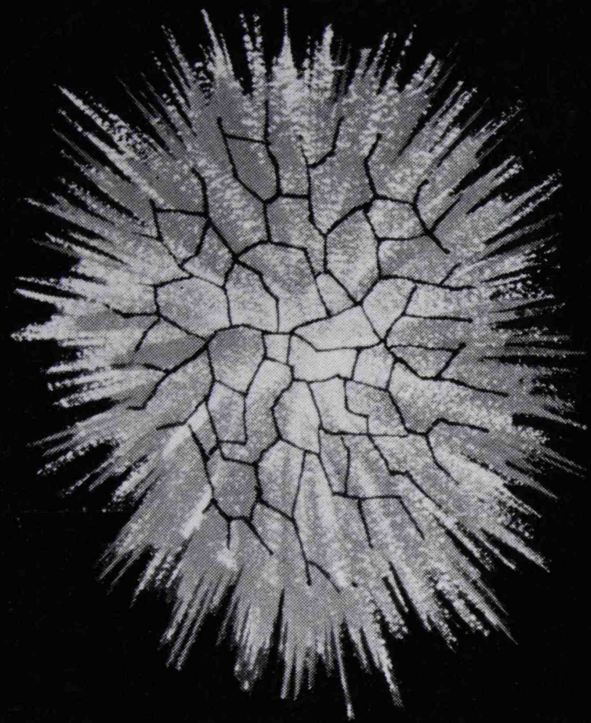
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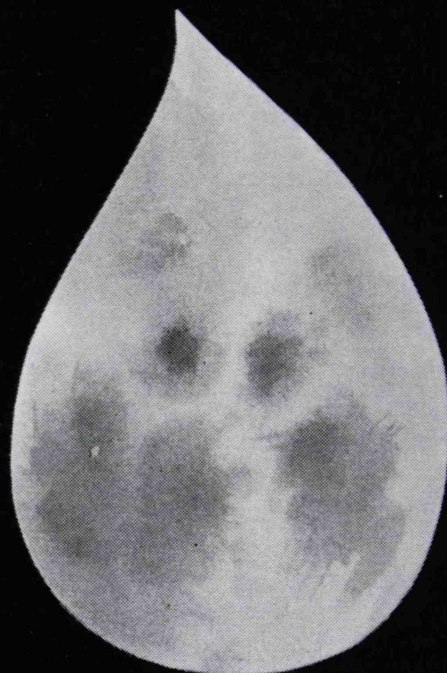
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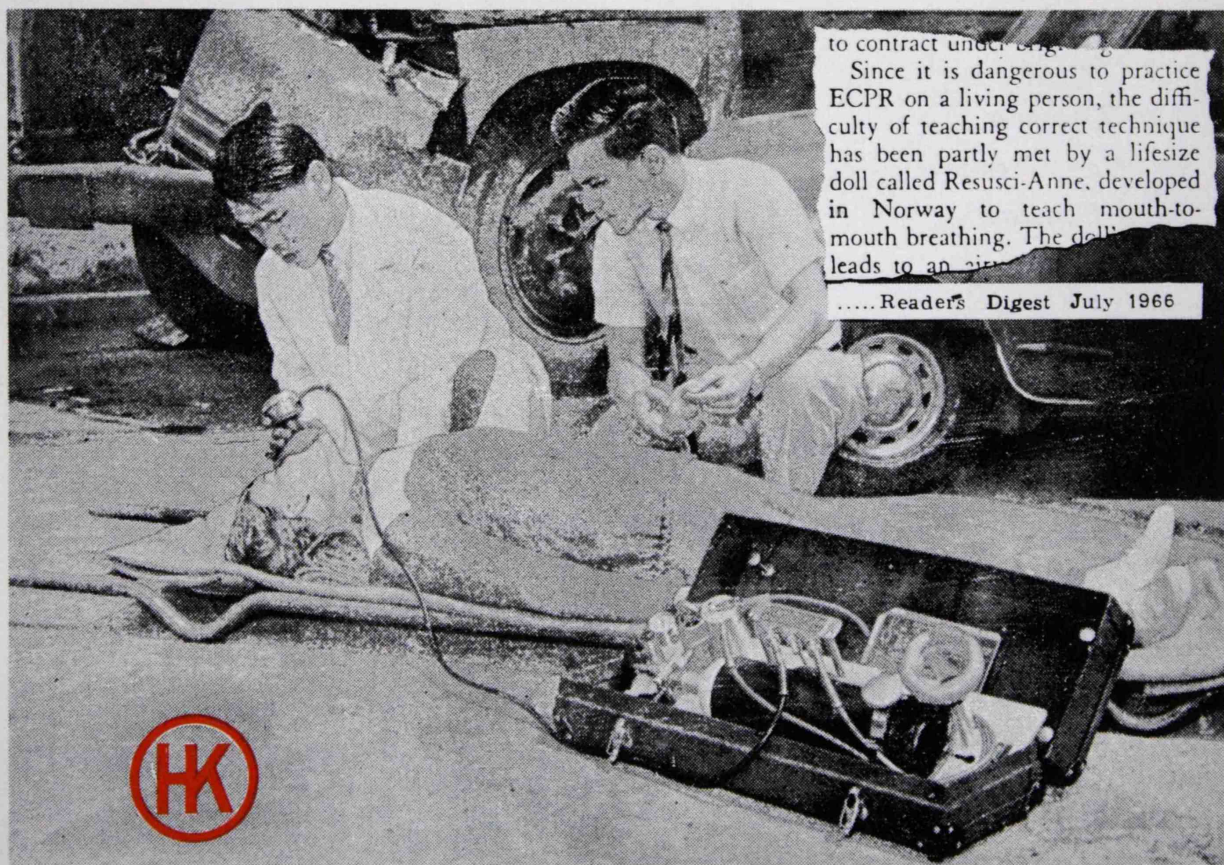
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EDITORIAL

This issue is humbly dedicated to all great men in the field of Medicine.

Accordingly, a special section has been included to commemorate a few great names, now associated with some of the wards in Queen Mary Hospital. These have been selected not by preference, but because they serve the purpose of illustration and form a source of inspiration.

In keeping with the historical theme in this issue, it is appropriate to reproduce the Presidential Address on Our Medical School, wherein is given a most detailed account of the formation and development of this School.

Finally, it is hoped that we shall always live up to the expectations of the great men who have contributed so much to the growth of the Medical Faculty of the University of Hong Kong.

CONTRIBUTIONS TO THE MEDICAL SOCIETY ELIXIR BURSARY LOAN FUND

Since our last issue went to press we have received the following donations to our Loan Fund:

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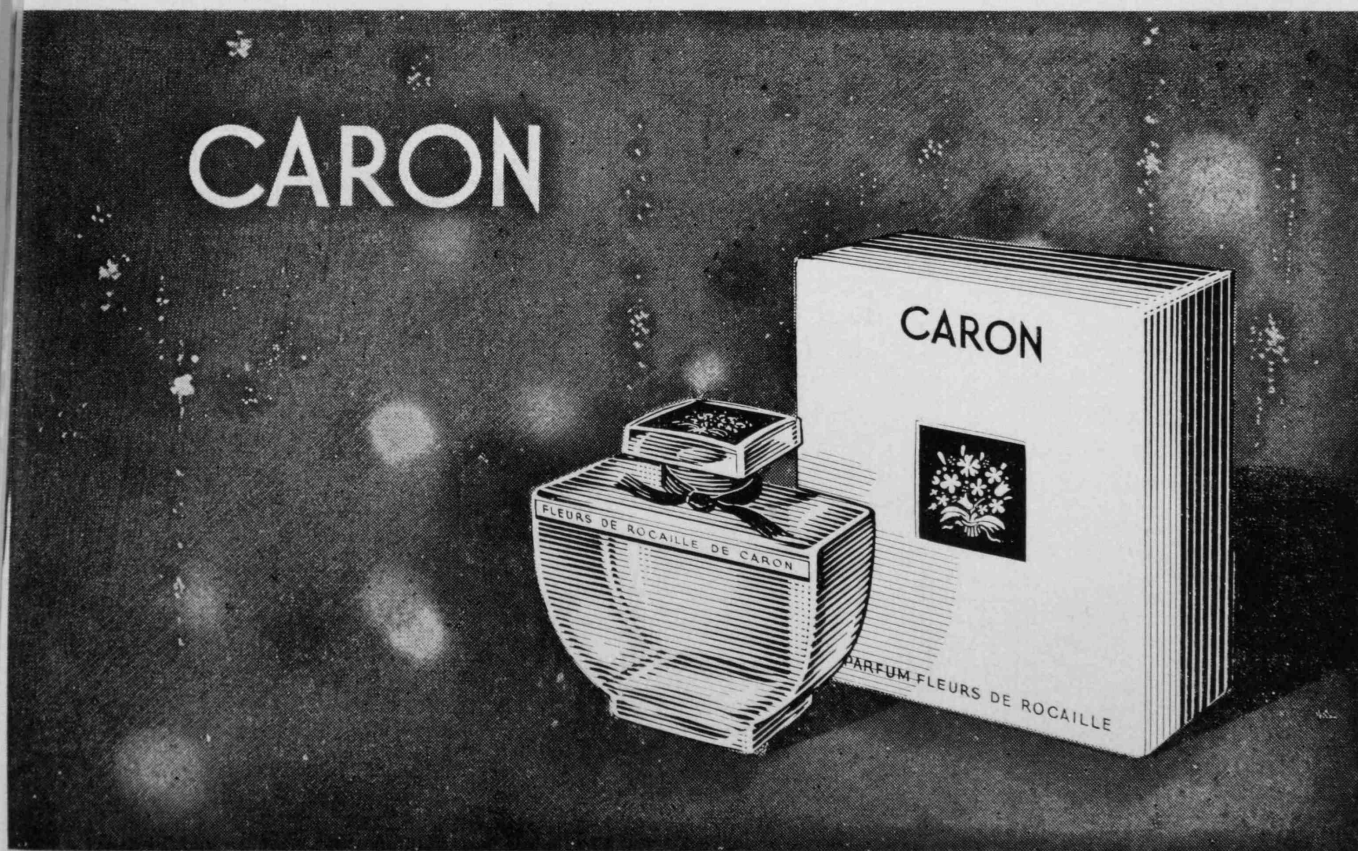
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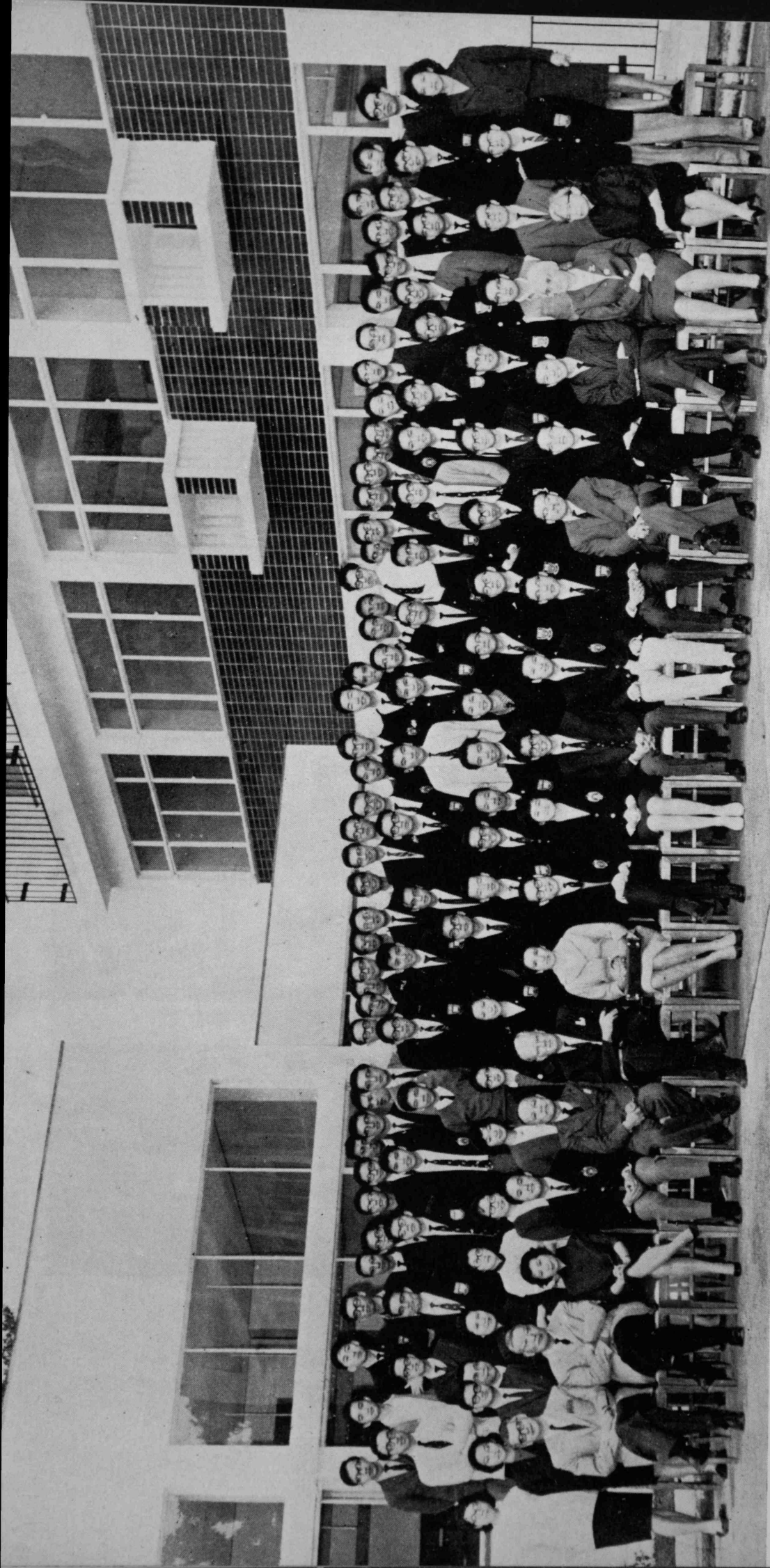
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THE PRESIDENTIAL ADDRESS

delivered by Dr. Carol Braga on April 1st., 1966.

One of my father's greatest disappointments is that not one of his seven children is interested in history. When I wrote him from San Francisco asking for data to deliver a short talk on the history of our Medical School, he went to no end of trouble to supply me with the material which has made the following address possible.

Our Medical School

It was a limited type of medical care that the British could introduce when they took over the colony of Hong Kong in 1841. A year later a Dr. McPherson wrote: "The geological formation of Hong Kong consists of strata which quickly absorb any quantity of rain, which it returns to the surface in the nature of a pestiferous mineral gas. The position of the town prevents the dissipation of this gas, while the geological formation favours the retention of the morbidic poison on the surface, to be occasionally called into deadly activity." And, according to another doctor "this gas produces a depressing effect on mind and body, which undermines and destroys the strongest of constitutions".

Five years later it was reported that the strength of the European and Indian troops was 1,526, but the number who passed through the hospital in that year amounted to 7,893. On the average each man went through the hospital more than five times in the year! The military had their own hospital, generally a temporary structure which was closed down when sickness rates got out of hand in any particular area, to be followed by other hospital on other sites. The mortality rates tell their own story. In 1843, 24% of the troops and 10% of the Western civilian population died of fever. The civilians left their families in Macao or the death toll among the Westerners would have been greater.

Not surprisingly the Chinese considered

that their standard of medical science was superior to that of the Western "barbarians", and the high percentage of deaths among the troops did nothing to convince the Chinese that Western medicine was better. Thus it was that although the non-Chinese had their physicians and pharmacies, as well as clinics run by missionary bodies, among them one conducted by Rev. J. L. Shuck, an American Baptist preacher, and others by the London Missionary Society and the French and Italian Catholic missions, they had the utmost difficulty in persuading the Chinese to go to them for treatment. The Chinese clung tenaciously to the opinions of the herbalists, and continued to be dominated by the principles of *yang* and *yin*.

Before long the British Admiralty chose a hill on which to build a Naval Hospital, and the Army also moved its hospital away from the urban areas or used ships for the hospitalisation of the troops. The government set up a Colonial Hospital in 1848 but the utmost difficulty was found to fill it, for "nearly all the Chinese in the Colony would rather die like dogs than enter the Government Civil Hospital." They had their own ideas of what a hospital should be and the Chinese merchants built, in 1867, an establishment which was called the "Yee-tsze", supported by the Chinese community "where their own ideas of therapeutics" could be put into practice.

Shocking conditions in the Chinese "Yee-tsze" so-called hospital were discovered and in 1870 the Chinese community were persuaded to set up the Tung Wah Hospital, on Western lines as regards sanitation but with patients being given Chinese methods of treatment. Western treatment was to be given if the patients could be so persuaded.

A new Government Civil Hospital was built in 1874, on a site of about a hundred feet above the level of the city to replace

the older premises in the old urban area. It consisted of a two-storied building and to it were attached a Lock hospital for V.D. cases, a mental hospital and an infectious diseases hospital. When an outbreak of smallpox shook the community some deserted barracks on an island nearby were also used as an infectious disease hospital.

The importance of sanitation in the Colony was brought into evidence by the overcrowding among the Chinese, due in part to the never ending flood of refugees from China, while the advances in Western science following the discoveries of Pasteur, Lister, Koch and the other great figures who illuminated the story of medicine after the middle of the 19th century, led to greater pressure being exerted upon the government to make drastic changes. In 1882, Mr. Osbert Chadwick was appointed from England to make a survey of Hong Kong's needs and his recommendations led to the establishment of a sanitary Board.

Meanwhile an earnest Chinese Christian pastor, Rev. Ho Fuk Tong, who worked for the London Missionary Society resolved to send his son, Ho Kai, with the help of the Society, to Great Britain for a medical education. Thus it was that young Dr. Ho Kai returned to Hong Kong, after studying medicine in Scotland and the law in London. He was disheartened to find that his compatriots in Hong Kong were not interested in Western medicine, and he had to turn his attention to the practice of law, in which he prospered. In England he had married a Miss Alice Walkden, of Blackheath, and by her death in 1884 he was prompted to co-operate with the London Missionary Society and others to build a hospital to which was given the name of Alice Memorial Hospital at the junction of Hollywood Road and Aberdeen Street.

Among the doctors then in private practice in Hong Kong was Dr. Patrick Manson, who had been doing useful work for 10 years in Amoy, in China, where he had been carrying out exciting research on the possibility of mosquitoes and other insects being the vectors of certain diseases. In Hong Kong he usefully engaged in medical practice among the Europeans but he was keen on

carrying out further research among the Chinese.

Already in 1881, the London Missionary Society with the support of Dr. William Young, who had arrived from Canada three years earlier, had opened a dispensary for the treatment of the poorer Chinese in the very heart of the city in which they lived.

Conditions were favourable for an improvement in the situation as regards Western medicine in the Colony, and when the Alice Memorial Hospital was opened in 1887, Dr. Manson took the keenest interest in its work and, through his instrumentality, the Hong Kong Medical Society was established in the same year.

A bigger project had also exercised his mind and on August 30, 1887 a meeting was held in this hospital when it was unanimously decided to establish a "College of Medicine for Chinese in Hong Kong". A few weeks later the College was formally inaugurated in the City Hall, when Dr. Patrick Manson, as the first dean, delivered his inaugural address. After referring to the pioneering work of Doctors Hobson, Kerr, Mckenzie, Myers and others in China he said that the time was ripe for Hong Kong "to take up a manifest and long-neglected duty; to become a centre and distributor, not for merchandise only, but also for science. I do not suppose the sceptre of commerce will ever pass from Hong Kong, but her importance and her glory will be greatly enhanced when she becomes a centre for science and letters." He did not underestimate the task of the College. "No matter how we set about it," he said, "our task is one of immense difficulty, and unless I had a thorough faith in the science and art we are to teach, and in its ultimate triumph, I, for one, would not be on the staff of this College of Medicine Medicine has opportunities to spread and advertise itself denied to others. The wants of the poor, and sometimes, though rarely, the fears and despairs of the rich, give us doctors an opportunity. The poor among the Chinese are everywhere, they cannot pay for their own doctors, and they come to us, not because they think very well of us; something, they think is better than nothing. Occasionally a rich man, or

THE PRESIDENTIAL ADDRESS

some of his family, after trying the native faculty in vain, may in their despair come to us. And in China, as in Europe, there is a class of people to whom a novelty has its attraction. The wants of the poor, the despair of the rich, the eccentric in human nature — these give medicine her opportunity.

“The mind should be like the blackboard of a classroom before the lesson begins. In Europe, from witchcraft upwards and downwards, there was a high accumulation of the rubbish of the ages. In China there is not an inch of the board unoccupied by vain tradition, silly theory or superstition. These have to be one by one expunged. This is a work of generations. Our little contribution looks small in contrast to what has to be done. We make it humbly but hopefully.”

The College had no endowment or classrooms, and the teachers offered their services voluntarily. Nevertheless it was an impressive curriculum, with lectures in Anatomy, Chemistry, Botany, Physiology, Materia Medica, Surgery, Dental Surgery, Medical Jurisprudence, Midwifery, Pathology, Ophthalmic Surgery, Hygiene.

The students lived in their own homes or lodgings and the lectures were conducted in the private clinics of the doctors who lectured to the students or the clinical teaching was given in some nine hospitals, governmental or private, or other medical institutions scattered throughout the city.

Dr. Manson left the Colony within two years of the founding of the College and lived to become known as the ‘Father of Tropical Medicine’, but his partner in private practice, Dr. James Cantlie, who had joined him in the College at its inauguration, took over as Dean.

In 1892, two doctors graduated, one of them Sun Yat-sen, who had been given his early letters and secondary schooling by American missionaries in Hawaii. Returning to Hong Kong he had enrolled in the Hong Kong College of Medicine when it opened its doors in 1887. The other graduate was Kong Ying-wa and the

successful graduates were made “Licentiate in Medicine and Surgery of the College of Medicine for Chinese, Hong Kong”.

The work of the College went on unabated through the years and by 1910, 102 students had been enrolled of whom 41 had passed out as licentiates. The majority of these went into private practice or into hospitals in Hong Kong, Canton and Singapore. In 1907 the words “for the Chinese” were removed from the title and the institution was incorporated as the “Hong Kong College of Medicine.”

