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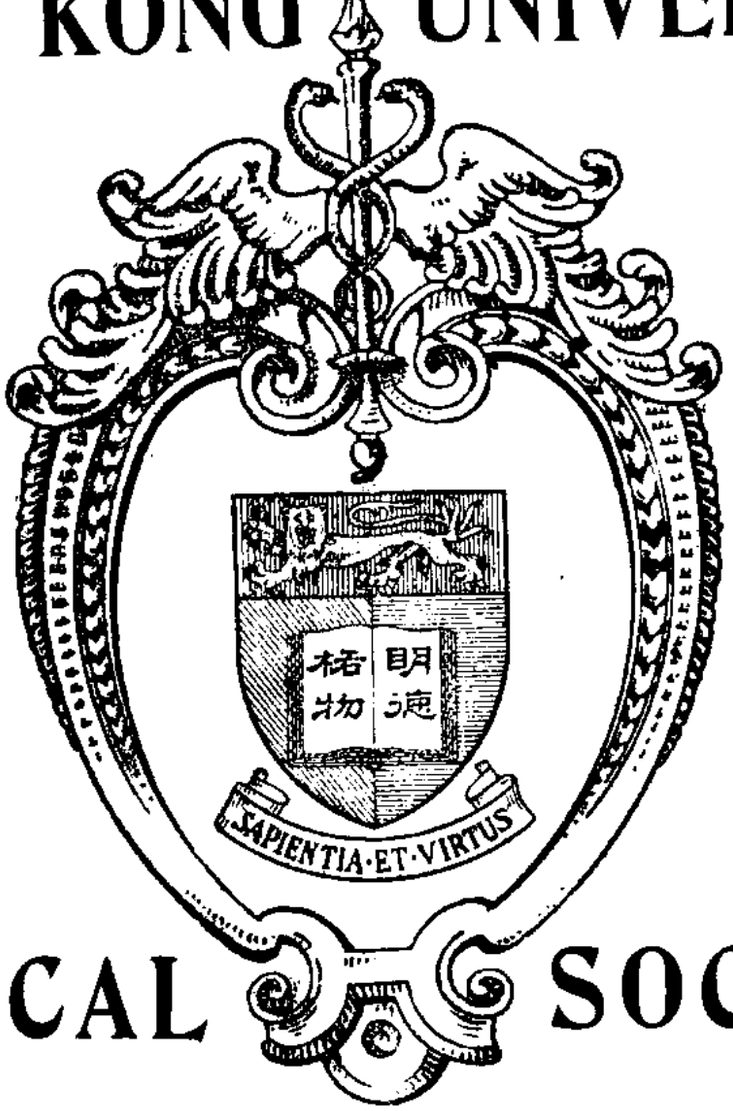

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THE NEW MEDICINE AND ITS IMPACT ON OLD-STYLE CHINESE MEDICAL PRACTICE.*

by

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There are few places more suitable than Hong Kong to form a background for a discussion of Chinese medical history. For this was among the first cities where the early attempts to educate Chinese pupils in modern medicine were placed upon a solid foundation by the opening of a proper medical school in 1887. And it was in this colony also where the late Dr. Sun Yat-sen, founder and First President of the Chinese Republic, received his diploma. Not less striking is the close proximity of Hong Kong to the cradle of modern Chinese medicine in Canton and Macao. Indeed, it may be maintained that the government medical undertakings in Hong Kong form a direct continuation of the activities of the surgeons of the East India Company resident at Canton and Macao, and that the present medical stationary undertakings are a continuation of the hospital work commenced at Macao in 1838, and later transferred to Hong Kong in 1843.

The celebration of the centenary of the Canton Missionary Hospital in 1935, will have brought to your minds the fact that before the establishment of the Macao Hospital the new medicine had already gained a permanent foothold in South China. Earlier still, at the very beginning of the 19th century (1805), Jenner's method of smallpox vaccination had been introduced into Canton by Alexander Pearson, one of the great surgeons to the East India Company. In 1820 a dispensary for Chinese had been opened at Macao by Dr. Livingstone and the Rev. Robert Morrison, followed in 1828 by the opening of an Ophthalmic Hospital in the same city and a dispensary for the Chinese at Canton, both under the guidance of Dr. Colledge, who like Livingstone was attached to the East India Company. Though

* (Lecture delivered before the Hong Kong University Medical Society December 4, 1936).

these undertakings were maintained for more or less limited periods, they benefited thousands of people and paved the way for the opening of the Canton Hospital under Dr. Peter Parker, the first medical missionary to China.