Meanwhile the London Missionary had opened (in 1893) another small hospital, the Nethersole, in Caine Road — to commemorate the maiden name of the mother of Mr. H.W. Davis, a leading accountant in Hong Kong — and the London Missionary Society coordinated the work of the two hospitals. The Nethersole was reserved for women and children only. Ten years later a maternity hospital was built contiguous to the Nethersole, and in 1906 the Ho Miu Ling, named after the sister of Dr. Ho Kai and wife of Wu Ting-fang, the great Chinese statesman and diplomat, was added for men patients. Students of the Hong Kong College of Medicine made use of the facilities of all these London Missionary Society’s institutions.

In 1894 bubonic plague in epidemic proportions broke out in the Colony, taking a death toll of 2,552 in a single year. The available accommodation for infectious diseases was found to be completely inadequate and temporary structures were set up to accommodate the sick. The undergraduates of the College of Medicine joined the brigades engaged in combatting the outbreak. It is significant that the *plague bacillus* was found in Hong Kong by Dr. Yersin and Dr. Kitasato, working independently, during this epidemic.

The need for improvements in sanitation was brought very forcibly to the attention of the authorities, and a regular campaign for the eradication of rats was started. This was followed by a campaign against mosquitoes, when it was established that the *Anopheles* was responsible for the spread

of malaria. The health figures show that whereas the death-rate for non-Chinese was 20.50 per 1,000 in 1901 it had fallen to 15.46 per 1,000 by 1907. Among the Chinese, however, there was little change, the figures being 23.77 and 22.52 per 1,000 respectively for 1901 and 1907.

The time had come for more attention to be paid to the training of a larger number of doctors. Thus it was that serious thought was given to the need for more than a College of Medicine run by physicians contributing voluntary services, but a fully fledged university with its own teaching personnel and all the amenities that form part of a modern university. The difficulties were not easy to overcome and although Mr. Ng Lai-hing had offered 50,000 Hong Kong Dollars toward a College of Medicine building in 1907, and Mr. Tang Cheuk-kai, \$10,000, thought was already being given to something more ambitious.

In 1908, the Governor of Hong Kong, Sir Frederick Lugard, announced that Mr. Hormusjee Mody, a Parsee merchant, had offered "to pay for the University project, a sum in excess of \$150,000, pay for the anatomy theatre and contribute \$30,000 to the nucleus of an endowment fund". The cost of the buildings was then found to exceed \$180,000 and Mr. Mody declared that he "would be prepared to furnish any further sum required." He actually paid \$285,000 for the University buildings and students' hostels. Subscriptions were slow at first in coming in but by the end of 1909 the endowment fund had reached nearly \$1,300,000.

With an assurance of some support from the government it was felt that the University could push ahead with its plan to cater for 500 students in hostels. At this stage only male students were provided for. Several prominent citizens came forward to defray the cost of the smaller buildings and their equipment. Mr. Ng Lai-hing's offer of \$50,000 was used to build the Ng Lai-hing School of Anatomy; Mr. Ho Fook built the physiology building; Mr. Chan Kai-ming, pathology; Mr. Ho Kom-tong, tropical medicine. Mr. Ho Tung provided the Ho Tung Chair of Clinical Surgery.

The Viceroy of Canton, Chang Jen-chun, made a donation of \$200,000 from the exchequer of the Kwangtung Provincial Government and Mr. J.H. Scott, senior partner of John Swire & Sons, offered £40,000 (the equivalent at that time of some \$400,000). The only other individual to give more than these sums was Mr. (later Sir) Robert Ho Tung, to whom the University owes a very great deal indeed.

In the early stages, many of the part-time teachers of the old Hong Kong College of Medicine were given honorary appointments at the University. Prominent among these were two stalwarts: Dr. Gregory Jordan who became, later, professor of tropical medicine, and Dr. Francis Clark who was nominated professor of medical jurisprudence. But full-time professors and other personnel were soon being engaged and the medical course was quickly accepted as a responsible one.

The old links between the London Missionary Society and the College of Medicine were severed and clinical work was carried on at the Government Civil Hospital, which had already expanded and now contained 150 beds, with its annexes of the Maternity Hospital with 50 beds, the Infectious Diseases Hospital (on the outskirts of the western end of the urban areas of Hong Kong), the Hospital Ship Hygeia, in the harbour, and close to the Civil Hospital was the Mental Hospital (but they had little sense of humour in Hong Kong at that time and called it the Lunatic Asylum). The facilities of the Tung Wah Hospital, with 224 beds, were also available for clinical work for the medical students. Lectures were delivered in the various school buildings, the cost of which had been defrayed by local gentlemen. There were other hospitals in the Colony, both government owned and private, but these were not made use of by the University. Of the Colony's hospitals, the Chinese run Tung Wah Hospital was by far the most important, as regards the number of those who made use of it, and in 1909 the number of in-patients treated was about 3,200, of whom 1,815 chose Western medical treatment while 1,385 elected to be given Chinese medicine.

THE PRESIDENTIAL ADDRESS

The University opened its doors in 1912 and the first graduates were students who had been transferred from the old College of Medicine. When the first congregation took place in 1914, the degrees of M.B. and B.S. were conferred upon three men. Dr. George Thomas, reminiscing, has given a charming pen-picture of the situation. He says, "Of the three faculties of Medicine, Arts and Engineering, that of Medicine had the largest number of students. Two other licentiates of the College of Medicine and I were admitted as Advanced Students eligible to sit for the degree of M.B., B.S. after a period of two years of further study at the University. The course of study prescribed for advanced students was:— Practical Anatomy (dissection), for six months (held in a separate room at the Victoria Public Mortuary), attendance of lectures on Public Health, Midwifery, Medicine and Surgery (including Operative Surgery). The University was only just born, and there were no new facilities or new equipment. The lecturers were practically the same; only the set lectures had to be given at the University. We attended the same hospitals.

"At the end of the prescribed two years, seven candidates presented themselves for the Final Degree Examination. Lavish preparations (including a banquet) had been made for the first degree conferring ceremony in which the Chancellor and the Vice-chancellor would officiate; but, alas! It appeared that none of the seven aspirants had been found worthy of the degree. The University authorities, faced with an awkward situation, apparently decided to produce one graduant for the ceremony according to plan. I believe they selected me," says Dr. Thomas, "on the mistaken assumption that I, who had already been holding the Government post of Resident Medical Officer to the Tung Wah Hospital since 1912, would probably be the one calculated to do the least harm to the community.

"I firmly believe," concludes Dr. Thomas, "that this is the true story of how I, in May, 1914, obtained the coveted but undeserved distinction of being the first graduate of Hong Kong University."

Dr. Thomas went on to become the very first to earn, in 1920, the very much more greatly coveted M.D. He remained faithful to the University and the Hong Kong Medical Department and after a long and distinguished service, even in the capacity of Director of Medical Services in Hong Kong, he was honoured by the University in 1961 with the Honorary degree of LLD. In due course he retired, but he has not laid his scalpel for he still gives his services to the Tung Wah Hospital, where he is greatly revered and respected.

In 1915 one doctor qualified at the University and was given his diploma. A year later there were seven graduates and by 1920 a total of twenty-nine students had succeeded in passing the final examination of the medical faculty successfully during the period of eight years. It had been expected when the University was formed that students from China would make use of the facilities to an appreciable extent, but in this the University authorities were doomed to disappointment. Scholars from Malaya did avail themselves of the opportunity but undergraduates from China were conspicuous by their absence.

A serious outbreak of cerebrospinal meningitis broke out in Hong Kong in the year 1918 and at the request of the Hong Kong Government, Dr. Peter K. Olitsky of the Rockefeller Institute for Medical Research, New York, was sent to Hong Kong. The Tung Wah Hospital was used as the centre for treatment of the outbreak and students from the University were given the opportunity of receiving instructions not only in the treatment to be administered but, in conjunction with the Hong Kong Government Bacteriologist, the preparation of serum. The Government of Hong Kong expressed to Lieutenant-Colonel Simon Flexner, Director of the Rockefeller Institute for Medical Research, in New York, the Colony's grateful thanks for the help rendered.

A local citizen, Mr. Ho Tung as he was then, had made it possible to create one chair in the Medical Faculty but in 1922, the Rockefeller Foundation, which had already established the Peking Union

Medical College in 1916, turned its attention to Hong Kong. Dr. R.M. Pearce, the Director of the Rockefeller Foundation's Division of Medical Foundation, recommended, after visiting Hong Kong twice for consultations, that the University of Hong Kong was worthy of the Foundation's attention. A sum of HK\$500,000 for the endowment of the chairs of Medicine and Surgery was offered by the Foundation in 1922. This was followed, two years later, by a grant of HK\$250,000 for a chair of obstetrics and gynaecology.

At no time was the University able to keep itself going from the proceeds of its endowment funds, although these grew with the years, and the Government of Hong Kong had to offer increasingly large contributions to balance the University's budgets, besides making up accumulated deficits, from time to time. To some extent the University had to fall back on the students' fees, while some students received Government and other scholarships, including donors' scholarships. In certain cases, the University assisted students with small bursaries. It has been estimated that rather less than twenty percent of those who have passed through the University's doors were able to avail themselves of the benefits of these privileges. Thus it is not surprising that it was called "a rich man's university".

In 1922 women were admitted into the Faculty for the first time, their presence adding the bits of colour that had been missing for a whole decade. However it was not until nearly thirty years later that a suitable hostel was made available for women undergraduates.

There were then professors in the chairs of surgery, physiology, chemistry, pathology (under the first Chinese professor in the university, Dr. C.Y. Wang), anatomy and medicine, and lecturers in biology, obstetrics and gynaecology, surgery, ophthalmology, clinical medicine, tropical medicine, clinical obstetrics, medical jurisprudence, hygiene, pharmacology, and instructors of obstetrics, anatomy, vaccination and morbid anatomy.

The first number of "*The Caduceus*": *Journal of the Hong Kong University Medical*

Society was published and was dedicated to the activities of the Faculty. A glance at its contents shows the growing interest displayed by the contributors in the work being done at the University.

This year also saw the opening of a small hospital "with the main objects of providing a much needed maternity service in the Colony and of establishing a training school for Chinese girls who wished to become midwives". Work of this kind had already been started by the London Missionary Society at the old Nethersole Hospital and its maternity wing, started by Mrs. H. Stevens in 1891 and continued by Dr. Alice Hickling, whose maiden name was Sibree. In 1922, Dr. Hickling felt that something more closely connected with the Chinese generally would be a useful adjunct to the amenities in this connection. She succeeded in getting several prominent Chinese interested, among them Dr. Ma Luk, a private practitioner, and she had the satisfaction of seeing the new hospital opened in October of that year. Thus it was that the Tsan Yuk, which means "Healthy Maternity" Hospital came into being.

The medical officer in charge was Dr. H.Y. Chiu, who came from the Pai Ying University, China, and there were 30 beds. During the first year there were 436 admissions. Two years later a link between the University of Hong Kong and the Tsan Yuk Hospital was established when Professor R.E. Tottenham, the first incumbent to the Chair of Obstetrics and Gynaecology, which had been endowed by the Rockefeller Foundation, established in the Tsan Yuk, with the friendly co-operation of Dr. Hickling, some 25 Gynaecological beds on the second floor of the hospital. Here medical students from the University would be able to do their obstetrical and gynaecological clerkships instead of in the extremely limited accommodation in the old Government Civil Hospital.

With Dr. Hickling's death in 1928, new arrangements had to be made and the Chinese Committee, under whose auspices the Tsan Yuk Hospital had been built and administered, welcomed the co-operation of

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the University, and the medical aspects of its work were turned over to Professor Tottenham so that it could be used as a training institution for undergraduates in obstetrics and gynaecology as well as for midwives. The administration remained under an organisation known as the Chinese Public Dispensary, an eleemosynary service run by the Chinese, with the support of the Government.

It became possible to increase the number of beds to 60 and the number of cases had increased to 693 patients in 1926. By the year 1934 there were 1447 patients in that year.

The other departments of the medical faculty of the University made use of the Government Civil Hospital, the Tung Wah Hospital and other institution in the Colony but it was felt that better facilities and conditions were needed both for the sick and particularly so that the student body of the Medical Faculty of the University be given clinical work under better conditions than had been available in the Colony's hospitals. There had been little expansion of hospital facilities in the governmental institutions, although several private hospitals had been improved, and due particularly to the insistence by the teaching staff of the Medical Faculty, the attention of the authorities were drawn to the need for the provision of adequate conditions for the training of the student body.

Thus it was that in 1933 a decision was made by the government to build a new hospital to replace the half-century old Government Civil Hospital. When the new site was chosen the faculty expressed their doubts as to the wisdom of its location but when the new Queen Mary Hospital was opened in 1937, at some distance from the University, it was soon admitted that it was a good one. However it was a government hospital, run by the Medical Services Department, and only 244 beds of the total of 582 came directly under the staff appointed by the University. The other beds were controlled by doctors in the Government's Medical Service with no obligation to be of assistance to the University. The nursing staff were also under the govern-

ment doctors, but a number of the nurses took turns to work under the University doctors.

Meanwhile the political situation in the Far East brought new elements into the picture for no sooner had the Japanese commenced their tragic adventure in China than a great flood of refugees from China began pouring into Hong Kong. The newcomers brought fresh problems including many having to do with public health. Epidemics of cholera, smallpox, beri-beri and pellagra followed and the resources of all the health services in the Colony were taxed to the utmost. The members of the University Medical Faculty did their part and so did their students.

In 1938 Sir Richard Needham, representing the General Medical Council of Great Britain visited Hong Kong for the second time, after five years, and "his advice was in great measure responsible for the developments that took place in the Faculty's policy, staffing and teaching facilities" including the system of inviting external examiners for the degree examinations. One of the recommendations led to the founding of a chair of public health and an institute of hygiene and public health, with a diploma in tropical medicine and hygiene.

As tension mounted in the Far East and more and more of the Faculty members were called upon to give up their time for various forms of public service, conditions in the University became increasingly difficult to follow. Essential staff members carried out their duties among the sick and clinical work was carried out among the students, but eventually Hong Kong was itself engulfed in the tragic maelstrom.

Most of the medical statistics in the Colony, including those of the University, were swept away during the War but it is interesting to observe that during the period of 28 years, from 1914 to 1941, 330 medical degrees were conferred upon successful graduates at the University.

When the Japanese attacked Hong Kong, on Monday 8th December 1941, some students were gathered in the Great Hall

for their final degree examination. The Hall was soon vacated of desks and chairs and beds brought in, and was converted into an emergency hospital. All the candidates together with those who were to have taken their final examinations in June 1942 helped in this emergency operation and were eventually awarded war degrees, the first group on New Year's Day and the second later in January 1942, two post-humously.

There were then at the University nearly 70 students. As soon as possible after the Japanese occupation of Hong Kong many of the medical students of the University, as well as former graduates, most of them Chinese whose departure was not impeded by the Japanese, began to make their way into China and with them Professor Gordon King, dean of the faculty of medicine. Professor King's efforts to arrange for nearly all the students to be accepted in medical schools, and doctors in hospital, were successful, and through the efforts of the Colonial Office in London, the General Medical Council of the United Kingdom was prepared after the war to accept the qualifications of those who passed the final examinations in approved institutions under war conditions in China.

Already in the internment camp in Stanley plans were being drawn up for the re-opening of the University after the War. The Faculty of Medicine met 6 times and the Senate 8 times. When Hong Kong was recovered by the United Kingdom it was decided therefore to re-open the University and a matriculation examination was held in June 1946 for those who wished to enter the University at the earliest possible moment.

There were a few students who were not able to meet the requirements or who had not taken a qualification that was registrable in the United Kingdom, and there were also a number of young men and women who were desirous of joining the University. Thus it was that 58 of us were enrolled as new students in the classes for the medical course in October of that year. Besides these there were students who desired to continue their studies or those who had not

met the necessary requirement and for whom refresher courses had to be provided. And so there were students who had just joined the University with those who were doing the final years. In a way this was fortunate for only two professors were available in that year — obstetrics and gynaecology and physiology — helped by a number of lecturers who did part-time work at the University. The buildings had in fact not been adequately repaired. There were no desks or chairs and I can recall carrying my own little stool which I had brought from home from classroom to classroom for the different lectures.

It was not easy, too, to work, as a large part of Queen Mary Hospital had been taken over by the Royal Navy, but the limited staff did splendid work, and it was not until a year later that the staff began to expand.

Conditions among the public in Hong Kong had become different as well. The British and American forces that had arrived in Hong Kong in 1945 began the distribution of vitamin pills on a wide scale, while the increasing number of people who returned to Hong Kong from China had become familiar with the sulphur drugs as well as penicillin and were no longer adverse to injections. Wartime conditions had given the conservative Chinese a slightly different outlook as regards the virtues of some, at least, of Western medicaments. The acceptance of placebo pills among the Chinese in Hong Kong can be said to date from this period. They were willing to take them as easily as vitamin tablets, which were said to 'restore the blood'.

But it would be a mistake to suppose that they had lost faith in therapeutics of their ancestors. Dr. T.P. Wu, once President of the Hong Kong Chinese Medical Association, has gone so far as to state not long ago that "it is a well-known fact that only 10 to 25% of our population put their faith in Western medicine. The rest go to herbalists and the 'fall and knock' doctors".

The financial problem continued to plague the University and although the Govern-

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ment placed some money at the disposal of the University all of it had to go into capital expenditure to restore the buildings and equipment which had been completely looted by irresponsible members of the community. Increased annual grants were also made by the Government, but hardly enough to meet the demands of an institution which wanted to expand its facilities in consonance with modern needs.

By 1952 the first batch of post-war students were given their medical degrees. Meanwhile graduates who had not completed their studies in China had resumed their studies in Hong Kong and had graduated by 1950.

By 1948 three more clinical chairs were filled. As the years passed others were filled and new ones created. Of the post-war changes in curriculum, one of the most far-reaching was that consequent upon the passing of the Medical Act of 1950 in the United Kingdom. All students have had, since then, to do a hospital internship of one year after qualifying before they could be licensed to practise. Only hospitals that complied with the requirements laid down by the General Medical Council of the United Kingdom could be recognized for this intern training. This became effective in Hong Kong in 1953. Another change introduced at the time was that students applying for admission in the medical course had to pass in physics, chemistry, zoology and botany in the advanced level in the university matriculation examination, and the University ceased teaching these subjects in the one year pre-medical part of the course.

But the problem of providing money for the expanding needs, not to speak of maintaining those which existed continued to plague the authorities. Private grants for capital expenditure were made available by private citizens, and the government made substantial increases in the yearly grants but they were never enough and Professor Stock adds that "at the first the clinical departments could only function because the earnings of teachers were paid to the University and were available for maintaining the departments." He adds,

"however, the tide had turned. Small additional increases were made locally and a great deal of financial help was received from the China Medical Board of New York."

Professor Stock quotes: "This body was originally set up to assist the Peking Union Medical College; but after the overthrow of the Nationalist Government in China it provided large sums for other medical schools in the Far East — especially those with Chinese students. Although by no means the largest beneficiary, the medical faculty of Hong Kong would by now have been in a very different situation had it not had this help. Study fellowships for junior staff, travel fellowships for the more senior, and large sums for capital equipment for teaching and research have made a profound impression on post-war developments." It is impossible to calculate in terms of money the benefits to medical education in Hong Kong accruing from the Board's interest in it; but the sum has already topped two and a quarter million Hong Kong dollars up to 1961. Of these donations US\$75,000 has gone to defray the cost of equipment for the new Pathology Building.

The Carnegie Corporation of New York is another American institution to the trustees of which the University of Hong Kong is also greatly indebted. The same must be said of the Asia Foundation, one of the younger eleemosynary organisations that has done much in the cause of education, and the name of Harvard-Yenching Institute also figures among the American foundations that have helped the University. Every faculty in Hong Kong University has benefitted by the help, none, perhaps, more worthily than the departments of the faculty of medicine.

The University is indebted, likewise, to local benefactors, among them the Committee of the Royal Hong Kong Jockey Club, who have responded to appeals for assistance to improve conditions for medical facilities for the community, and especially those having to do with teaching in the medical faculty. Among the institutions requiring help was the Tsan Yuk Maternity Hospital which, since 1926, had been placed under the

Department of Obstetrics and Gynaecology, as a teaching hospital for medical students and midwives. It had been realised as long ago as 1929 that a new hospital building was needed and by 1939 this had become an urgent necessity. After the War the problem became even more urgent.

"The wards which originally contained 30 beds were stretched to the limit of possibility to hold 75 beds; and with an additional 12 beds in an annexe next door the total bed-capacity of the hospital had reached 87." An antenatal ward was set up in an adjacent building. Various stop-gap suggestions were made for expansion but it was not until the Royal Hong Kong Jockey Club undertook to defray the cost of a new building that solution was found to the problem. Total number of admissions had grown from 1,643 in 1935 to 3,809 by 1940 and after the War the respective figures were 4,176 in 1947 growing steadily by 1953 to 7,221. Many of us here can still remember 2 mothers and 2 babies in 1 bed in the lying-in ward.

The new building, which was completed in October, 1955, contains 200 beds and is a modern hospital equipped with every modern facility. It is significant that the Tsan Yuk Hospital has maintained an excellent record especially in its low perinatal death rate. Close to this hospital the Government of Hong Kong has erected the Saiyingpun Polyclinic, opened for out-patient work in 1960, the cost of which has also been defrayed by the Royal Hong Kong Jockey Club. These two buildings are a valuable addition to the teaching facilities for clinical students of the University.

"All final year students are in residence at the Tsan Yuk Hospital on a rotating system for a period of about 5 weeks each in groups of five to seven. Doctors and midwives both receive post-graduate training in the hospital. Special courses for the post-graduate instruction of midwives form part of the requirements of the Midwives' Board of Hong Kong."

Professor Gordon King goes on to say that, "The junior resident medical staff of Tsan Yuk Hospital also receive post-

graduate training there, many of them in preparation for taking higher qualifications overseas, and special post-graduate programmes are arranged from time to time by the University."

It should be added that up to the year 1961 no less than 142,692 patients have been admitted at Tsan Yuk Hospital and it is estimated that fully 10% of all the maternity cases in the Colony have been treated in this hospital during the last few years.

Attention has also been paid to other departments dealing with clinical instruction and the University has had the satisfaction of opening in 1959 a splendid building, situated near Queen Mary Hospital, where the Department of Pathology has been installed, and where the work of clinical pathology is being carried out.

The need for changes and a programme of expansion had been recommended in the Report prepared in 1953 by Sir Ivor Jennings and Mr. D.W. Logan. Special reference was made to the accommodation for the teaching of anatomy and physiology, the old buildings for which had been outgrown by the demands of larger classes; provision for better premises for teaching biochemistry and pharmacology. The need for buildings for the pre-clinical departments was also emphasized.

The Report went on to point out that the Government should see to it that the Director of Medical and Health Services should provide adequate facilities for the training of clinical students. It expressed the hope that with the opening of the new Queen Elizabeth Hospital in Kowloon, with 1,200 beds, Queen Mary Hospital, with its 482 beds should be staffed entirely by the University. "Clinical deficiencies can only be cured with full Government co-operation." The interesting point is made that the essential medical services provided by the clinical members of the Medical Faculty save the Government at least \$500,000 a year. On this basis if the entire facilities of Queen Mary Hospital are placed under the control of the University the saving could well be over \$1,000,000 a year.

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They conclude, "We do urge that, in considering the claims of the University to an increased annual maintenance grant, due attention should be paid to the important and extensive services which members of the Faculty of Medicine render gratuitously to the public."

Something along these lines is being planned at the present time for extensive additions are being made to Queen Mary Hospital, where work is in progress to install new wings where accommodation is being made available to house the professorial teaching and research suites for medicine, paediatrics, surgery, orthopaedics, and gynaecology.

A new medical science building has just been added to the Queen Mary Hospital complex. Named after Dr. Li Shu-fan, a diplomate of the old Hong Kong College of Medicine, the pre-clinical departments of the University have been moved into this new medical science building. A new wing to this building provides for the University medical library. All the books, journals and other material relating to medicine from the University Library have been moved into this building, with an assistant librarian and staff in charge. In this wing there will also be a hostel for clinical students during their specialty clerkships.

In this connection it is well to notice the recently established Li Shu-fan Medical Foundation, the first of its kind in Hong Kong, which has been a generous benefactor of the University. Besides the gift of valuable land to the University, this Foundation has made notable contributions to medical education and research, as well as medical charity, including clinical scholarships and bursaries, allowances and fellowships to doctors undertaking post-graduate work and other grants.

Clinical work for the medical students in infectious diseases, tuberculosis and leprosy is now being carried out in establishments conducted by organisations subsidized by the Government. The need for these was demonstrated following outbreaks of cholera in 1961 and 1962, with a mass immunization

campaign, with vaccine produced in the Colony, and with quarantine.

Queen Mary Hospital provides University graduates a place for their internships and post-graduate training. The facilities of Queen Elizabeth Hospital, opened only very recently, of Nethersole Hospital, Infectious Disease Hospital, Ruttonjee Sanatorium, are also being made available for this purpose.

A short reference should be made to those who have graduated from the University in the medical faculty. In 1953 there were 363 students in the Medical Faculty and 40 to 50 have graduated each year. The intake has since been increased to 80, and now to 120 undergraduates per year.

From 1914 to 1941, 330 received degrees, of these 19 were women, representing 5.8% of the total. From 1949 to 1965 the total of successful graduates was 770 of whom 99 were women, or 12.9%. If anything this shows that women are taking their place among the ranks of Hong Kong's physicians ready and willing to play their part in the fight against ignorance and disease, and one of them holds one of the clinical chairs in the Faculty.

In a recent article on the subject of "Medical Education and Practice in Hong Kong", Professor Francis E. Stock explains the present position of the University and its medical faculty:

"The record of graduates has been exceptionally good. Three have held the position of director of medical and health services. Some have become prominent in public affairs, being members of urban, legislative, or executive councils. Specialised medical societies flourish in surgery, radiology, anaesthetics, chest diseases, and other subjects. Government specialist appointments in medicine, surgery, obstetrics and gynaecology, orthopaedics, otorhinolaryngology, and radiology are all held by Hong Kong graduates, together with three of the ten chairs in the faculty and twenty of the whole-time teaching appointments. Indeed only one-sixth of the teaching appointments are held by

expatriates, the remainder being graduates of Hong Kong or of Chinese universities." "All departments are extremely active in research, and to a large extent (especially in clinical fields) this is directed at problems of particular local importance. Work is at present being done, for example, on factors influencing growth in children, fertility-rates in women, heat and cold adaptation, cirrhosis of the liver, clonorchiasis, Asiatic cholangiohepatitis, portal hypertension, splenomegaly and hypersplenism, disorders of coagulability of the blood, tuberculosis of bones and joints, factors influencing bone union after fractures or grafts, and the treatment of nasopharyngeal carcinoma."

The Medical Faculty of the University of Hong Kong has contributed something

to make Hong Kong a better place. Of the 500 general physicians in practice in the Colony the vast majority have come from the University, and others are to be found in Malaysia, China and elsewhere in the world. Many are in government or other service, including, as we have seen, a good sprinkling in the University itself. Not long ago a prominent physician in Hong Kong pointed a finger at some of his colleagues accusing them of having adopted the profession "to get rich quickly". This is not true of every case, for quite a number of Hong Kong's doctors give of their services freely and willingly. I like to think of these doctors as being worthy of that oath, not lightly taken, "And now if I shall fulfil this oath and break it not, may the fruits of life and of art be mine; may I be honoured of all men for all time; the opposite if I shall transgress and be forsworn."

* * * * *

Burnet: "Infectious disease is no more and no less than part of that eternal struggle in which every living organism strives to convert all the available foodstuffs in its universe into living organisms of its own species."

* * * * *

Dubos: "It is folly to speak of the conquest of disease. Health is an expression of perfect fitness to the environment. As man and his environment change continuously, fitness is never permanent, so that disease will continue to recur."

* * * * *

Pasteur: "In the field of observation chance only favours the mind that is prepared."

* * * * *

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* * * * *

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* * * * *

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LET'S TAKE A TRIP

SOME FACTS AND FANTASY SURROUNDING LSD

BY ROBERT JENNINGS, M.D., PH.D.

The recent numerous reports in current lay magazines of international distribution such as Time, Life, and Newsweek and numerous newspapers throughout the world, on the effects and the alleged effects of D-lysergic acid diethylamide (LSD) might suggest that this drug is relatively new. LSD, however, was since synthesized in 1943, and the first reports of its pharmacological action were published about 20 years ago. Since that time, this drug has been extensively studied by numerous scientific investigators. Their findings in general confirm the initial observations which demonstrated that LSD in very minute doses has the ability, in some susceptible individuals at least, to produce marked alterations in psychological function.

So far as can be determined, since pre-historical times, certain individuals in all classes and types of society, in all races and cultural groups, in all parts of the world, have employed drugs or substances containing active agents to produce alterations in psychological activity. Various tribes and groups favoured Xanthine beverages such as tea and coffee; others preferred the fermented beverages containing ethyl alcohol; some groups discovered the ability of narcotics to alter the sensorium; the Indians in the Southwest United States used a cactus containing an alkaloid which under certain circumstances produces hallucinations; in the 1840's medical students took ether to put them in the "proper party mood". This impact led to the development of ether as a narcotic; more recently, the inhalation of the volatile substances in plastic glues has become fashionable among some teen-agers. It is not surprising, therefore, that the information regarding the psychological effects of LSD, which was published in reputable

scientific journals, quickly spread to the general public in areas of the world where means a mass communication world relatively unrestricted. Naturally, the supplies of LSD were limited and this probably accounts for the long latent period between the demonstration of its action and its relatively wide spread misuse. On the other hand, the activity of certain pseudo-psychologists or quack psychiatrists (with or without degrees) has encouraged the improper use of these drugs in unthinking individuals. Likewise the criminal element is always willing to make a profit in peddling any drug (or activity) which is illicit. The profit on the sale of 1 oz. of LSD is approximately US\$125,000. Furthermore, just as many individuals drank whisky or other alcoholic beverages during prohibition merely because it was illegal, others will try LSD because it is not legal. The forbidden fruit tastes sweet.

Indeed, the forbidden fruit tastes too sweet. It is estimated that over 200,000 to 500,000 individuals have experienced the effects of LSD, most of them repeatedly. They have taken the so-called "trip" to psychological aberration. Fortunately most of them have returned without serious consequence. Those who have not, are given a wide newspaper and magazine coverage. "Student under the influence of LSD thinks he can fly (like Superman) and leaps to his death from tenth story window." "LSD user killed attempting to stop speeding truck." "Girl seduced by Missionary after LSD." "Co-ed kills lover in LSD orgy." Although these headlines, subheads, and "news" items may sell magazines and newspapers, they frequently distort the truth and at least fail to give an adequate evaluation of the effects of LSD. The fact that an individual is killed jumping from a high

place does not mean that he thought he could fly. The dead individual is not capable of giving his reasons for jumping. A man who walks in front of a truck may have a distorted sense of time and distance, but this does not mean that he is tempted by his own physical force to stop the truck. Unfortunately, the next headline fails to explain whether the girl or the missionary, or neither, had LSD or both were merely "after" it. Likewise, young women, for numerous good or bad reasons, have killed their "lovers". Therefore one cannot necessarily blame LSD. The evaluation of LSD and its effects should be made on the basis of scientific information and not on the reports in the lay literature.

Lysergic acid diethylamide is one of the breakdown products of the ergot alkaloids. These alkaloids are produced by certain fungi which attack rye and other cereals. Some of the parent compounds such as ergonovine (ergometrine) are important as uterine contractants and widely employed in obstetrics. Another natural alkaloid of this series, ergotamine, is frequently used in the treatment of migraine headaches. The synthesis of LSD from lysergic acid, while perhaps not as easy as the conversion of morphine to heroin, is within the capability of any reasonably intelligent organic chemistry student provided with moderate equipment. Therefore, the availability of LSD is no longer confined to the legitimate sources of manufacture. The basic ingredients can be purchased from various chemical companies at a relatively low price. It has also been recently demonstrated that certain sun-flower seeds contain D-Lysergic acid diethylamide or a similar potent substance.

In susceptible individuals, the oral consumption of 0.00020 to 0.00025 gram of LSD is capable of producing a marked psychotic reaction. This indicates that it is one of the most potent of all drugs which exist. The susceptibility and the nature of the response vary considerably, depending upon emotional and psychological background of the individual, the circumstances of administration, and the dose administered. Otherwise normal (what is normal?) individuals under the influence of LSD

exhibit symptoms commonly seen in schizophrenia, but the mental disturbances differ in many significant aspects. In both cases, there is at least some loss of contact with reality, but in the case of LSD intoxication, the individual usually still realizes that his mental aberration is drug induced, whereas the typical schizophrenic has no such crutch to lean upon. It is stated that the visual hallucinations are more prevalent in LSD induced psychosis whereas in schizophrenia auditory hallucinations are more common. Although this may be true in general, both may occur in either group. The otherwise normal individual under LSD usually still recognizes that the hallucinations (or delusions) are due to the drug whereas the schizophrenic believes they are real. In the visual hallucinations occurring with mescaline, colour plays an important role, but most individuals who experience visual aberration after LSD fail to emphasize the importance of colour. Some investigators claim that a significant percentage of individuals with LSD intoxication show paranoid tendencies or symptoms of persecution. This, however, according to most investigators, does not appear to be characterised on the effects in normal individuals who take the drug under experimental conditions. After LSD some individuals may experience physical discomfort without euphoria and therefore blame the experimental scientist. This does not indicate true paranoid tendencies. Perhaps the most characterised symptom of LSD intoxication in susceptible individuals under control conditions is the loss of contact with time (and to some extent space). The intoxicated expresses the opinion that hours, days or years have flitted by in a very brief period. This may be similar to the parachute jumper (whose chute fails to open on tree), who claims that his whole lifetime passed by in a few seconds (obviously his chute opened eventually or he could not give this explanation). Even so, the otherwise normal individual under the influence of LSD can, if called upon, recognize that this abnormality in time perception is drug induced. The lack of ability to recognize normal time passage may contribute significantly, however, to the lack of concentration and apparent (but questionable) intellectual impairment. There is absolutely no evidence

LET'S TAKE A TRIP

that LSD intoxication produces normal abnormality in sexual desire or function. Therefore various reports in the newspapers which suggest that certain sexual aberrations are due to this drug must be seriously questioned. Quite fortunately, we must recognize that the psychotic effect of LSD is of relatively brief duration in comparison to that normally seen in chronic schizophrenia. This is another piece of evidence which suggests that the two conditions are not as closely related as some investigators have proposed.

As mentioned earlier, the effects of LSD, as well as those of mescaline, marihuana, cocaine, narcotics and many other psychopharmacological agents are dependent upon the conditions of drug administration and the individual susceptibility. Although controlled scientific evaluation of these aspects have not been made, most physicians believe that the incidence of nausea and vomiting following the administration of narcotic is greater in ambulatory patients (or experimental subjects) who are free from pain than in those individuals who seek narcotic for analgesia. Likewise under experimental laboratory conditions, an individual may experience nausea and vomiting following the ingestion of mescaline, whereas the same dose used in a religious ritual may produce various psychic effects. The evils of cocaine and marihuana are probably over-emphasized and according to some investigators, the antisocial acts committed by individuals using these drugs are not due to the drugs *per se*, but rather the unwholesome atmosphere and illegal manner in which these drugs are obtained and used. It is therefore difficult to evaluate the true effects of LSD on the basis of the response produced in apparently normal subjects following the ingestion of LSD. The incidence of psychotic responses is greater than that which is seen following administration of any other psychomimetic.

Most investigators who have evaluated the effects of LSD in patients with schizophrenia claim that the psychological impact in these individuals is greater and more prominent than that commonly experienced in normal subjects. This might be expected due to the more labile nature of the schizo-

phrenic but it also emphasizes that in general individuals with emotional or psychological problems respond more markedly to emotional stress or psychopharmacological agents than the "so called" well individuals. It is this variance in response which makes the uncontrolled use of LSD so dangerous. An apparently normal person who has suppressed the signs of inner conflict, under the influence of LSD find an outlet for his conflict by assaulting others or may believe that the struggle is lost and therefore commit suicide. This is not purely hypothetical since the advent of the vast misuse of LSD, these occurrences are now relatively frequent. It is true that in the perfectly normal individual, the use of LSD may not be harmful, but unfortunately who is going to judge who is perfectly normal?

The reports on the response to the repeated injection of LSD are contradictory. Although some individuals have shown that tolerance develops and that psychological effects of LSD diminish with repeated use within 4 to 7 days, others have claimed that such frequent use may result in permanently induced drug psychosis. It is likely, however, that those individuals who do develop permanent psychosis are those which we would normally consider to be already pre-psychotic and pro-psychotic.

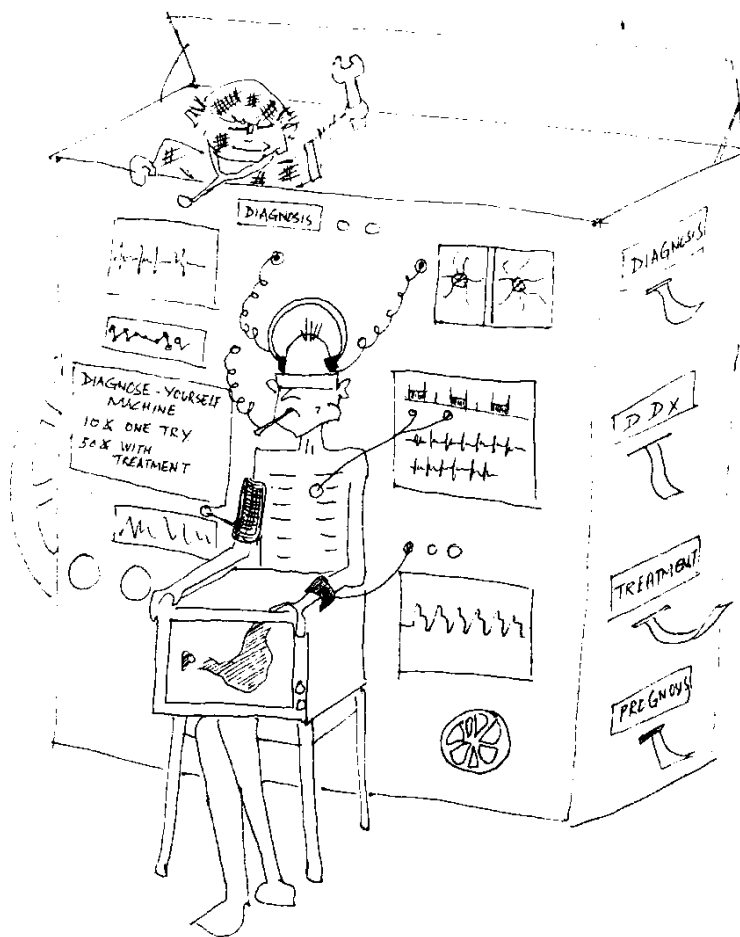
The other pharmacological action of LSD are relatively weak in comparison with its psychological activity. It does, like ergometrine, have a certain ability to produce other contractions, but this is not apparent in the commonly employed doses. Alterations in autonomic functions such as mydriasis following the injection of LSD have been reported by many workers, but it is likely that these effects are due to the central action of the drug and not due to an action on the peripheral receptors. The analgetic action of LSD has been employed in the treatment of terminal cancer patients, but here again it appears that the benefit obtained is not due to a true analgetic action but rather occurs by altering the mood of the individual. The patient with severe pain who is given LSD fails to comprehend the nature of his disease and the likelihood of his demise. Other actions of LSD may

be demonstrated, but these in general are weak in comparison to the small doses which produce such marked central nervous system alterations.

LSD has been used as an experimental tool in the treatment of certain individuals with organic brain disease, not only in an effort to produce a cure but also an effort to increase the understanding of mechanisms involved in the psychotic state. Many theories have been advanced in an attempt to explain the action of LSD. Some of these involve its interaction with serotonin, other catechol amines, acetyl choline and so on. Unfortunately, because of lack of knowledge of the normal physiological

processes involved in normal central nervous system transmission, it is still impossible to tell at what stage LSD may produce its effects. It is nevertheless obvious that LSD has the most marked effects upon the psychological behavior of any known drug, but it is still questionable whether this action can be of any benefit to those who are already suffering from organic brain disease. It appears absolutely certain that LSD is an extremely dangerous drug, not because it is inherently toxic, but because of its ability to alter normal mental processes and therefore even its experimental use should be under the control of highly qualified individuals.

* * * * *



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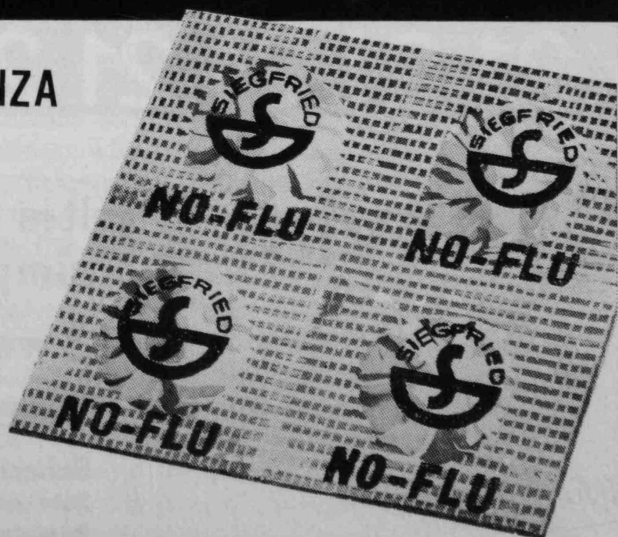
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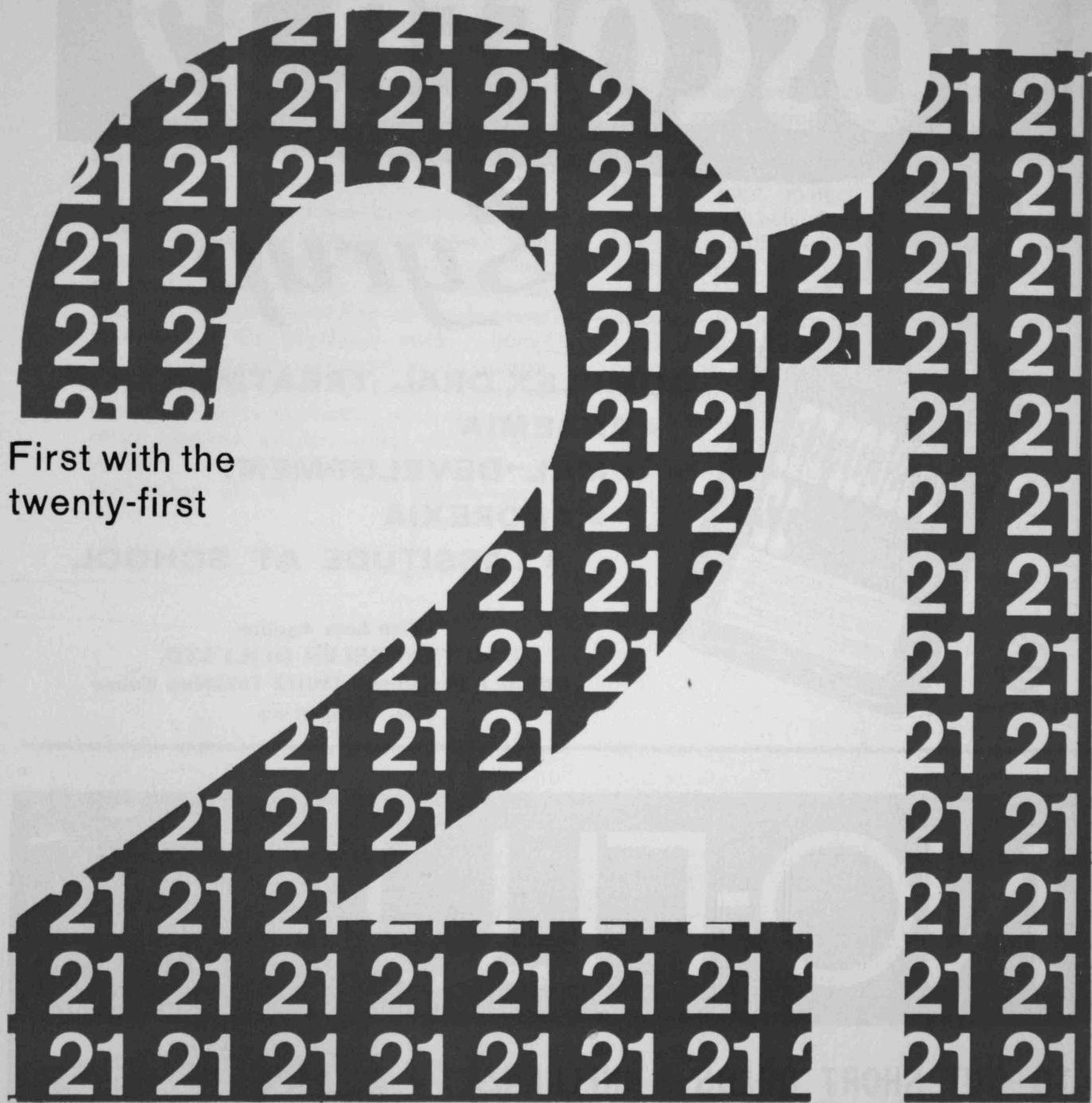
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A GREAT CHALLENGE OF THE ADRENOCORTICAL STEROIDS TO PHARMACOLOGISTS

AN INAUGURAL LECTURE FROM THE CHAIR OF PHARMACOLOGY

BY PROFESSOR ROBERT C. Y. LIN, B.SC., PH.D. (Cantab.), delivered on 15th April, 1966

Mr. Vice-Chancellor, Mr. Dean, Ladies and Gentlemen, it is a great honour indeed to me to be given this opportunity by the Senate to deliver an Inaugural Lecture from the Chair of Pharmacology. I would like first of all to thank the Senate for this privilege. As announced, my subject to-day is 'a great challenge of the adrenocortical steroids to pharmacologists'. I wish to tell you first what I think is the role of pharmacologists in our modern society, particularly in the medical school, inasmuch as there is still some confusion in the minds of many with regard to the differences between the subjects of pharmacy, pharmacology, and therapeutics. For it is only when we have a clear view of what pharmacology is and what pharmacologists are supposed to do that we can see where the challenge to them lies.