It may be interesting to recall the opinions of these pioneers and their immediate followers as to the old-style practice of that time. In their view, Chinese medical art had become inadequate, being bound by the fetters of tradition. Practically no surgery was performed; indeed the knowledge possessed by the practitioners upon anatomy and physiology consisted mostly of absurd concepts, not backed by actual observation. The treatment of eye diseases was most primitive, in fact so unsuccessful that the early foreign doctors felt an urgent need to specialize in this domain. Diagnosis seemed to be based upon an examination of the pulse alone to the exclusion of other methods, a whole structure of theories being built upon this flimsy foundation. In treatment, fancies and not facts appeared to preponderate, consisting as it did partly of the indiscriminate use of acupuncture and similar manipulations, and partly of drugs which the early foreign observers believed inadequate, sometimes repulsive.

When we consider how the newcomers were hampered first by the lack of knowledge of the Chinese language and customs and then by the demands made upon their time and attention by hosts of sufferers, it is not surprising to find that those early impressions of old-style Chinese practice proved in some cases to be out of perspective, in others quite incorrect. Since that time prolonged and patient studies have been carried out, first by enlightened and erudite foreigners, later by Chinese experts, thus enabling us now to evaluate properly the strong and weak points of indigenous Chinese medicine.

Anatomy.—It must be admitted that the early foreign observers erred least in their unfavourable judgment of anatomy, physiology and consequently surgery. For, although there are some early references to dissection, the traditional belief in the sacredness of the body made attempts in this direction rather sporadic. *The Filial Classic* of Confucius says, "Our body, skin and hair come from our parents; we must not mutilate them." This prohibition was lifted when the Manchus enforced the wearing of the queue with a shaved area around the head, and also since the advent of the Republic, when all men had their hair cut short. Nowadays, even women do not allow their hair to grow long but visit beauty parlours for singeing and permanent wave and sometimes indulge in the lifting of the skin to beautify the face!

When needed for purposes of dissection the corpses of bandits and criminals were secured. For these reasons, apart from some attempts to give exact measurements of the internal organs, but little useful knowledge is available in the old writings on anatomy.

A laudable attempt to replace idle speculations with careful observations was made by Wang Ching-jen who published in 1850 a booklet called "Correction of Medical Errors." Here he describes how during an epidemic of measles and dysentery he had an opportunity to inspect the dead bodies of numerous children carelessly buried, thus permitting of a close examination of the internal organs. Unfortunately he mistook the arteries for air vessels—an error he shared with the European investigators before Harvey. This is the more deplorable as there is little doubt that the ancient Chinese possessed some knowledge of blood circulation. The following significant passages can be found in the "Internal Classic" (*Nei-ching*):

"All the blood is under the control of the heart."

"The heart regulates all the blood of the body."

"The blood current flows continuously in a circle and never stops."

However, the difference between arteries and veins was not mentioned, nor were the systemic and pulmonary circulations understood, and subsequent practitioners for almost 2,000 years did not pursue the matter further.

Surgery.—A similar lack of progress was present in surgery. Though we read of ancient masters, like Pien Ch'iao and Hua T'o, who knew anaesthesia and performed major operations under its influence, their art did not survive them. Legend has it that the manuscripts of Hua T'o were burned with the exception of a few pages dealing with castration. This is adduced as explanation why castration, performed by specialists, remained the only bold operation in old-style practice. The average surgeon was both by training and by equipment unable to carry out anything beyond the most simple interferences, like incision of abscesses and was—as for a long time in Europe—considered of a rather lower caste than the physician.