Without going into the historical development, may I state that whereas in the early days pharmacology was meant to be a subject embracing all knowledge of drugs, it has now come to be accepted as only one of the three sub-divisions of knowledge concerning drugs: that dealing mainly with action. The other two sub-divisions are pharmacy or materia medica which deals with supply, and therapeutics or the uses of drugs on patients for the purpose of diagnosis, which deals with prevention and treatment of diseases.

There are two roles for pharmacologists to play. One is to transmit knowledge of the action of drugs to medical students with the view of providing them with a rational basis for the use of drugs which their clinical teachers will teach them. The other role is to search for the pharmacological basis of old drugs which have shown definite therapeutic value and of new drugs before

they are used. It is here pharmacologists will often meet with challenges, such as that from the adrenocortical steroids, which I am going to speak to you about in a moment.

Adrenocortical steroids are natural hormones secreted by the cortex of the adrenal glands. But there are now also a great number of their synthetic analogues. They are so called because they all have a common skeleton of a steroid in their molecular structure. I shall call them by a shorter name 'corticoid' from now on. The natural corticoids are essential to life whereas a number of sex hormones also secreted by the cortex are not. The latter will not be included in my subject.

These natural corticoids are used therapeutically for two purposes. One is to treat cases of adrenal insufficiency in small doses as a replacement therapy such as in the well-known Addison's disease, adrenal hyperplasia, hypopituitarism, and also in case of adrenal crisis. Their actions are physiological and hence, are well understandable. What concerns us in our subject today is the widespread uses of these corticoids as drugs given in large doses to patients who show no sign of adrenal insufficiency in order to modify the state of their diseases which are unconnected with the adrenal glands. Despite the fact that their uses often result in a great number of adverse effects and specific catastrophies and that they never remove the causes of the diseases from the patients and are a cure for none, their uses are continued and greatly extended because they are able to give dramatic symptomatic relief and also to prolong the lives of patients. They have actually come to occupy an important place in therapeutics. Their pharmacological

actions are, however, still rather obscure. In some cases their uses seem to be without justification. Nevertheless, because of their widespread physiological effects and their extensive clinical uses, I am convinced that there is a great wealth of truth hidden in these actions which deserves our every effort to discover. These corticoids, therefore, pose a great challenge to pharmacologists.

Before I disclose to you how the widespread uses of corticoids were begun, what their challenge is likely to be, and how we should meet it, I wish to acquaint you, particularly those in the audience who are not familiar with the subject, with a few striking features of the adrenal cortex. I must, however, point out that the adrenal cortex is perhaps the most extensively and intensively investigated endocrine gland today. Thousands of zoologists, biochemists, steroid chemists, physiologists, pharmacologists, pathologists, and clinicians over the world are still working on it. Incidentally I must pay tribute to Professor J. G. Phillips of the Zoology Department who has been engaged in his research for many years on the relationship between the posterior pituitary and adrenocortical hormones and the water and electrolytes balance in land and marine animals. He has made significant contribution to our knowledge on this aspect of the subject. Professor E. O'F. Walsh and Miss M. L. Ng of the Department of Biochemistry have also been investigating the effect of adrenocorticoids on carbohydrate metabolism in morphine-addicted rats. Hundreds of articles relating to the hormones from this gland are published in journals each month. No doubt it is a most fascinating field of research but it is also a most intriguing field with many blind alleys in which one can easily get lost. I must therefore be very careful and confine myself to a narrow aspect of it.

Morphologically the adrenal cortex forms the outer part of the suprarenal glands which sit above the kidney. It is composed of three layers of cells. They are the zona glomerulosa lying at the outermost, zona fasciculata in the middle and zona reticularis at the innermost bordering the medulla in

the centre which secretes adrenaline. Each of these three layers secretes a different hormone. They are aldosterone, cortisol, and androgen respectively. Up to now over forty corticoids have been isolated from the cortex, but only six of them are biologically active. The rest are probably degradation products. The biosynthetic pathways of these hormones have largely been determined. Cholesterol is the main precursor; pregnenolone and progesterone are the intermediaries.

The secretion of cortisol from the zona fasciculata only is controlled by the adrenocortical trophic hormone (ACTH) secreted by the anterior pituitary which in turn is regulated through a reciprocal negative feed-back mechanism by the amount of cortisol present in the blood. In contrast, the secretion of aldosterone and androgen from the other two zones are not affected by ACTH.

The physiological effects of these hormones on the body function are most widespread indeed, for almost no organ including the brain can escape their action. In general, these effects are aimed at helping the body to meet conditions of stress and also for the maintenance of internal environmental constancy. They also exert two specific actions, one on the kidney tubular cells in the regulation of water and electrolyte balance and the other on carbohydrate metabolism. Some of the hormones including their synthetic analogues have a predominant effect on electrolyte balance, whilst others have a predominant effect on carbohydrate metabolism. The steroid chemists by introducing a double bond in between C1 and C2 in the cortisone and cortisol molecules, were able to produce two new compounds called prednisone and prednisolone respectively. These possess a much higher glucocorticoid activity and less mineralocorticoid activity as compared with their mother molecules. Other active corticoids have also been synthesized with a fluorine atom attached to C9 and a methyl group either to C6 or C16. A great variety of corticoids with varying degrees of activity on electrolyte and carbohydrate metabolisms are now available to clinicians.

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The use of corticoids as drug for treating non-endocrine diseases was started by Dr. Philip Hench of the Mayo Clinic in September 1948 when he first observed a dramatic improvement in the condition of a patient suffering from rheumatoid arthritis to whom he gave cortisone. It is well known to most of us that rheumatoid arthritis is a most crippling disease and the king of human misery. In acute stage, the pain suffered by the victim is unremitting and the misery is pathetic. One out of ten cases of rheumatoid arthritis progresses to the crippling stage. Once the disease has developed, a high percentage of the patients is unable to carry on their work. For example, statistical studies indicate that once ten million people in the U.S.A. suffered from one form or another of rheumatism. True arthritis had an incidence of four and a half million, among whom two hundred thousand were disabled and eight hundred thousand were partially disabled. The estimated wage loss owing to this disease was seven hundred million dollars annually. The search for a more effective remedy for this dreadful disease is therefore, always in the heart of physicians. The discovery of the cure with cortisone for rheumatoid arthritis by Dr. Hench was something like the explosion of a bombshell in therapeutics. It is therefore natural that physicians, because of their strong desire to bring relief to their patients from suffering, will try to use corticoids in other types of non-endocrine diseases. The therapeutic uses of corticoids have been greatly extended since then, and many beneficial effects claimed. What an array of diseases can be benefited by corticoids! Has any one of us here ever come across any other drug or class of drugs which can serve for so many therapeutic purposes? In the face of the present rate of pharmaceutical development which results in the addition of hundreds of new remedies every year to the already long list of drugs, the proper choice of a drug for a particular treatment is becoming quite a bewilderment to physicians. It would indeed be a blessing to us all if one day, corticoids could be developed to become a true panacea and a real wonder drug. It is true that such a day is still far and remote for, as I mentioned before, there are still many pitfalls and

loopholes accompanying the therapeutic uses of corticoids. None-the-less they have therapeutic values. Think of the days before the introduction of corticoids. How helpless were the physicians to their patients who contracted leukemia, pemphigus, systemic lupus erythematosus, status asthmaticus, and collagen diseases *etc.* and how hopeless were the victims. In the present day, at least the symptoms in these patients can be improved and controlled and their lives prolonged by means of corticoids even though a permanent cure cannot be effected.

However, our present state of knowledge of the pharmacological actions of corticoids is very unsatisfactory. In many cases we have no idea at all as to how corticoids can possibly act to modify the condition of the patients, let alone having a satisfactory explanation for the temporary relief of symptoms which they usually exert. For instance, in the treating of rheumatoid arthritis, if sufficiently large doses of corticoids are given to the patients a quick and dramatic relief of pain from the joints, a reduction in the joint swelling, and an improvement on the general well-being of the patients can always be achieved. Yet a long-term therapy is almost never advised which, if necessary, has to be administered with the lowest possible doses and with great care.

Clinicians will continue to make use of corticoids as long as they give patients benefit. Pharmacologists are, however, not satisfied as they want to know in what way corticoids bring about the improvement, in particular, how the pain is being relieved. If corticoids do not act as analgesics like morphine, then in what other way do they act? Above all, they want to know whether the pain around the joints is due to a purely mechanical pressure exerted by the swelling synovial fluid on the pain fibres or to some chemical stimulation. It has often been explained that the effect of corticoids on the collagen diseases is probably due to their anti-inflammatory action while others claim that the action is exerted through their inhibitory effect on the hyaluronidase which catalyzes the polymerization of hyaluronic acid to mucopoly-saccharides which forms the ground substance of the connective

tissue. Such an explanation may account in part for the apparent effect which leads to the subsiding of the swelling in the joints. In any event, the administration of corticoids for their anti-inflammatory effect serves only as a palliative therapy. The underlying cause of the disease remains. The inflammatory manifestations are only being suppressed. In fact it has never been demonstrated that the hyaluronidase activity in the connective tissues or serum of patients with collagen diseases is higher than in the normal subjects. Such an explanation, if it is not an oversimplification of the situation, indicates that there are still many missing links in our knowledge of their action on the connective tissues.

In the treatment of leukemia corticoids can be of great benefit in both acute and chronic lymphocytic and granulocytic types, although they are not effective in the monocytic type. They are looked upon still as the most useful of the numerous therapeutic agents including antimetabolites. The general benefits observed in patients administered with corticoids are elevation of mood, increase in appetite, gain in body weight, disappearance of fever, shrinkage of the enlarged lymphoid tissue mass associating with a fall in leucocyte count, and an increase in both erythrocyte and thrombocyte counts. The period of improvement or remission varies from two or three weeks to several months with the daily administration of corticoids. Afterwards, the patients may become refractory to the treatment and other means of controlling the disease will have to be tried.

In such circumstances, clinicians will wish only to have a more effective and more reliable remedy. Pharmacologists are, however, rather unhappy because they have no information at all as to how corticoids act on the lymphoid tissue to reduce the rate of lymphocyte formation and also to account for the dissolution of the lymphocytes. In fact it is very difficult to understand how corticoids are able to exert a lytic effect on the lymphoid tissues and lymphocytes and at the same time to augment the process of hemopoiesis and formation of thrombocytes. Presumably this action of corticoids on the blood cells cannot be due to their

anti-inflammatory activity. Yet only those corticoids possessing an anti-inflammatory activity can exert an effect on leukemia. One may say that this is due probably to their effect on carbohydrate metabolism. But there is still no information, one way or the other, about the manner in which the carbohydrate metabolism of both white and red cells is affected.

Let us look at the treatment of bronchial asthma with corticoids. Such treatment can terminate an acute attack in status asthmaticus and relieve the disabling symptoms of chronic bronchial asthma. The position at present in the treatment of severe chronic bronchial asthma is that corticoids may be considered when other measures fail. The decision must be made with great care, since the majority of patients, once started on corticoid therapy, must continue indefinitely with such therapy. The problem is similar to that of the treatment of rheumatoid arthritis with corticoids. The disabling manifestations must be great enough to justify the risk of toxic effect of long-term corticoid administration.

Here you see in the treatment of bronchial asthma a third example of the surprising usefulness of corticoids. It is a blessing to the patients indeed that there is at least a drug now which they can fall back on when other remedies fail to help them. There is probably no problem to clinicians apart from the toxic effects from long-term therapy with corticoids which they have to watch. To pharmacologists, they are again rather dissatisfied with the present state of knowledge of the pharmacological action of corticoids which benefits the patients with asthma, for it is known that the corticoids have no direct bronchodilation effect. On immune responses, corticoids do not appear to inhibit antibody production in man. The union of antigen with antibody is not prevented nor are the release of histamine from sensitized cells and the characteristic reactions of smooth muscle and skin to histamine influenced by corticoids. To explain the beneficial effect of corticoids in asthma in terms of the anti-inflammatory activity also gives us no more satisfaction than to say that it is at least better than no explanation. Our understanding of the

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mechanism of action of corticoids in asthma is therefore extremely poor.

Ladies and Gentlemen, I have just given you three striking examples of the successful therapeutic uses of corticoids. One can say that their values are there but their pharmacological actions are little known. The questions arising out of them and the many more questions which can be further raised are of great concern to pharmacologists, if not to them alone. If a drug had definite therapeutic value but its pharmacological actions are yet unknown, then as I said at the beginning, it is up to pharmacologists to find out, especially when the drug is such an interesting and important one as the corticoid. In my view, the problem of pharmacological actions of corticoids deserves our every attention and pharmacologists must not miss this opportunity to take up the challenge. I have two specific reasons for accepting this challenge. (1) That corticoids can be used to control the symptoms of so many diseases and to prolong the lives of patients inflicted by incurable diseases reveal to us how important their position in therapeutics is. Even from the practical point of view, it is well worthwhile to consolidate and to improve this position. A better understanding of their pharmacological actions would serve as an important step towards making such an improvement. (2) That corticoids can give improvement to so many disease conditions and the fact that their physiological effects are so widespread indicate that they may have a common basic action on cellular metabolism which accounts for their therapeutic effect. This common basic action if discovered may reveal the common cause of many diseases at the cellular level. Although many distinguished workers in this field thought their mode of action likely to be a multiple one, in my view a unitary mode of action is still possible. I base my assumption on simple logic, *viz.*, if a single key can open many different locks it must be a master key which fits all these locks it opens. A good understanding of the pharmacological actions of corticoids may well reveal the common combination of the locks to the master key and hence the general basic cellular metabolism of all tissues in the body.

Should we be able to achieve this, we will have opened up a new mine of knowledge of fundamental biological and medical importance.

Now what should be our strategy in meeting this challenge? Inasmuch as I realize that it is going to be a formidable task, a task-force with as many disciplines of interest as possible in a well co-ordinated collaboration to tackle an agreed project should be a *must* in our planning. That is to say, we must pool together all our resources from the various departments in the University whose members are interested in this subject. We must also give up the idea of going at it alone. In other words, it is most essential that we form an allied force to fight the war in many fronts with a co-ordinated strategy.

You may want to know what our chance of success in meeting this challenge is. In my view, we in the University are in a favourable position for we have one advantage which the research workers in industry do not have and that is our academic freedom. We can say that time is on our side as by our very tradition, we will not receive an order from the University Council or from the Vice-Chancellor telling us what to do in our research and requiring us to turn out results at a pre-set time.

May I now tell you about two examples of research work carried out in other universities which have relation with our interest in this subject of corticoids.

One is the discovery of a plasma polypeptide called bradykinin which may form a link between many diseases and their symptoms. It is a kinin normally present in the plasma bound to the globulin fraction. Its metabolism is governed by a complex series of enzymatic action. It is a polypeptide composed of nine amino acids and therefore called nono-peptide. It can exert the following pharmacological actions: contraction of smooth muscle, vasodilation, depressor action, increase in capillary permeability and stimulation of pain. Because of these actions, it was thought by many workers that the plasma kinins, two of which are bradykinin and kallidin, might play an

important part in the production of pain and vascular changes in inflammations.

A great deal of work on the production of pain, by bradykinin and other substances, was carried out in recent years by Professor Cyril Keele and his colleagues in the Middlesex Hospital Medical School in London. They developed a method to study pain production on human subject by exposing the subdermal nerve endings responsible for pain in the arm with a blister evoked by a plaster of cantharidin. After the blister was formed and the skin removed pain production activity of many substances in solution was tested by dropping each one on the exposed nerve endings and the degree of pain felt by the subject was recorded with an arbitrary scale.

With this method it can be shown that many substances like acetylcholine, histamine, serotonin, pitressin and bradykinin produce pain. The pleural effusion shown here, which afterwards was found to contain bradykinin, also produces great pain.

The association of acute gouty arthritis with bradykinin formation has lately been further demonstrated by a number of workers. For example, experimental arthritis was produced by injection of microcrystalline suspensions of monosodium urate into the knee joint of healthy or gouty volunteers. Intense acute arthritis then developed in one to three hours. The attack closely resembled spontaneous gouty arthritis with severe local pain, warmth, tenderness, swelling and effusion. The workers attributed this change to the formation of bradykinin. Recently, they were able to show the presence of bradykinin in the synovial fluid of gouty and the other types of arthritic patients and that the bradykinin concentrations were well correlated with the degree of tenderness. In some gouty effusion more than 50mg/ml of bradykinin were found. Similar levels were induced by injection of microcrystalline suspension of monosodium urate into the human knee joints. This concentration of bradykinin was amply sufficient to produce vasodilation and increase capillary permeability, and would also be able to stimulate the nerve endings of the bare blister

base. Professor Keele also showed that colchicine which suppressed the crystal-induced arthritis also reduced the synovial bradykinin level. In dogs, acute arthritis could be produced by intra-articular injection of 0.5 ug-0.5 mg of bradykinin. These observations clearly establish a link between the formation of bradykinin and the development of symptoms in arthritis.

There are now experimental evidences showing that phagocytosis by leucocytes can influence the formation and destruction of bradykinin in the synovial fluid. Furthermore, it has been shown that lysosomal proteases can digest the mucoproteins in cartilage and connective tissues, and the soluble mucopolysaccharide of the ground substance which are released into the surrounding fluid may also promote bradykinin formation. Thus a link by bradykinin between phagocytosis, inflammation and the pathogenesis of collagen diseases is also established.

Ladies and Gentlemen, the discovery of this link by bradykinin is, in my view, very exciting and important for it may have a great bearing on our subject of pharmacological actions of corticoids. In the first place, we understand now that the tenderness of inflamed tissues and the terrific pain suffered by patients of arthritis in the knee joints are most probably due to stimulation by bradykinin set free from plasma. A drug which can bring about a relief of pain and yet is not a true analgesic may act indirectly by interfering with the formation of bradykinin from plasma or by blocking its action. Obviously, if corticoids can be demonstrated to exert either one of these actions on bradykinin the question of their pharmacological actions on collagen diseases may be said to be mostly answered.

Bradykinin is a potent bronchoconstrictor. Its action on the guinea-pig's lung is not blocked by atropine or antihistamine but blocked by acetyl salicylates. It will be most interesting if it can be shown that in bronchial asthma there is a local release of bradykinin from the lung tissues and that the beneficial effect of corticoids is due to its interference with the bradykinin metabolism. However, no clear evidence has

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been produced yet on this point. You may want to know why pharmacologists do not quickly obtain a clear understanding on this. I am sure they will try, but bradykinin is an illusive substance, much more than histamine. It is released in extremely small quantities and yet it is very unstable in the blood stream and tissues for there are enzymes which will inactivate it in no time. It requires a lot of knowledge and experience to work with this substance. Perhaps this is why progress in this subject is very slow.

Alternatively, scientists can approach this problem by following the examples of studying the metabolism of acetylcholine, histamine and serotonin where specific blockers like atropine, antihistamine and lysergic acid diethylamide are employed to show their connection respectively. Surely, it will be a sound indirect approach if one can be found which will have effect against bradykinin.

Fortunately such a blocker was recently discovered in Japan and is called 'pyridinol-carbamate'. It is a weak basic synthetic compound which has been chemically characterized as 2, 6-bis (hydroxymethyl) pyridine-bis (methylcarbamate). A group of Japanese workers headed by Professor Takio Shimamoto of the Institute for Cardiovascular Diseases and Department of Medicine, Tokyo University Medical and Dental School has just completed a series of experimental and clinical tests on this substance. Their results show that it has specific anti-bradykinin activity on the vasoconstrictive response of rabbit's ear

veins. Clinically they have treated 90 cases and found benefit in some of them, particularly in angina pectoris, in inflammatory conditions like rheumatic fever, rheumatoid arthritis and in purpuric states.

These results further confirm that bradykinin may form a link in some of these diseases which are benefited by pyridinol-carbamate. From the report I read I can see that the exact mode of anti-bradykinin action of pyridinolcarbamate is still not very clear. Whether or not corticoids, like pyridinolcarbamate, exert any action against bradykinin has not yet been determined by these workers. These findings nevertheless look very encouraging.

In short, I can say that the story of bradykinin and its relationship to a number of diseases is most revealing. It may well form a bridge for us to cross over to reach our goal of a clear understanding of the pharmacological actions of corticoids.

In conclusion, Mr. Vice-Chancellor, Ladies and Gentlemen, may I say that this subject of pharmacological actions of the adrenocortical steroids is a most interesting and significant one. In my view, it has harboured a mine of knowledge of basic biological and medical importance. It therefore poses a great challenge to pharmacologists. We in the University should accept this challenge and if we pool our resources and strive hard, I am sure we will be able to achieve something, even if not anything spectacular.

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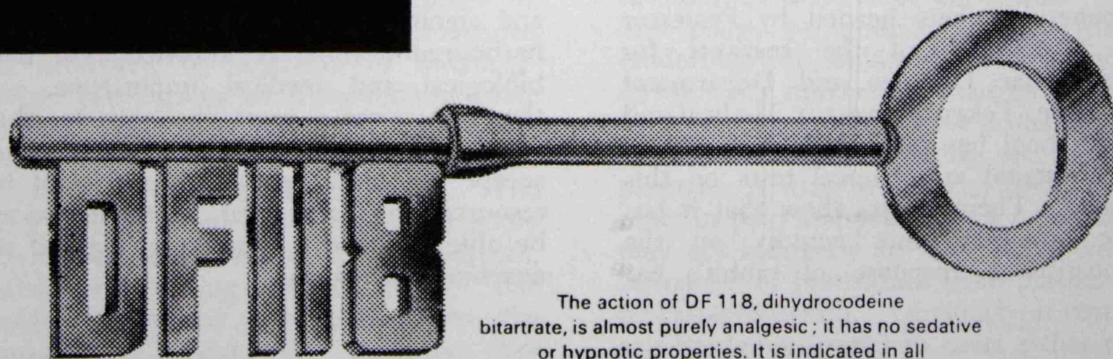
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Searle

OUR OWN MEDICAL STUDENT RESEARCH TRAINING

DAVID YIP *

In his article "Medical Student Research Training" (ELIXIR 1965-II), Dr. Chauncey D. Leake of the University of California School of Medicine fully brought out the value of Research Training to the future doctor. The Editors remarked that "If publication of this article be an indication of our students' interest in the deeper fields of medicine, then perhaps our teaching staff, after reading this article, might rally to the support and promotion of such a program" and that "The readers are left to decide on the desirability and practicability of introducing a similiar scheme into our Medical School."

Dr. B.P.N. Mo of the Department of Physiology, who requested Dr. Leake to elaborate his idea in the article to the Elixir, with support and encouragements from Professor K.K. Cheng, was perhaps the first to respond to the Editors. He discussed with several of the First Year Medical Students and asked them if they would be interested in working on simple research projects during their Summer Vacation. Four of us volunteered: we divided ourselves into two groups, one with Dr. Mo and the other with Mr. K.M. Li as Supervisors.

My group started off looking for a suitable problem to attack. The MAIN difficulty we met with was a lack of time, for we have to study seriously for the First M.B. Examination during our Summer Vacation. Our Library work was time-consuming and fruitless; this was because we knew little as how to go through Literature properly and when we did find something that could be done, it turned out that either it took months to finish or it required elaborate instruments. Finally, it was our Supervisor, Dr. Mo, who chose the project for us, and led us through the preliminary library work which provided background reading for our project.

Our project was to observe the effects, if any, of *B*-adrenergic blockade on the stimulating effects of acetylcholine on the isolated atropinised rabbit heart. It is well known that acetylcholine has a negative inotropic and chronotropic effect on the heart. However, Hoffman,¹ in 1945, observed that this negative effect was followed by a slight positive effect. He further observed that, upon atropinisation, small doses of acetylcholine had no effect on the heart, but larger doses regularly produced a positive effect on cardiac contractility. (We are sure some of our seniors must have observed these phenomena in their rabbit heart perfusion study too.) He therefore postulated and later detected the presence of an adrenaline-like substance in the heart perfusate when the heart was stimulated with acetylcholine. Recently, *B*-adrenergic receptors have been claimed to be present in the mammalian heart. Our object, then, was to see if there was any relation between the stimulating effects of acetylcholine and the *B*-adrenergic receptors.

The apparatus we used was a Student Heart Perfusion Apparatus. We made the following modifications: a thermostatically controlled water bath was included in the warming circuit for the perfusion fluid, a long-running kymograph was used, and a polythene tube was inserted into the perfusion cannula to enable us to inject drugs more conveniently. Thus, we have transformed the Student Heart Perfusion Apparatus into a modified version of the classical Anderson Coronary Apparatus. We were left most of the time to do what we pleased; our Supervisor only gave instructions when we were obviously out of the right track. This was the case even when we were running the experiments. As Dr. Leake put it, one great value of research training is the building up of independent thoughts and actions. Should we be told what to do all the time, we would

become laboratory technicians and our own judgment and initiations would be hindered.

We began our series of experiments by trying to reproduce the stimulating effects of acetylcholine. The effect of small doses of the drug on an isolated perfused rabbit heart before and after atropinisation was easily obtained. But we found that the heart did not respond to large doses of acetylcholine, sometimes not even to adrenaline, and nor-adrenaline, both of which should greatly increase the cardiac contractility. Obviously something was wrong somewhere. But what's wrong and where? We paused and thought, but no solution came. Our Supervisor knew the solution, but when he was asked he did not divulge it; instead he gave us some hint and asked us to figure it out ourselves. We sat down and watched the heart beat. Suddenly an idea came to mind. We injected some distilled water at room temperature into the perfusion cannula. The heart slowed down and beat less forcibly. Obviously the distilled water lowered the temperature, ionic concentration and hence osmotic pressure, and oxygen content of the perfusion solution. This disturbed the cardiac muscle and weakened its contractility. When we injected a large volume of acetylcholine solution into the cannula, this weakening action must have masked the stimulating effect. So the next day, we made solutions which were more concentrated, so that the required doses were contained in small quantities of the solution. This time we succeeded in duplicating the stimulating effect.

Then we proceeded to observe the effects of *B*-blockade. The blocker used was "Inderal". Injection of a large dose depressed the heart greatly. By trial and error, using fresh specimens every time, we determined the largest dose that apparently had no effect on cardiac contractility. Using freshly isolated hearts, after running a control in each, we applied this amount of blocker and found that the stimulating effects of acetylcholine were abolished as well as those of adrenaline and nor-adrenaline. However, Calcium ions still produced enhanced contractility. Hence the blocker had produced the abolition of stimulating effect of acetylcholine not by acting

on the cardiac muscle but by blocking the *B*-receptors which were either directly or indirectly stimulated by acetylcholine. Since *B*-receptors were normally not stimulated by acetylcholine and Hoffman observed that acetylcholine released an adrenergic substance from cardiac muscle (von Euler² postulated that acetylcholine releases this substance from the chromaffin cells in the cardiac muscle), we speculated that the stimulating effect of acetylcholine was caused primarily by the release of an adrenergic substance which secondarily stimulates the *B*-receptors. Thus *B*-blockade should abolish this stimulating effect (which was the result we obtained). After reproducing the results in about fifteen rabbits, we felt that we have obtained sufficient data to support our hypothesis.

The next thing we should do was the writing up of a formal report of our investigation. Dr. Leake remarked that the publication of results gives the greatest satisfaction. However, after further considerations, we thought that our work was rather simple and incomplete. We therefore decided to leave the writing up for the time being and intended to work more on it during the next Vacation. Meanwhile we would like to give a preliminary report of what we have done and how we have benefited from it so that our fellow students may consider undertaking Research Training should time and opportunity permit.

Thus we have not obtained the greatest satisfaction. However, we have greatly enjoyed the experience not because we have learned much apart from a little about the research methods or obtained important results but because we believe we have done something worthwhile, something we have never done before. We had the opportunity of learning how to think and read scientific articles critically, though we must admit we are still far from being able to look at things scientists do, but nevertheless we have tried to learn and made a good start.

On the whole, we think that the Research Training has done us good although it had taken up some of our time, but this was made up by sacrificing some of our time spent in the cinema or on the beach. We

OUR OWN MEDICAL STUDENT RESEARCH TRAINING

feel that the training is a worthwhile undertaking, both on the student's and on the teacher's part because besides the inherent value of research training, it brings the staff and the student closer together so that each knows more about the other party and this will help in the teaching and pursuit of the medical course.

However, the setting up of a formal Programme in our Medical School would present difficulties. The most important is the time factor. Clinical students have no Summer Vacation. Therefore it would be difficult for them to find time to do research work. Pre-clinical students are not very familiar yet with the basic medical sciences after their first year; besides the First M.B. Examination is pressing on them and they have to study seriously during their Summer Vacation. The Second Year Students could afford the time in their Vacation, but they have not yet learned the clinical sciences; therefore, they could not undertake any investigation in the clinical fields. However, we are sure that these difficulties could easily be taken care of by co-operation between staff and student and we all look forward to the establishment of a Research Training Project in our Medical Faculty similar to those in other progressive

Medical Schools.

- * First Year Medical Student, 1966, who has volunteered to take part in a Student Research Project with the Department of Physiology.

References

1. *Hoffman*: AM. J. PHYSIOL 144: 189-198 July '45
2. *Von Euler*: U.S. Cardiologia 21: 252, '53

Acknowledgement

We, the students who have taken part in this Research Training, would like to thank Professor K.K. Cheng for his kind support and encouragement all through our work and for spending his precious time before his Vacation going through this manuscript. We owe many thanks to Dr. Mo, whose kind consideration and patience have made our work possible and to all the staff of the Department of Physiology who provided us with all the facilities and advice we needed. Last but not least, we must thank Dr. C.C. Gruhitz of the Department of Pharmacology for supplying us with "Inderal".

* * * * *



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Extracts from the Report on ARMSA Inaugural Conference

(Original Report was submitted by Peter Chang to the Medical Society Committee)

Inauguration. The Asian Regional Medical Student Association (hereafter referred to as ARMSA) came into existence on 14th March, 1966, when the Inaugural Conference was opened by Professor Lim Kok Ann, Dean of the Medical Faculty, University of Singapore.

Aims. The aims of ARMSA are stated very clearly in the constitution, but they can be condensed into two simple words: 'contact' and 'cooperation'. Contact and cooperation among medical students of Asia and Australia, so that they can be more united in serving the cause of medicine and humanity.

Structure. ARMSA at present consists of four member countries, these are the Foundation Members: Australia, Hong Kong, Malaysia and Singapore. The highest authority being the General Assembly, which will meet annually.

The Executive Board consists of:

President — Mr. A. Rajadurai (Singapore)

Vice-President — Mr. Chan Yuen Seng (Malaysia)

Secretariat and Treasury — Singapore

General Secretary — to be decided by Secretariat.

Directors of all the Standing Committees (Directors are decided by the Member Countries concerned)

Standing Committee on Publications (SCOP) — Malaysia

Standing Committee on Professional Exchange (SCOPE) — Australia

Standing Committee on Medical Education and Health (SCOMEH) — Hong Kong.

Where possible, 3 other representatives from different member associations.

Standing Committees.

- SCOP:
1. Publish ARMSA news regularly.
 2. Publish 'Medicasea' before 1st May, 1967.

- SCOMEH:
1. Prepare paper on Medical Education in Asia and Australia, have it ready by July, 1966, for exchange purposes by SCOPE.
 2. Collect information concerning Medical Education and Health in Asia and Australia.

SCOPE: Take care of all professional exchanges in member countries.

Our Role. Hong Kong will be the host country for the 2nd General Assembly, which will take place in the last two weeks of June, 1967. We also form the Standing Committee on Medical Education and Health this year. A National Exchange Officer is appointed to take care of all exchange programmes between Hong Kong and other member countries. We will be responsible for organising an open competition to obtain the best design of an ARMSA crest and ARMSA motto.

Our Expenses.

An annual subscription of US\$25.00.

Our donation of US\$5.00 to the Prize of the best design of an ARMSA crest.

All the expenses of the Standing Committee on Medical Education and Health.

Fund for organising the 2nd General Assembly of ARMSA.

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'In addition, and most important, *he felt well*. He did not feel like the weak, washed-out patient that I have come to expect after intensive diuretic therapy.'

Jose, A.D. (1960).
The Use of Aldosterone Antagonists in Cardiological Practice. Paper presented before the Cardiac Society of Australia and New Zealand, October 1960.

Conventional diuretics act on the proximal renal tubule. They allow reabsorption of sodium and water and loss of potassium to continue at the distal tubule. But Aldactone-A (brand of spironolactone), added to the regimen, acts at the distal tubule, and prevents excessive sodium reabsorption and potassium loss.

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ARMSA TRIP RETROSPECTION

By PETER CHANG

It was Tuesday morning, 15th March, 1966. I gave up all hope of going to Singapore to attend the Inaugural Conference of the Asian Regional Medical Student Association (in short, ARMSA). The Local Immigration Department told me that my application for a visa to Singapore was rejected, for reasons unknown.

That afternoon, a disappointed man, I walked into the Pathology lecture room to sit for the class test in Parasitology, even though I was exempted from the test. It was not a wise thing to do, especially when my mind was empty. Somehow I wanted to be courageous (is courage not often the disguise of stupidity? or vice versa?). My dear classmates were surprised to see me. "You are supposed to be in Singapore." Professor Gibson said the same thing when he saw me, and he added, "I am utterly disappointed."

The next morning, 16th March, Wednesday, the telephone rang hard and woke me up. I answered the phone, semi-comatosed. What did I hear? Visa ready? I must be dreaming!

The plane, flight number CX73, CPA, took off at 6.50 p.m. I could still see people waving hands and handkies.

* * * *

After a transit at Bangkok, I arrived at Singapore airport at 11.15 p.m. Having settled all the formalities, I suddenly realized that no one would come to meet me since I did not send any telegram. I had to find my own way.

When I got into a taxi, the porter told me: "Pay according to the meter, not more." The taxi driver did not know where was King Edward VII Hall (which was a hostel for clinical medical and dental students of the University of Singapore,

hereafter referred to as K-E Hall). After some explanation, he finally understood the words "hostel" and "university" in Cantonese.

On arrival, the taxi driver said to me. "The meter reads \$5.50 Malay, now it is past midnight, therefore you pay me \$7.00" I did not argue.

The watchman at the hsootel could not speak much English. A law student named Vijendran (Vije) came down to help. Vije told me that I was standing in front of Raphael's Hall. K-E Hall was on the other side of the road. He just came back from a Student Union Council Meeting, which had approved a subsidy to the ARMSA Inaugural Conference.

Vije again put me into a taxi. This time he used Malay to instruct the driver to ensure against mistakes. Before the car drove off, Vije said to me, "Pay according to the meter." He probably could not see or understand the sardonic expression my face carried at that time.

At 12.30 p.m., I had my first look at K-E Hall. The taxi pulled up right in front of a building. I paid the fare plus the past-midnight extra, then I walked right into the building. Before I went far, my eyes caught hold of a silhouette of a girl in pyjamas. What a mistake! I turned my back at once and ran out to the verandah.

There I saw five young man, squatting or sitting on the ground. I interrupted, "Excuse me, do you happen to know Mr. Tan Hock Beng, the one in charge of the ARMSA Conference?"

One of them shot up, fired, "Are you from Hong Kong? We are just talking about you. What took you so long to come? Why didn't you send us a telegram. Come, we have a room reserved for you." That was Tan Hock Beng. They were the preparatory committee.

I was taken to Room D45, a double room. My room-mate named Wang Peh Yuen was all naked except for a towel. People called him Frusto Wong. Later I found out that students of K-E Hall often walked about their quarters with only a towel at the waist. That, I believe, is something for HKU hostels to imitate.

Frusto was a very friendly chap. He made me feel at home in no time. All the delegates stayed near by. Only four countries took part in the ARMSA Inaugural Conference, namely, Singapore, Malaysia, Australia and Hong Kong. Quite a few people came to my room that first night, among them was John Lynch from Australia, but he came as Official Observer from the International Federation of Medical Student Associations.

Tan Hock Beng gave me copies of the drafted constitution, by-laws and standing orders for meetings of ARMSA. These were drafted during my absence, and would be amended and adopted the next day. I took a bath, and went to bed.

* * * *

I got up at 7.30 in the morning, had breakfast with Frusto and a few local students. The common language was English. Very few students spoke Chinese among themselves. Singapore is a quadrilingual country, where every official poster is in 4 languages, namely, English, Malay, Chinese and Tamil. It is therefore inevitable that their English should be blended with some Malay or Chinese, just like the Anglo-Cantonese practised here.

Meeting began at 9 a.m. in the K-E Hall study room. The eighteen people present were all gentlemen, 8 from Malaysia, 7 from Singapore, 1 from Australia, 1 from Hong Kong and 1 from IFMSA.

The meeting went on in a most friendly fashion. Most of the things discussed upon were agreed. Negative vote was a rarity, while unanimity was the rule.

Delegates were addressed not by their names, but by the name of the country that they represent. You could hear "what does

Malaysia think about this" or "Singapore would like to second the motion moved by"

The ARMSA Inaugural Conference formally ended at 2 a.m. Saturday, 19th March, 1966.

The Friday night session was the most eventful one. It was the evening when the various ARMSA officials and Standing Committees were appointed, and when Hong Kong gave the word to host the 2nd ARMSA Conference.

On Saturday, we went around the hospitals and sceneries. The hospitals were not very different from those in Hong Kong. The sceneries included the Tourist Center, the Aquarium, Jade House, Tiger Balm Gardens and the Museum.

That evening, I attended a formal dinner in K-E Hall. It was the exact equivalent to the High Table dinners of HKU hostels. The Master, that is the warden, spoke first, followed by a vote of thanks given by Robert Hall to the host on behalf of all ARMSA delegates, and a speech by the new ARMSA President. During all this talking, the gentlemen in the audience were not exactly docile. They were very expressive, constantly adding comments and ejaculations, one of which was "Yankies, go home!"

After the dinner and cocktail, a dance went on in K-E Hall. It was an informal dance. For one moment, confusion dawned. It was difficult to tell whether I was at one of those HKU social gatherings, dreaming of Singapore; or I was truly in Singapore, dreaming of a HKU social gathering.

I retired to my room at 12 o'clock in preparation for a long journey the next day, when my Malaysian friends would take me up north to Kuala Lumpur.

* * * *

So far I have not mentioned much about the Malaysian delegates. They were a jolly joyous group, led by Wong Cheung Lim, the chief delegate. During my 3 days' stay in Singapore, they took me around town twice in their cars.

ARMSA TRIP RETROSPECTION

On going north, they put me in one car, and Robert Hall in the other. We went by the main road, crossed the border, took a ferry, and then drove into the mainland. The people there were still not quite used to the idea that Singapore and Malaya are separate countries. They spoke to each other like fellow-countrymen. On passing the border, I found that all road signs and notices were in Malay, which even some Malaysians did not completely understand. Some words you can guess, e.g. taksi for taxi, telepon for telephone. In fact new words were manufactured by the hundreds to suit the nationwide use of the language.

The road was lined by rubber trees. Rubber trees, rubber trees, and rubber trees! Miles and miles of them. Yuen Seng told me the story that a driver may fall asleep when driving along such a road. I was also given a lecture on how rubber plantations were run. Most enlightening.

After lunch at a road-side restaurant, we soon came to a town named Muar, the home of Fang Lok, one of the gang. If my Malaysian friends and Bob should by chance read this article, I am sure they will remember the two beautiful young ladies whom Fang Lok introduced us to during our very short stay. Somebody even suggested that we should stay longer. Who cared going to K-L (the short for Kuala Lumpur)? Eventually overcome by sensibility, we went north.

At twilight, Malacca came forth to greet us. There you see buildings reminiscent of the old sea port. My hosts went to visit a schoolmate in Malacca, named Cheng. It was Sunday in Malacca. Cheng took me to evening mass at St. Francis Xavier's Church. Once again I had doubts as to where I was, for with eyes closed, I heard the same prayers said, the same hymns sung and the same gospel read, as I have been hearing every Sunday. Is ours not a small world?

The cars got moving again, destination K-L. My fellow travellers sang all sorts of songs, told all sorts of jokes. It was a "fantas" trip. "Fantas" was a frequently used word in their conversations, it meant fantastic.

Suddenly the head lights went wrong. We were stuck in the middle of the way. Fortunately a solution came up in no time. When another car drove by, we quickly

followed. That was how we travelled for the rest of the journey, seeing by other people's light. When the journey seemed never-ending, it ended. I settled down in Wong Cheng Lim's house in Petaling Jaya. The next two days I spent in K-L were fantas days. They took me to shopping centers, to the University of Malaya, to the Medical Faculty and to the Students' Union Office. The Malayan students certainly had ideas. They use signs instead of words on toilet doors (see diagram).



One thing proved their organising ability very first class. On Monday afternoon, they started to think of giving Bob and me a party. That evening, a most presentable party was all ready. Just imagine, we HKU students took days to organise a social function! Something we should learn?

I took a night train from K-L back to Singapore to catch my plane, which took off for Hong Kong on Wednesday morning, 9 o'clock.

* * * *

I am very grateful to all my friends in Singapore and Malaysia who played host in a most generous and imaginative fashion. I wish to return their kindness when they come to Hong Kong next year for the 2nd ARMSA General Assembly. I also thank the H.K.U. Medical Society for giving me such a pleasant and memorable assignment, above all, I thank all those who contributed to making my trip possible.

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**gives
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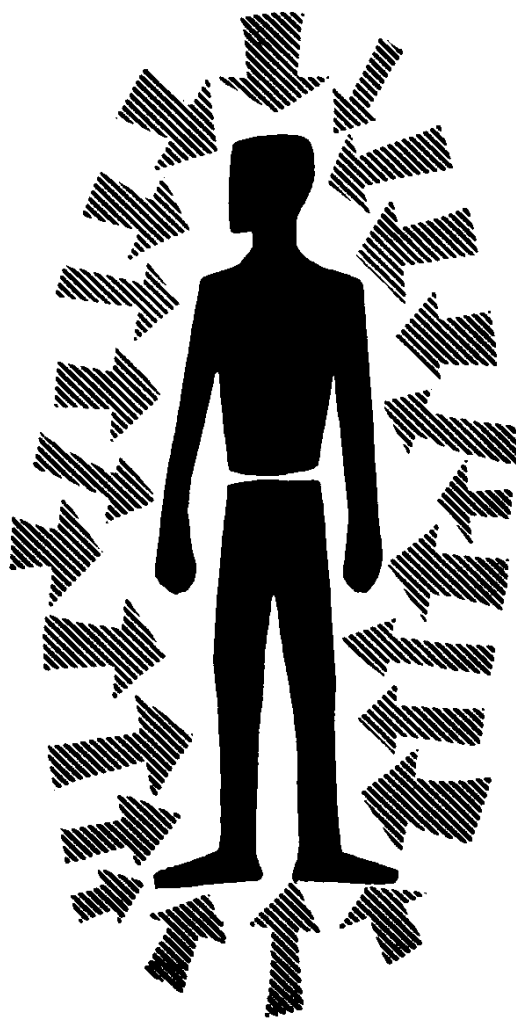
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*Calif. Med. (1961), 95, 224.



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ARMSA needs You !

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ARMSA Recruit Form

Name (*In Block*):.....(*In Chinese*):.....

Address:

Year:..... Tel:.....

I would like to enlist as a member of the:

- Standing Committee on Medical Education and Health (SCOMEH)
- ARMSA 2nd General Assembly Organising Committee.

Date:.....
Signature

* * * * *

At the Emergency Meeting of the Medical Society called on 31st March, 1966, to receive the Report of the ARMSA delegate, the following office-bearers were elected to handle the affairs relating to ARMSA:

Director of the Standing Committee on Medical Education and Health PETER CHANG

National Exchange Officer ALAN LIANG

Chairman of the ARMSA 2nd General Assembly Organising Committee CHRISTINA WANG

WOULD YOU LIKE TO HAVE US\$15.00?

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US\$10.00 Prize for ARMSA crest design

US\$ 5.00 Prize for winner of ARMSA motto design

* * * * *

THIRD WORLD CONFERENCE ON MEDICAL EDUCATION

The Third World Conference on Medical Education will be held in New Delhi, India, on November 20th—25th, 1966. This Conference is organised by the Medical Students, Society of the American University of Beirut, and is recognised by the International Federation of Medical Student Associations.

Any medical student who is interested may attend this conference, but all expenses have to be taken care of by oneself. Application for attendance may be forwarded to the Hon. Secretary, Medical Society. c/o Students' Union, University of Hong Kong, Hong Kong.

* * * * *

WHAT KIND OF A SPECIE IS A SURGEON?

John Ray: "A good surgeon must have an eagle's eye, a lion's heart, and a lady's hand."

* * * * *

An ophthalmologist has a reputation of charging his patients heavily. One day a patient decided to ask for a reduction. To which he explained,

"You see, the reason I have to charge you so much is that I can replace for you a glass-eye which look so real that your friends wouldn't be able to tell it from your real eye. Just you try telling which of my eyes is a glass-eye."

"It's the right eye."

"Well, you happen to be correct. But how do you tell the difference?"

"It's the only one with a little bit of sympathy."

* * * * *

Having well-prepared for the First M.B. Exam. by burning the midnight oil for a week, a confident candidate was seen to go on all fours inside his room on the eve of the examination. His hostel-mates asked what he was looking for and were told that he had lost the collar-bone from his set of skeleton. So they joined him in turning over the room but without avail. Finally they asked him whether he was sure he lost it inside the room. He said, "Oh no, I lost it in the dark corridor outside, but the light is so much better to look for it here."

* * * * *

An orthopaedic surgeon was seen after a long party to be walking down the street with one foot in the gutter and the other on the pavement. A passer-by put him right on the pavement. The surgeon sighed in relief: "Oh thank Goodness, for a while I thought I had broken my leg."

A GRAND WARD ROUND IN PRAISE OF GREAT MEN



by the "Square" Son of Cheung

MANSON WARD

SIR PATRICK MANSON

1844 - 1922

Charming personality, courteous and kind, shrewd in memory and induction.

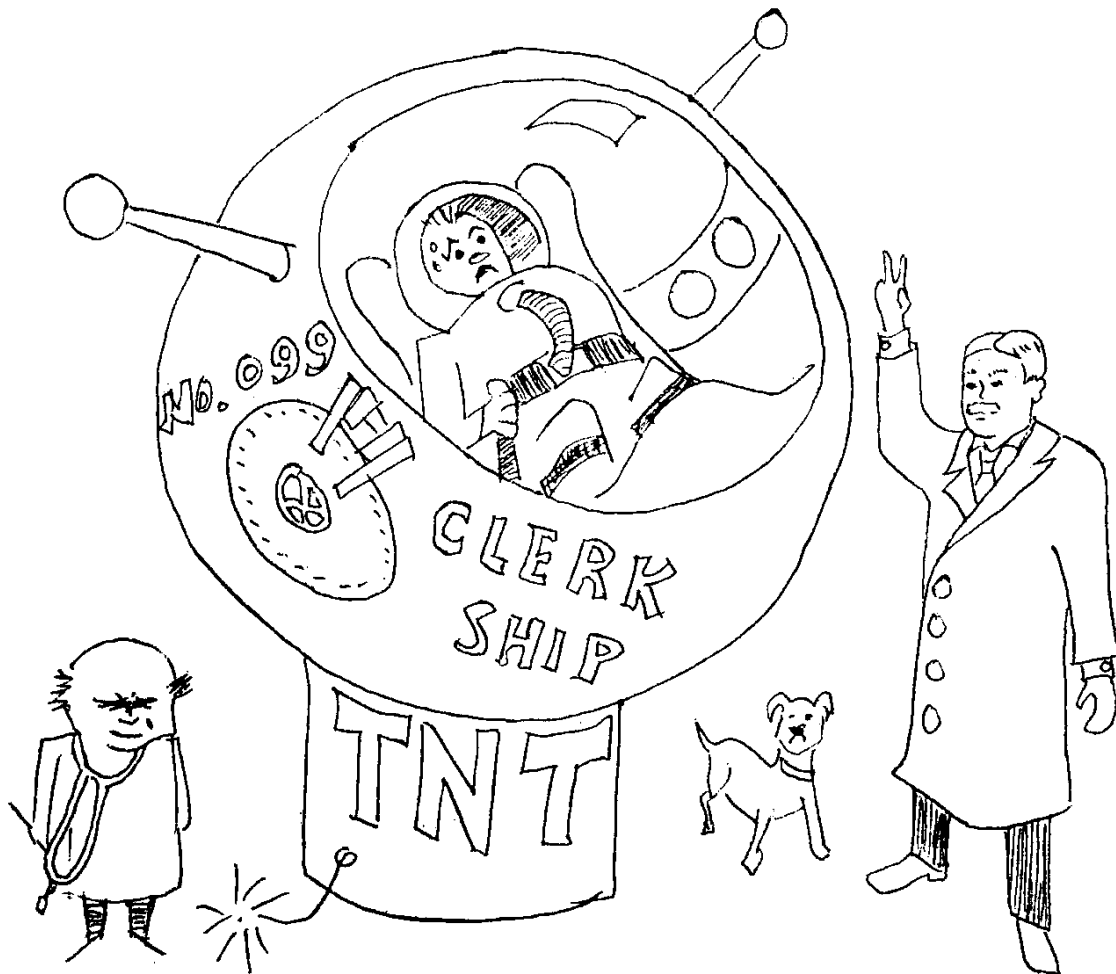
Elected F.R.C.P. in 1895, F.R.S. in 1900. Conferred LLD (HKU) in 1919.

Helped to form the H.K. Medical Society and was the first President.

One of the founders of the H.K. College of Medicine, and was the first Dean.

Important contributions to the study of Tropical Diseases, especially Trypanosomiasis, Schistosomiasis, Malaria, and Filariasis.

A Scotsman but spent many years in the Far East, one of his pupils was Sun-Yat-Sun.



"That young man has brains and ability, so make the best of him."

— Sir Patrick Manson

HUNTER WARD

JOHN HUNTER

1728 - 1793

Energetic, diligent, fiery-tempered, and a Scotsman.

Anatomist, pioneer in vascular surgery, and regarded as patron saint of British surgery.

A great champion in scientific surgery.

Elected F.R.S. in 1767, commemorated by Huntarian Oration and Huntarian Professorship.

Distinguished pupils include John Abernethy, Edward Jenner.

Described Hunter's Canal, and the primary chancre of syphilis.



“As I was walking about the room I cast my eyes on a looking glass and observed my countenance pale, my lips white, and I had the appearance of a dead man looking at himself.”

— John Hunter during an attack of angina pectoris.

BLAND-SUTTON WARD

SIR JOHN BLAND-SUTTON

1855 - 1936

Modest, diligent, persevering, zealous, and self-reliant.

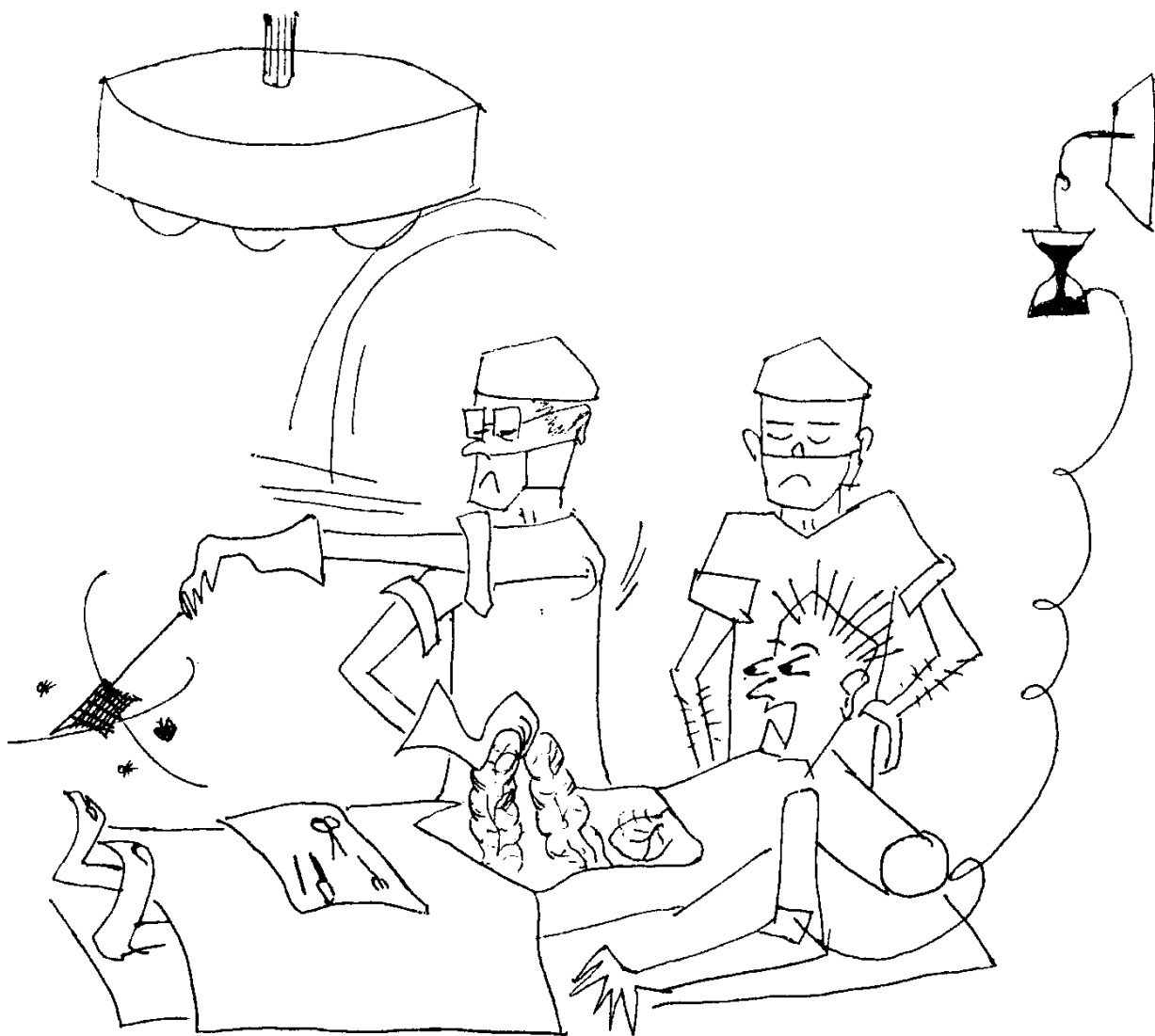
Surgeon, gynaecologist, zoologist, pathologist, and dental surgeon.

President of the Royal College of Surgeons in 1923-1925.

At one time the Vice-President of the Zoological Society.

Hunterian Professor, Hunterian Orator, Bradshaw Lecturer, Jacksonian Prizeman.

A pioneer in gynaecological surgery, and the first to describe Tubal Mole.



'Some surgeons cut you up like mutton,
But that is not the way with SUTTON,
Bland as his name, though stern of eye,
He couldn't bear to hurt a fly.'

— Sir John Bland-Sutton in *Punch*, 1926, 170, 81.

BRODIE WARD

SIR BENJAMIN BRODIE

1783 - 1862

Surgeon to King George IV and William IV.

Once President of the Royal College of Surgeons.

Had been President of the Royal Society.

Was the first President of the General Medical Council in 1857.

Described Brodie's Abscess, and Serocystic Disease of the Breast.

"The first effect usually produced on the mind of a medical student is that of being bewildered by the number and variety of subjects to which his attention is directed. But have patience for a while, keep your attention fixed on the matters which are brought before you and in the course of a short time there will be an end of the confusion."

— Sir Benjamin Brodie



JONES WARD

SIR ROBERT JONES

1857 - 1933

Welshman, Father of Orthopaedic Surgery.

Scientific thinker, inventive craftsman, great teacher.

Full of humour, optimism and patience.

Elected F.R.C.S., knighted and later became a baronet.

Pioneer in the use of X-ray and in the system of school hygiene.

Described Jones fracture.

“To keep young it is very necessary to see the humorous side of our work.”

— Sir Robert Jones



MACKENZIE WARD

SIR JAMES MACKENZIE

1853 - 1925

Scottish physician and a heart specialist.

Invented the Polygraph; described and named 'Extrasystole'.

Famous writings on the understanding of the mechanisms of symptoms and the understanding of their prognostic significance.



"A man with angina pectoris is like one of those old martyrs confined in a room the walls of which gradually folded inwards and crushed him."

— Sir James Mackenzie

LISTER WARD

LORD JOSEPH LISTER

1827 - 1912

Yorkshireman who revolutionised surgery by his antiseptic technique,

Patient, attentive to details, excellent in judgement;

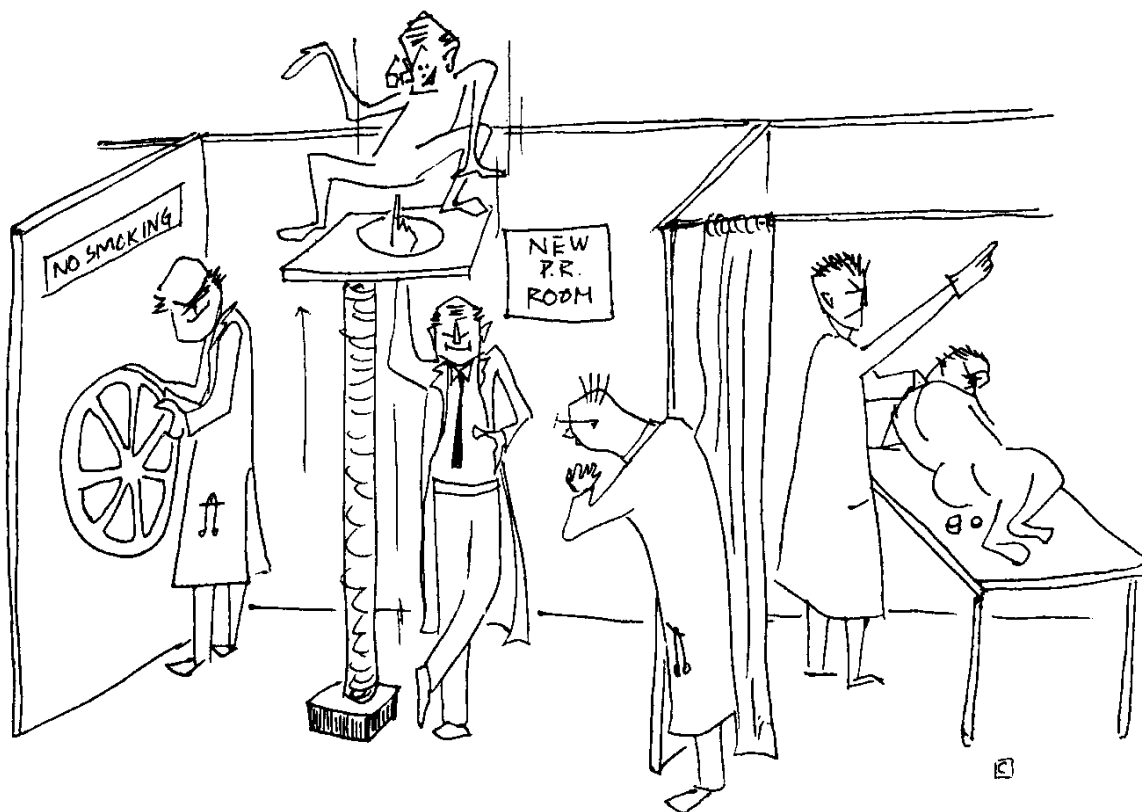
Persevering and confident amidst constant bitter oppositions in his life,

Elected Fellow of the Royal Society at the age of 33.

Became President of the Royal Society in 1895.

Was awarded the Order of Merit.

Introduced the use of Carbolic acid in the treatment of wounds.



“If the day were twice as long I should have abundant occupation for it, and such an occupation I believe will be valuable to me for life, if I live to practise surgery.”

— Lord Joseph Lister

REFERENCE

Bulletin of the H.K.C.M.A. Vol. 8, No. 1, 1956, "In praise of Famous Men" by Prof. F. E. Stock, F.R.C.S., F.A.C.S.

"The Beloved Physician", R. M. Wilson.

"Sir John Bland-Sutton", W. R. Bett.

"John Hunter", Roodhouse Gloyne.

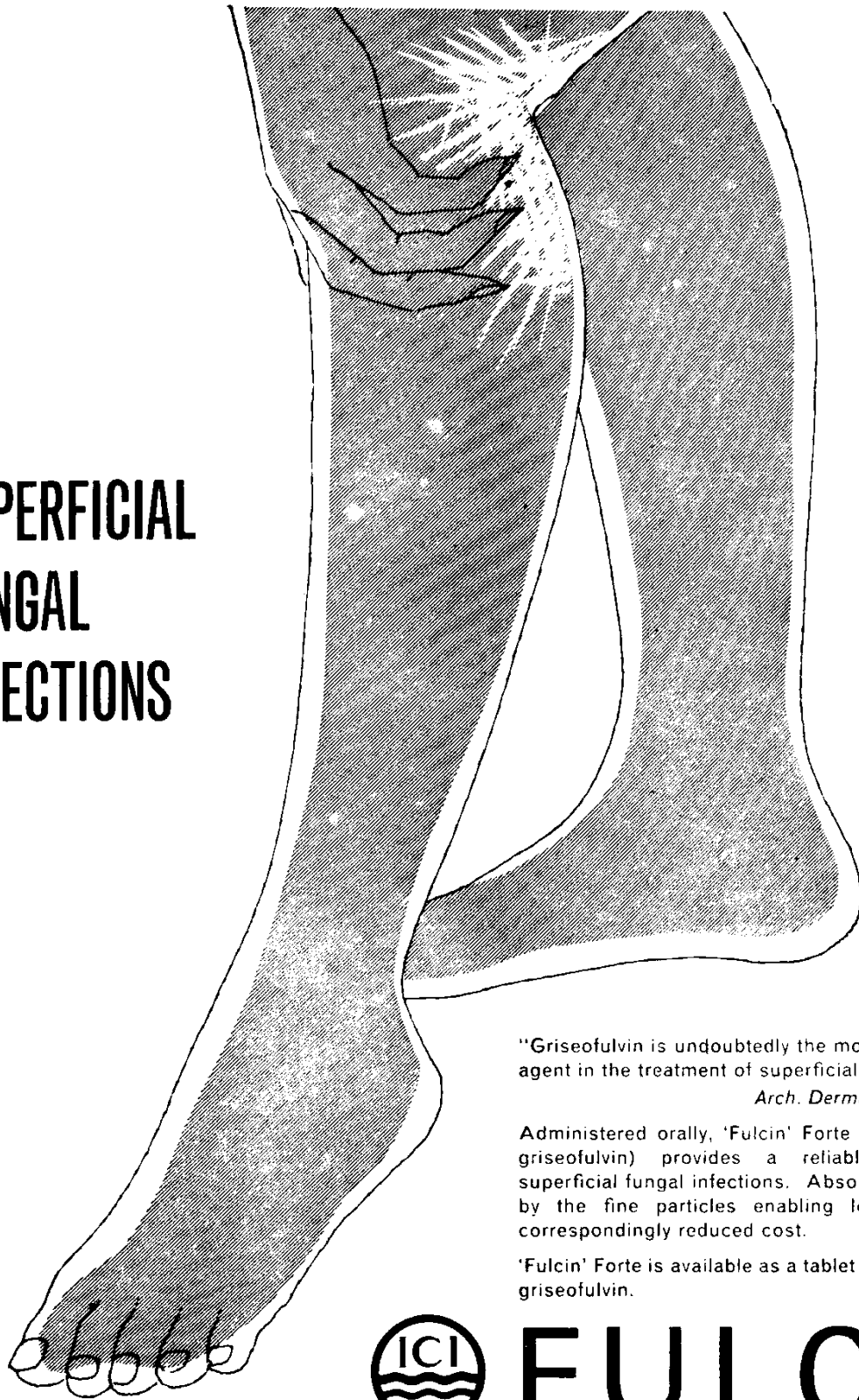
"Joseph Lister", Kenneth Walker.

"Life and Work of Sir Patrick Manson", Manson-Bahr and Alcock.

"Sir Benjamin Brodie", Timothy Holmes.

"The life of Sir Robert Jones", Frederick Watson.

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Arch. Dermatol. (1963), **87**, 179.

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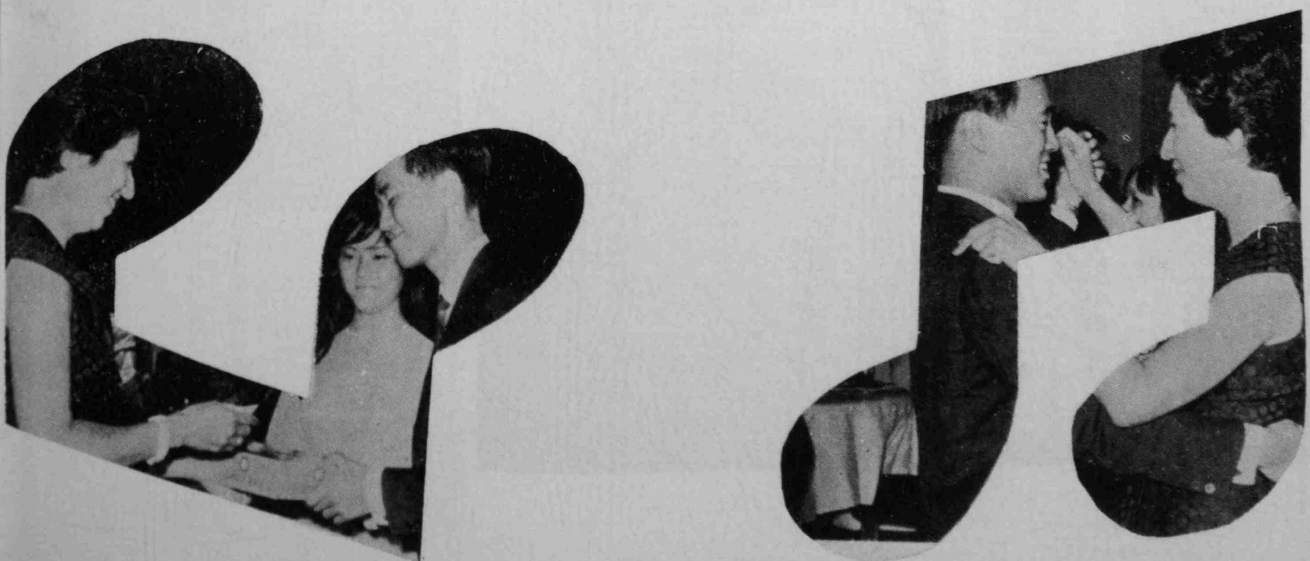
In Plea



The Medic Band



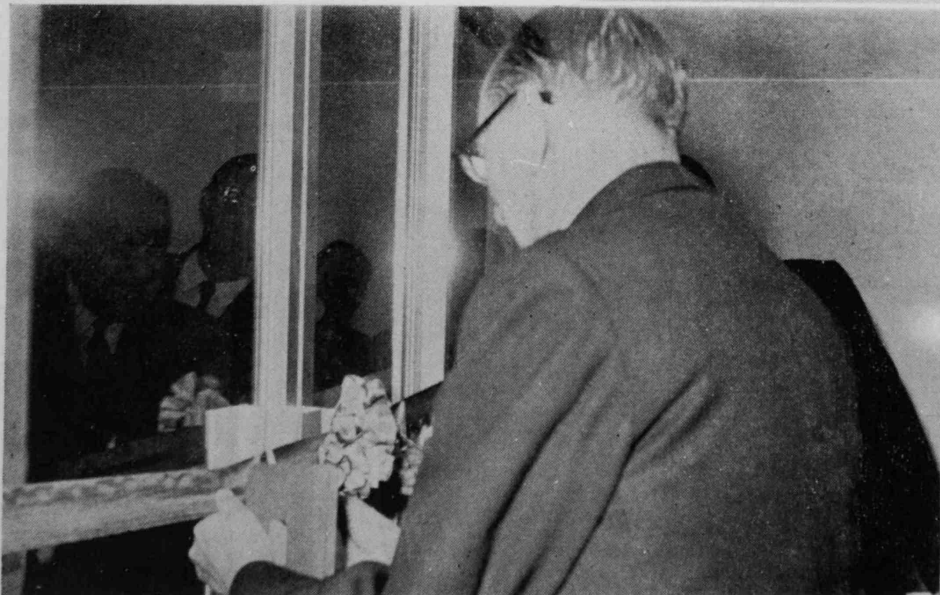
at the Medical Ball





Members of the Medical Society went to cheer up the children at Sandy Bay Children's Centre with carol-singing and presents.

Marching to officiate the Opening of the New Medical Students' Centre.



Ribbon-Cutting Ceremony.



1.

LET THAT GRAY MATTER WORK

AND

WIN A PRIZE

The following photographs were taken at Five different hospitals in Hong Kong with the camera pointing due north. Name these Five hospitals according to the Number labelled for each.



2.

Prizes: *First* —'KNOX' Movie Screen

Second—'REX 300' Exposure Meter

Third —2 Bottles 'LUCIEN LELONG OF PARIS' Perfume



3.

Rules: 1. Entries limited to doctors and medical students.

(Therefore, in your entry, kindly specify which Category you belong to. Medical Students please also state which year).

2. Send your entry to the Editors, "Elixir", Medical Society, c/o Students' Union, University of Hong Kong, Hong Kong.

3. Competition closes on 15th October. Answers and Names of winners will be announced in "Elixir, 1966, Issue No. 2".

4. All correct entries will be subjected to a lucky draw to determine the winners. All decisions of the judges will be final.



4.

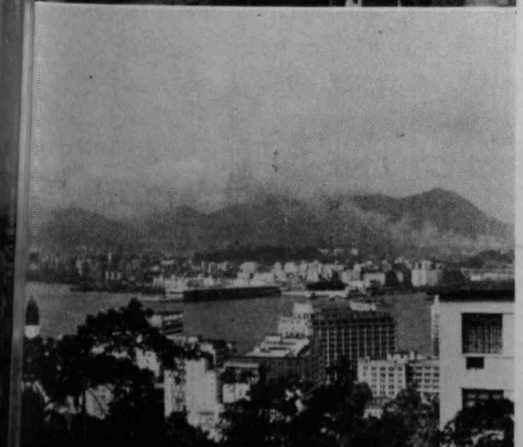
Acknowledgement:

The Editorial Board wishes to acknowledge grateful thanks to the following donors for the prizes of this competition:—

Jardine, Matheson & Co.—'KNOX' Movie Screen.

U. M. Co., Ltd.—'REX 300' Exposure Meter.

Pfizer—2 Bottles 'LUCIEN LELONG OF PARIS' Perfume.



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Panorama of Kowloon Walled City

CHILD CARE CENTRE IN KOWLOON WALLED CITY

BY A MEDICAL STUDENT

In the summer of 1965, an opportunity brought me to work at the Child Care Centre in the notorious Walled City of Kowloon. It is the carbuncle of Hongkong—a dark, filthy place where illegal dealings are rife.

There are very few official data on the Walled City. The information in this article comes mainly from newspapers and people who have worked there for many years.

The Walled City occupies an area of $6\frac{1}{2}$ acres and has an estimated population of between 50,000 and 100,000. The original 'walls' were demolished during the Japanese occupation and the now 'Walled City' has actually expanded beyond its original area, today it is delimited by four streets: Tung Tau Tsun Road to the north, Carpenter Road to the south, Tung Tau Tsun Re-settlement Estate to the east and Junction Road to the west.

The Walled City is peculiar in its political situation. In the lease of the New Territories to Britain in 1898, it was agreed that the Walled City should remain under Chinese sovereignty with certain Chinese rights over internal affairs. A magistrate from Canton would visit there at regular intervals. However, after the Pacific War,

Chinese magistrates stopped their visits.** Over the years it has developed into "a noisome and squalid din of every conceivable vice and crime, the haunt of refugee criminals, dopeddealers and prostitutes and a stronghold of Triad and other secret societies" (S.C.M.P. 19th January, 1963.)

* * * * *

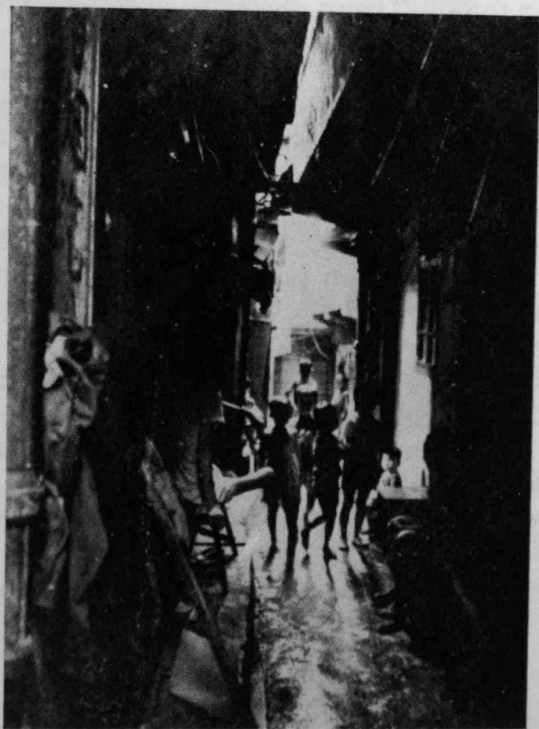
On the outskirts of the Walled City, it is a thronged place with good business going on. Along Carpenter Street, there are about 90 shops, mostly restaurants and furniture shops. Along Tung Tau Chuen Road, one will find oneself in a forest of dentist's signboards. Of the total 50 to 60 shops in this street, one in every two is a dentist's shop. There are over 15 clinics, mostly on the first floor, along the same street.

It is a different world inside the Walled City. It is dark, moist and smelly even on a fine sunny day. Alleys are heaped up along the sides with refuse. There is practically no sewage-system and no proper

**Kowloon Walled City Jurisdiction—The Full Court of Hongkong, on 30th November, 1959, ruled that the courts of the Colony have jurisdiction over the Walled City. The ruling was made when the Full Court dismissed an application for a writ of habeas corpus for a prisoner, Wong Hon, who was alleged to have committed a murder in the Walled City.



Birds of a feather
(Tung Tau Tsun Road abound with dentist's Shops and 'clinics')



Children Lingering in a gloomy lane

drainage.** There is no tap-water supply either.*** Skinny children, deprived of care at home and proper schooling, are seen lingering in the gloomy lanes among emaciated drug addicts!

The Hong Kong Government is not blind to observe the conditions within the Walled City and has plans to make a better place of it.

On 15th April 1962, the Government announced a resettlement survey plan involving part of the Walled City. The purpose of the survey was to gather information about the number of people in the area who may need to be resettled in order to enable the second phase of the Tung Tau resettlement programme to proceed. It is hard to realize how anyone would oppose such an offer. Yet it was met with strong protest from some of the residents, especially from the gangsters and the dentists (who, being unregistered, would of course be unable to practise after resettlement). A Kowloon Walled City Residents Anti-demolition Committee was formed by some 50 committee members and appeals from it were sent to Peking.

In January, 1963, demolition of the Walled City was to begin. However, only 200 houses along the outskirts were pulled down when the British Government received a serious protest from Peking, which claimed sovereignty over the Walled City.

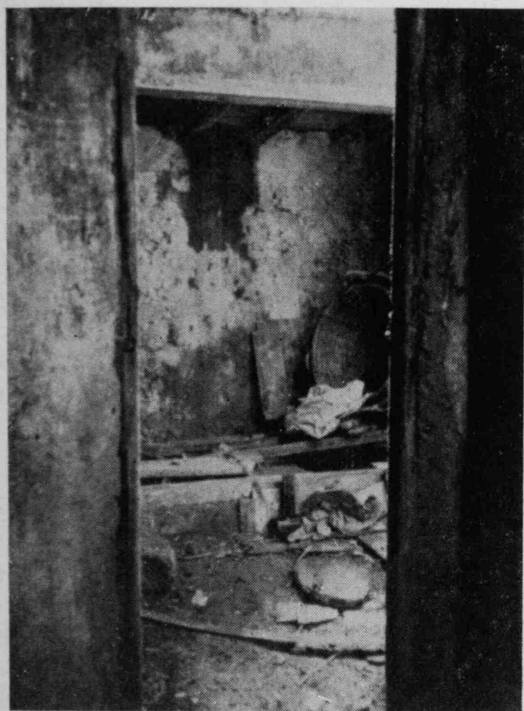
* * * * *

**Extract from Urban Council Meeting on Tuesday 9th February, 1965—In reply to Mr. H. Cheung-Leen's questions on the sanitary and public health services in the Kowloon Walled City, Mr. K. S. Kinghorn, Chairman of the Urban Council stated "Cleansing services are provided in this area known as the Kowloon Walled City This area is low-lying and therefore presents considerable drainage problems which could only be overcome basically by re-development and the raising of levels. The standard of services cannot, for physical reasons, be as high as in the developed districts of the Urban areas and the improvements that can be made are limited".

***At one time, water from Emergency Hydrants was illegally tapped to a few standpipes in the Walled City. These pipes were later removed by the Hong Kong Government.

CHILD CARE CENTRE IN KOWLOON WALLED CITY

Although Britain officially rejected Peking's claim, the Hong Kong Government had to stop the demolition plan of the Walled City to avoid international collisions. Today, the Walled City still stands and remains as filthy as ever.



Hide-out for drug addicts

My work at the Child Care Centre, short as it was, gave me valuable insight into the health conditions among the residents of the Walled City. The Child Care Centre was opened in 1959 by a nurse, Mrs. Maureen Clark, S.R.N., who worked as a voluntary District Nurse** with, among other clinics, the Lutheran Medical Centre in Cameron Road, Kowloon. She first came to know about the Walled City during some home visits to sick children living there. She took great interest in the children, visited them regularly and gave ointments and dressings to the children with boils and burns. The local residents gradually accepted her. Mrs. Clark was a busy woman herself with a family to take care of, but her dedicated nature urged her to do something more permanent for the poor children who lived in such dangerous surroundings. With the help of her husband and the support of their friends,

Mrs. Clark overcame many difficulties and eventually opened the Child Care Centre in January, 1959.

The Child Care Centre is situated inside the Walled City, some distance from Tung Tau Tsun Road. Nowadays, it works in conjunction with a nearby clinic under "Project Concern" for sick children. In the morning, the sick ones are registered in the Child Care Centre, temperatures are taken and their chief complaints recorded and then they are sent over to the doctors in the nearby clinic. They will come back for ointments, dressings and injections. Each day milk from CORSO (a New Zealand Welfare Organization), vitamin biscuits provided by Church World Service, and sweetened vitamin tablets are given to the children. I noticed that children who come regularly for these do look much stronger than children who do not come for them.

In the afternoon, the Child Care Centre holds classes for children from 5 to 7 years old to prepare them for primary schools. Besides Mrs. M. Clark, there is a resident caretaker-amah and a teacher, Mr. Kiang, who also helps to register patients in the morning. In addition, there are voluntary helpers, who are mostly trained nurses, and some have their own families to take care of too. Some helpers even come a long way off from Shek O and Taipo. In the summer vacation, some students from Queen Elizabeth School also volunteer to work there.

The mornings in the Child Care Centre are busy, noisy, but happy ones. There are on the average about 80 children each morning registering for medical treatment. Approximately 300 children come for the milk and biscuits distribution. The number of children registered was just over 12,000 in early July, 1966 and it is increasing every day. Patients referred to Project Concern clinic are charged \$1.00 on their first visit and \$0.50 for each subsequent visit. This

* * * * *

**District Nurse—home visiting nurses in Britain. The District Nurse visits and attends to patients at their houses and reports their clinical conditions to the clinic where the patients attend.

fee includes consultation with the doctor and medicine. The expenditure of the Child Care Centre amounts to about \$1,000 per month. This money is donated mainly by the Society of Friends (Quakers).



C'mon get registered !



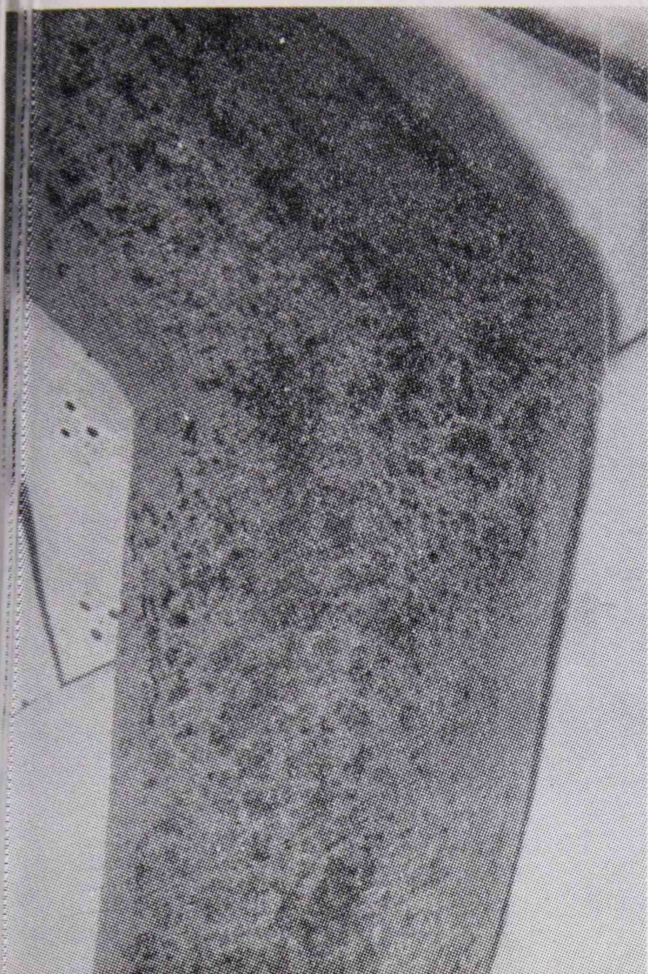
Congestion

In 1966 summer, I revisited the Child Care Centre. I found things unchanged. Chest infections, high fevers, diarrhoea, threadworms, and skin infections are very common among the children. They are often neglected by their parents, and have invariably carbuncles, burns, otitis or swollen eyes. In this place, it is the ignorance of the people as well as the poverty of the place which need to be combated. The majority of children are pale and thin and undernourished. A child with a discharging ear for 3 to 4 years is often not taken to any clinic. During the cholera epidemic in Hongkong in 1962, Mrs. Clark had to go from house to house to vaccinate the residents and their children against cholera. During that period more than 10,000 injections were given.

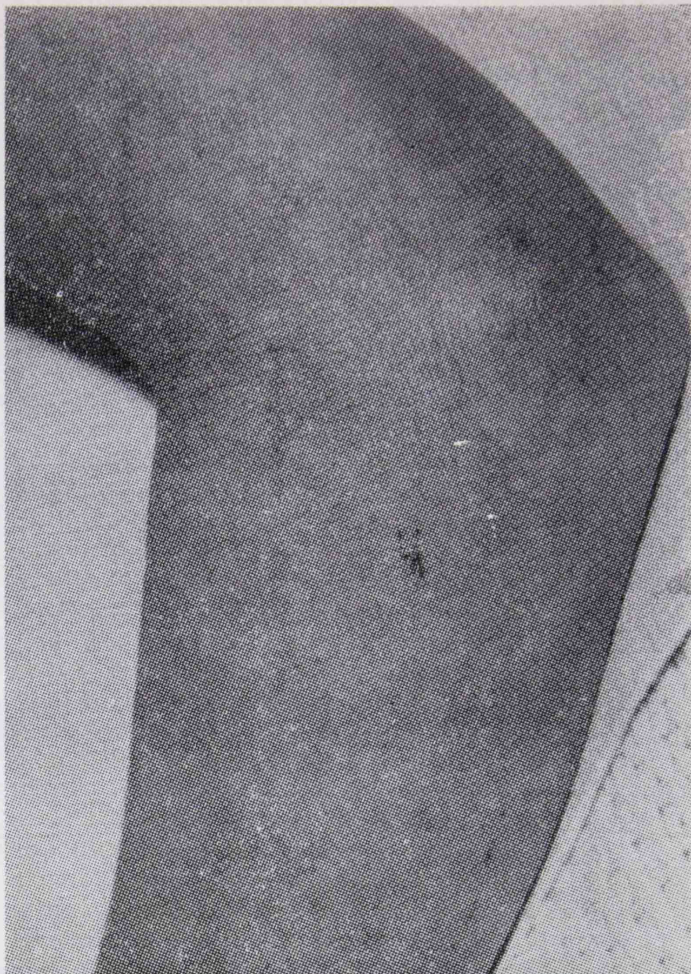
I asked Mrs. Clark if she had any future plan for the Child Care Centre. She said she had been thinking of starting an evening class for occupational training for some older children. There are, however, many difficulties, such as shortage of money and lack of voluntary helpers in the evenings. Talking about the outlook of the Walled City, she believes that nothing much can be done for it if it is not pulled down and rebuilt. However, she feels strongly that, while demolition cannot take place at present, the Hong Kong Government should make the Walled City a less filthy place—by improving the sanitary conditions and extending other public facilities into it.

* * * * *

Medical Students who wish to help out at the Child Care Centre are welcomed, please contact Mrs. Clark by writing to 3 Sau Chuk Yuen Road, 7th Floor, Kowloon City or by ringing 835659.



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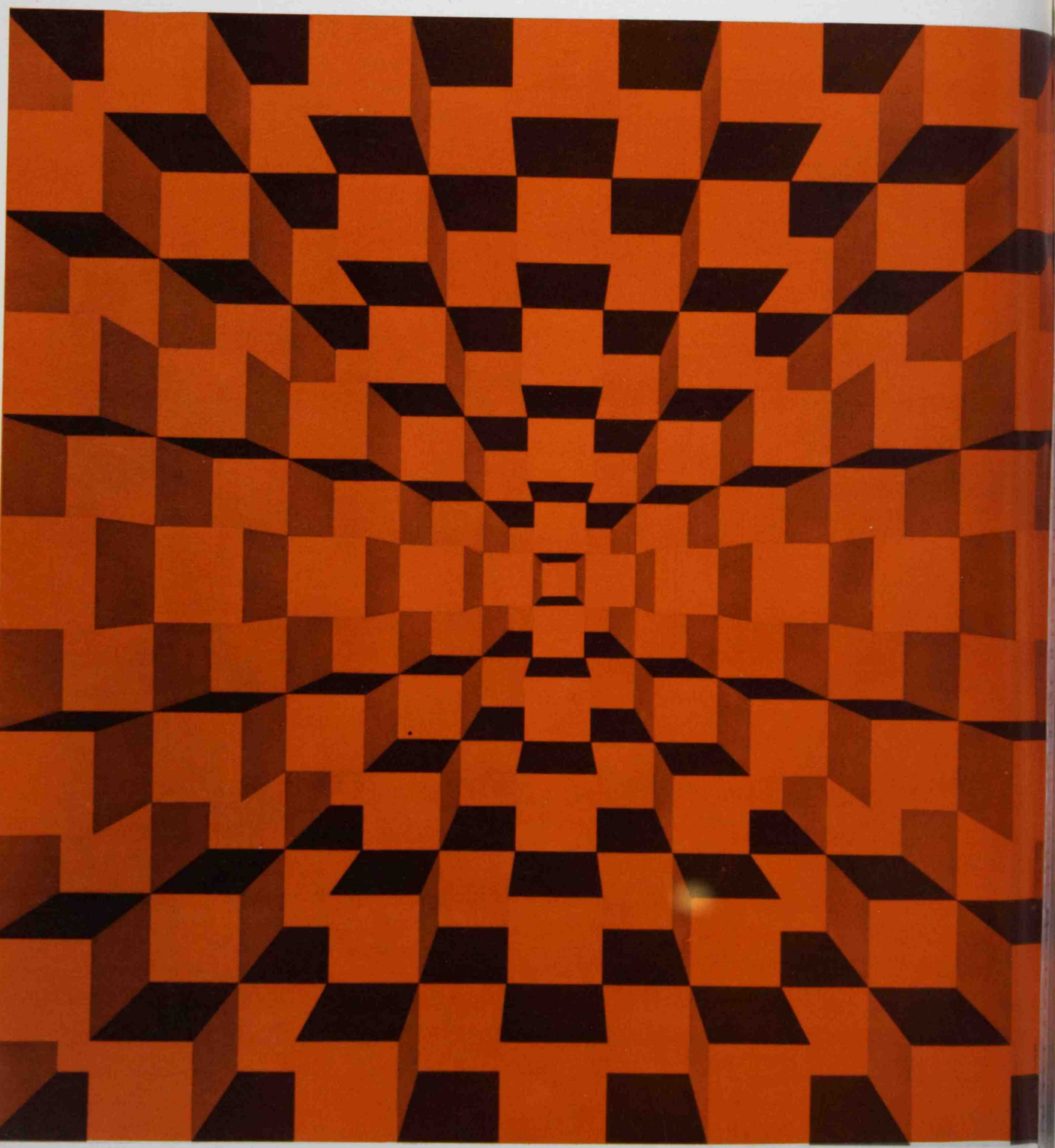
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A TASTE OF HONEY

BY VICTOR GOH

'Hello, Old buddy! Haven't seen you for ages!' My friend who attended secondary school with me was right. I have hardly ever met my friends in other faculties ever since our course started last October. That's because we, at the Pre-clinical Building in Sassoon Road, were segregated by some ten minutes' drive from the main University building. Little did we know we have to fight for integration here.

Armed with scalpels to hide our timidity in that afternoon of the very first day, we started straight off at the dissection room. Twenty-two cadavers were there to welcome us, fortunately not with open arms. Although the welcoming party wasn't exactly very enthusiastic, somehow we managed to break the ice (Ever heard of frozen formalin?) Before long we were very close, so close we could even smell the chaps. Everybody was very punctual for dissection during the first few weeks. You could even say we were 'eager'. But gradually we took to having leisurely walks after lunch. Rambler or not, some would stray off to befriend with our neighbours at the Northcote. The dissection room became only the last port of call. Nevertheless, there was always a cheerful atmosphere. If you had cared to listen you'd probably have caught bits of discussions on James Bond, A-Go-Go, and what not to do on a sunny afternoon.

But anatomy has many aspects. Take the anatomy of the Pre-clinical Building, while we were still new arrivals we were hazy with its anatomy. Yet there seemed to have been a short-age of placards during the first few weeks, and the cards with 'GENTS' and 'LADIES' were sometimes absent from where they should be. There were a few 'unavoidable' mishaps naturally. Some people got out of the lift only to find themselves in the embalming room. Fortunately for them, the technician can

tell a difference.

Our Physiology course was highlighted by the frequent low-lights for projection of lantern slides. They were times in which the heavy eyes found most easy to accommodate. For a few weeks we had a blood donation campaign. Those were the times when our rather heavier classmates topped the popularity scale. They were called upon time and time again, although the manual specifically directed each student to do his own blood samples: 'Never have so many owed so much to so ruddy a few!'

Then there was Biochemistry—the 'Study of the Biology of Chemistry'; somehow there seems to be something wrong about that interpretation. But we could always refer to 'Baldwin', 'Walsh', 'Harper', and 'Cantarow and Schepartz' for the answers. There's a bit of bad news though, for the eager but unfortunate few who procured their 'Cantarow and Schepartz' at their earliest convenience—the third edition just came out recently. No worry, there's a brand new XEROX copier at the library.

One of our greatest delights was the physical exercise sessions every Wednesday and Saturday. The girls were hard at work at their XBX Physical Training programme. We admire their diligence and moreover, how we admire them as we watch them at play! Our conclusion is:

XBX, XBX,

Our health depends on XBX,

The girls are already well on their stride,

Only wish we could stick by their side.

The only disappointment is that physical training will not be included in the second year programme (or will it?).

Our greatest disappointment however was the Medical canteen. What ought to have been an appetizing retreat for us, who look forward to a rewarding meal after a hard morning's work, was actually turning out food that didn't even compare favourably with the bits and pieces at the dissection room. Now with a new caterer, we hope we shall not have to order sandwiches for lunch any more.

What was always on everybody's mind, however, was the fortnightly viva. A number of empty seats were habitually found in lecture theatres on the mornings of the viva-days. Roll calls had to be introduced. But do you really blame us for taking precautions? After all, our fate is engraved in Green, Blue, Red, or Black. As usual, Red signals danger, and Black means where there is smoke there actually is a fire!

* * * * *

Son to father: "Why do surgeons wear masks?"

Father to son: "That's because they charge so much they have to hide their identity."

* * * * *

An attractive student-nurse suddenly rated poorly in the Matron's record. The Matron asked her, "What's wrong, are you in love?" She replied, "No, but I'm married."

* * * * *

Unhappy with his marriage, a young man took to consulting a marriage-counsellor. He was given a hand-out, and after reading the first page he had lost all hope. For written in bold letters was the definition: A HUSBAND IS A MAN WHO HAS LOST LIBERTY IN THE PURSUIT OF HAPPINESS.

* * * * *

At a Faculty meeting, the Dean said to the staff members, "Please signify your approval by saying 'Ay'; or your opposition by 'I resign'."

* * * * *

Professor X: "I shall rule the hospital."

Principal Matron: "Oh now, God said that I was destined to rule the hospital."

Medical Superintendent: "No, no, I never said that."

* * * * *

A medical student was baffled by hundreds of multiple-choice questions in a class test. At the end of which he asked the examiner how he managed to set so many questions every year.

The Examiner: "Oh, they're the same questions every year."

Student: "Then how do you call that a test?"

The Examiner: "Well, all I've got to do is to change the answers."

DONATIONS

The following donations to the Elixir Loan Fund have been received by the Hon. Treasurer of the Medical Society on the occasion of the Medical Ball, 1966:—

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NEWS FROM THE GAZETTE

17th January, 1966 12th April, 1966 18th July, 1966

HONOURS

The following distinctions have been conferred in Her Majesty the Queen's Birthday Honours list 1966:

Dr. the Hon. Alberto Maria Rodrigues, C.B.E., E.D., M.B., B.S. (1935), LL.D. (1962), member of the Council and the Court: *Knight Bachelor*.

Professor A. R. Hodgson, Professor of Orthopaedic Surgery and Dean of the Faculty of Medicine: *Officer of the Most Excellent Order of the British Empire*.

Professor G. B. Ong, Professor of Surgery: *Officer of the Most Excellent Order of the British Empire*.

PERSONALIA

Professor D. Chun attended a Post-partum Planning Meeting of the Population Council held in New York during January 20 - 22, 1966, and presented a paper on 'Basic and clinical aspects of intra-uterine devices' to the WHO Scientific Group in Geneva during February 7 - 11, 1966.

Professor A. R. Hodgson attended a meeting of the American Orthopaedic Association held in Broadmoor, Colorado, and conducted a postgraduate seminar in Mexico during May 22-June 4, 1966.

Professor J. B. Gibson has been elected a Member of the College of Pathologists of Australia, and attended a Symposium on Liver Diseases held in Minneapolis during May 23-25, 1966.

Professor G. B. Ong has been appointed a Corresponding Member of the Australasian

Surgical Research Society and a member of the Editorial Board of the *Pacific Medicine and Surgery, U.S.A.* He has also been elected a Corresponding Fellow of the Association of Surgeons of Great Britain and Ireland.

Professor K. S. F. Chang has been elected a member of the Anthropological Society and Academy of Science of Czechoslovakia, and of the American Association of Physical Anthropologists.

Professor Daphne Chun acted as external examiner in obstetrics and gynaecology at the University of Glasgow during January 23-February 5, 1966.

Dr. P. C. Wong, Lecturer in Bacteriology, attended the Annual Meeting of the American Society for Microbiology held in Los Angeles during May 1-5, 1966.

Dr. S. M. Bard, University Health Officer, attended the Third Asian Conference on Student Health, sponsored by the World University Service, at Chiangmai, Thailand, during April 21-29, 1966.

Professor G. B. Ong has been appointed by His Excellency the Governor as an Unofficial Justice of the Peace.

SENATE

UNIVERSITY REPRESENTATIVES

Professor C. E. Field, on the Nursing Board for three years from January 1, 1966.

DEPARTMENT OF PAEDIATRICS

The Paediatric Unit of the Department of Medicine has been established as a separate department with effect from July 1, 1966.

VISITING EXTERNAL EXAMINERS

Professor R. J. Rossiter, of the University of Western Ontario, for the degree examinations in Biochemistry during the three academic years 1965-68, to visit once during the period.

Professor W. F. Gaisford, of the University of Manchester, for the degree examinations in Paediatrics in January 1967.

HONORARY VISITING FELLOWS

E. E. Suckling, Ph.D., M.E.E., Associate Professor in Physiology, State University of New York College of Medicine in New York City, and (Mrs.) Joan A. Suckling, M.Sc., Lecturer in Comparative Anatomy, Hunter College, New York, have been appointed Honorary Visiting Fellows in the Department of Physiology from June to September 1966.

APPOINTMENTS

(Miss) Chan Mo Wah, M.B., B.S. (Hong Kong), Temporary Assistant Lecturer, appointed Lecturer in Medicine from September 1, 1965.

Chan Tai Kwong, M.B., B.S. (Hong Kong), Temporary Assistant Lecturer, appointed Lecturer in Medicine from September 1, 1965.

Wong Ting Kwok, M.B., B.S. (Hong Kong), Clinical Assistant, appointed Lecturer in Medicine from January 1, 1966.

(Mrs.) Grace Chou, B.Sc. (Queensland), Demonstrator, appointed Lecturer in Bacteriology from September 17, 1965.

Tam Cherk Shing, M.B., B.S. (Hong Kong), Temporary Assistant Lecturer, appointed Lecturer in Pathology from September 17, 1965.

Lai Hung Chuen, M.B., B.S. (Lingnan), Demonstrator, appointed Lecturer in Pathology from September 17, 1965.

Ng Chun Kwong, M.B. (Lingnan), Assistant Lecturer, appointed Lecturer in Anatomy from January 1, 1966.

(Mrs.) Lee Peng Chung-Hua, B.Sc. (Chekiang), M.S. (Kent State and Columbia), Assistant Lecturer, appointed Lecturer in Biochemistry from January 1, 1966.

James Chisholm, B.Sc., Ph.D. (Glasgow), Assistant Lecturer, appointed Lecturer in Biochemistry from January 1, 1966.

Li Kwan Ming, B.Sc. (Nanking), Assistant Lecturer, appointed Lecturer in Physiology from January 1, 1966.

Mo Pui-Nin, M.B., B.S. (Lingnan Medical College, Canton), Assistant Lecturer, appointed Lecturer in Physiology from January 1, 1966.

(Mrs.) Choy Siu Fun, B.A., Dip.Soc.St. (Hong Kong), M.Sc. (Columbia), Assistant Lecturer, appointed Lecturer in Social Study from January 1, 1966.

Chau Wing, M.B., B.S. (Hong Kong), Assistant Lecturer, appointed Lecturer in Obstetrics and Gynaecology from January 1, 1966.

Chan Pang Ling, B.Sc., M.D.C.M. (McGill), L.M.C.C. (Canada), Assistant Lecturer, appointed Lecturer in Obstetrics and Gynaecology from January 1, 1966.

Frank Cheng Chi Yan, M.B., B.S. (Hong Kong), Assistant Lecturer, appointed Lecturer in Surgery from January 1, 1966.

LEAVE OF ABSENCE

The following have been granted long leave:

Professor E. O'F. Walsh, from April 12, 1966; Dr. P. C. Wong, Lecturer in Pathology, from May 1, 1966; Professor J. B. Gibson from May 18, 1966; Professor A. J. S. McFadzean, Professor D. Chun, and E. Y. C. Lee, Lecturer in Surgery, from June 1, 1966; Professor A. R. Hodgson from June 14, 1966.

NEWS FROM THE GAZETTE

Dr. C. P. C. Wong, Lecturer in Bacteriology, designation of nine weeks of her long leave from May 1, 1966, as study leave.

The following have been granted long leave:

Dr. Lai Kai Sum, Lecturer in Medicine, from July 1, 1966; Professor K. S. F. Chang from July 31, 1966; Dr. F. C. Y. Cheng, Lecturer in Surgery, and Louise She, Lecturer in Social Study, from August 1, 1966.

Resignations

Dr. Therese Lu, Lecturer in Obstetrics and Gynaecology, from September 1, 1966.

Dr. P. S. Kan, Lecturer in Obstetrics and Gynaecology, from September 15, 1966.

Scholarship:

The Morse Scholarship, for undergraduates beginning the third year of the M.B., B.S. curriculum;

Morse Scholarship: Chan Fu Luk (1965)

PUBLICATIONS

DEPARTMENT OF ANATOMY

M.C. Ip (with D. Barker): "Sprouting and degeneration of mammalian motor axons in normal and de-afferented skeletal muscle", *Proceedings of the Royal Society Series B* No. 993, Vol. 163, pp. 538 - 554 (1966).

K.S.F. Chang, P. H. Ng, M. M. C. Lee and S. J. Chan: 'Sexual maturation of Chinese boys in Hong Kong' *Paediatrics* Vol. 37, pp. 804-812 (1966).

K. S. F. Chang, M. M. C. Lee and M. Chan (with J. A. Valsik): "Saisonschwankungen der Menarcheterminen der Mädchen von Hong Kong", *Arztliche Jungenkunde* Vol. 57, pp. 119-121 (1966).

DEPARTMENT OF PHYSIOLOGY

A. C. L. Hsieh (with L. D. Carlson): 'The physiology of human survival', *Cold* Chapter 2, (Academic Press, 1965).

B. P. N. Mo, E. Leong Way, and C. P. Quock: 'Efficiency of inhalation as a mode of administering heroin', *Federation Proceedings* Vol. 24, p. 300 (March - April, 1965).

DEPARTMENT OF SURGERY

E. Y. C. Lee: 'Foetus in Foetu', *Archives of Disease in Childhood* Vol. 40, No. 214, p. 689 (December, 1965).

K. H. Kwong, and G. B. Ong: 'Obturator Hernia', *The British Journal of Surgery* Vol. 53, No. 1, p. 23 (January, 1966).

DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY

H. K. Chung (with D. P. C. Chan, Chew Wei, and H. N. Soo): 'The capacity of urinary bladders in pregnancy', *Far East Medical Journal* Vol. 1, No. 2, (June 1965).

H. K. Chung: "Use of buccal oxytocin in induction of labour in Chinese patients", *British Medical Journal* Vol. 1, No. 5489, pp. 701-711 (March 1966).

DEPARTMENT OF MEDICINE

T. K. Chan, D. Todd, and C. C. Wong: 'Tissue enzyme levels in erythrocyte glucose-6-phosphate dehydrogenase deficiency', *Journal of Laboratory and Clinical Medicine* Vol. 66, No. 6, pp. 937-942 (December, 1965).

T. K. Chan, D. Todd and C. C. Wong: 'Erythrocyte glucose-6-phosphate dehydrogenase activity in haemoglobin H. disease', *Nature* Vol. 209, No. 5028, pp. 1147-1148 (March 1966).

DEPARTMENTS OF MEDICINE AND OBSTETRICS AND GYNAECOLOGY

D. Todd and P. S. Kan: 'Anaemia in pregnancy in Hong Kong', *Journal of Obstetrics and Gynaecology* Vol. 72, No. 5, pp. 738-744 (October, 1965).

DEPARTMENTS OF PAEDIATRICS AND SURGERY

A. Chau and E. Lee (with P. Huang) (in conjunction with Government Radiology Department): (Five cases of extragonadal teratomas in childhood), *Far East Medical Journal* Vol. 2(2), pp. 44-50 (February 1966).

DEPARTMENT OF PAEDIATRICS

Y. C. Tsao (with W. K. P. Wong, L. Y. Shih, and D. Y. Y. Hsai) (in conjunction with the Department of Paediatrics, Northwestern Medical School, Chicago): 'Characterization of glucose-6-phosphate dehydrogenase among Chinese', *Nature* Vol. 208 (5017), pp. 1323-1324 (December 1965.)

OBITUARY

The University announces with regret the death of:

Professor W. C. W. Nixon, Professor of Obstetrics and Gynaecology from 1935 to 1938, on February 9, 1966;

REGISTRATION OF STUDENTS

Faculty	New Entries		Total No. of Students	
	Oct. 1964	Oct. 1965	Oct. 1964	Oct. 1965
Medicine (M.B., B.S.)	100	121	423	473
M. S.	—	—	1	1
M. D.	1	—	2	6

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BESEROL

breaks the triad of pain



full range treatment of the
entire pain complex

The Beserol formula is based on the modern concept that three factors are involved in the total reaction to pain.

Anxiety - Emotion

Pain is strongly colored by the patient's anxiety and emotions. Even the expectation of pain makes the patient more anxious — increasing the intensity of the pain he actually feels.

Pain Perception

Perception of the pain stimulus is of course part of the pain experience. The pain stimulus has to travel to the sensory centers in the brain, where perception and discrimination occur.

Muscle Tenseness

The factors that cause pain also cause muscle tenseness. Pain itself makes the patient tense his skeletal muscles, and this tenseness in turn starts a feedback action causing more pain.

INDICATIONS:

Fibrositis, fibromyositis, bursitis, tenosynovitis, acute rheumatoid arthritis, osteoarthritis, dysmenorrhea, Disc syndrome, lumbago, sacroiliac pain, sprained muscles, bruises, torticollis, postoperative myalgia, Headache, toothache, peripheral neuritis, postpartum pain. fever is associated with irritability, insomnia, etc.,

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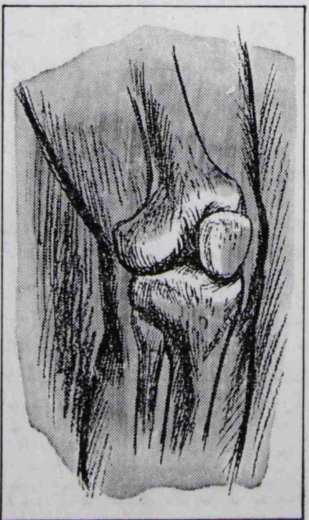
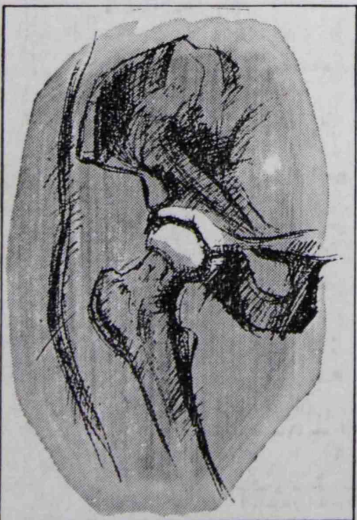
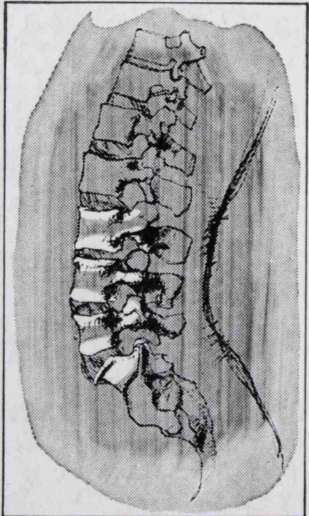
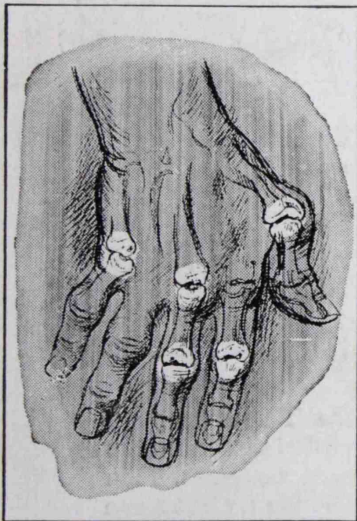
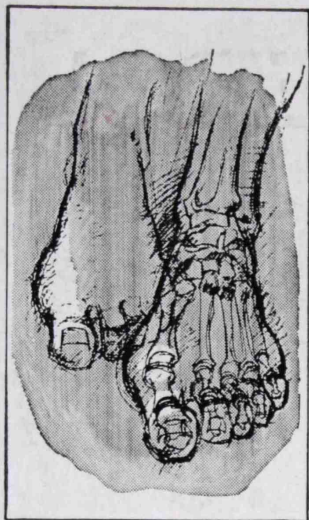
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USEFUL IN TREATMENT OF PATIENTS OF ANY AGE "The patients comprised eight men and ten women whose ages ranged from 50 to 83 years (mean 65). . . . We have used a gradually increasing dosage scheme . . . without the development of serious toxic effects during the initiation of treatment or its subsequent long-term maintenance."⁴

Supplied: INDOCID is supplied as capsules 25 mg. indomethacin each, in bottles of 30, 100 and 500.

Note: Detailed information is available to physicians on request.

References: 1. Smyth, C. J. and Godfrey, R.: The treatment of rheumatoid spondylitis with indomethacin, *Arthr. and Rheum.* 7:345, June (Proceedings of the Annual Meeting of the American Rheumatism Association, San Francisco, June 18-19, 1964).

2. Hart, F. D. and Boardman, P. L.: Indomethacin, *Practitioner* 192:832-834, June 1964.

3. Norcross, B. M.: Treatment of connective tissue diseases with a new non-steroidal compound (indomethacin), *Arthr. and Rheum.* 6:290, June 1963. (Proceedings of the Annual Meeting of the American Rheumatism Association, Atlantic City, June 13-14, 1963). (Also in: Abstracts of Communications—Fifth European Congress on Rheumatic Diseases, August 25-28, 1963, Stockholm, Sweden.)

4. Wanka, J., and Dixon, A. St. J.: Treatment of osteo-arthritis of the hip with indomethacin. A controlled clinical trial, *Ann. rheum. Dis.* 23:288-294, 1964.

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