Eye Diseases.—Though writings dealing with eye diseases were abundant, practical results were not encouraging. Lee T'ao, in a recent contribution (October, 1936) summarizes that, inasmuch as ophthalmic diseases were considered in close relationship to the different organs, emphasis was laid upon internal medication and also on acupuncture rather than upon local treatment. However, powders and ointments, sometimes lotions were applied to a certain extent, the remedies including potent drugs like copper sulphate, borax and alum. Trachoma was recognized long ago and often successfully treated. The five kinds of operations carried out were (*a*) hooking or "blunt cutting method"; (*b*) cutting for removal of pterygium; (*c*) needling for removing cataracts; (*d*) cauterization for ulcers and pterygia; and (*e*) clamping for trichiasis by shortening the lids through scar formation. This is done with a forceps made of bamboo. To judge by the Chinese proverb, "No treatment, no blindness," the

faith of the Chinese in the skill of their ophthalmologists was not great. Such methods as mentioned above may still be seen in the bazaars of many crowded cities.

Pulse-lore.—It would be bewildering rather than instructive, were I to give in this lecture a survey of the pulse-lore of the ancients. It was claimed that feeling of the pulse alone is sufficient for diagnosing all kinds of diseases and that it can foretell the sex of a child within a pregnant mother. More than that, by feeling of the pulse a man may be judged noble or common, rich or poor, destined for a long life or bound to die soon!

It is clear that, just as a nostrum claiming to cure all diseases will be found useful for none, so the excessive bragging of the pulse specialists indicates the worthlessness of their method. Nevertheless, there is much truth in K. C. Wong's plea to make a distinction between the later-day absurdities of the Chinese pulse lore and the merits which this method might originally have possessed. He considers it as probable that the ancient practitioners, reduced to a few methods of physical examination, might have developed a technique in learning things from the pulse which is lost to the modern physician, who relies upon refined methods of diagnosis by X-rays, electrocardiography and laboratory investigations.

Physical Therapy.—The application of methods of physical therapy developed on lines similar to those of diagnosis. Acupuncture, practised since the earliest times and amply discussed in the "Internal Classic," was probably of distinct benefit so long as it was used in a judicious manner. Indeed, the late Sir James Cantlie tried to introduce it into modern practice, applying it successfully in certain cases of rheumatism. It should also be emphasized that enlightened old-style physicians, like Wang Tao in his work "The Medical Secrets of an Official," objected to the continued use of acupuncture which in his opinion had become a lost art, and recommended moxa in its place. However, no attention was paid to such warnings. The practice continued to be advocated and was at the same time debased through its indiscriminate application to all sorts of diseases and leaving it mainly in the hands of ignorant quacks or barber surgeons.

Acupuncture was only one of various methods of physical therapy in old-style Chinese practice. Besides this, ample use was made of moxa, in which cones of common mugwort (*artemisia moxa*) are applied to the skin at certain spots and ignited. Though this method is rather painful and the resulting wound is apt to become infected, the underlying principle of counter-irritation appears rational.

It is generally acknowledged that massage has been practised in China from time immemorial. Less known is the fact that a few of the ancients, like Hua T'o, made excellent use of hydrotherapy in

the treatment of fevers. Unfortunately, this mode of treatment was not continued.

Infectious Diseases.—Turning to infectious diseases, we find that in some respects the ancient ideas were quite sound. *Leprosy* was first mentioned in the Chou dynasty. One of Confucius' disciples, Pai Niu, was supposed to have died of it. The *Nei Ching* of Huang Ti, thus says, "Those suffering from 'ta ma feng' have stiff joints and the eyebrows as well as beard fall off; the channels being clogged, the flesh becomes nodular and ulcerates." For treatment, early prolonged medication and moderation in all things were emphasized. Chaulmoogra oil was recommended by Chu Tan-chi as early as the 14th century.

Cholera or the syndrome *huo luan,* which even in the early days was described as a sudden disturbance of the bowels and stomach, had a place in the *Nei Ching,* but the actual infection as we know it nowadays is believed by Yu Yun-hsiu, a living scholar, not to have been known in China until the great pandemic of 1817, since which time it has retained a more or less firm hold in this country.

Smallpox is another old disease upon which more books have been written than perhaps any other affection. The general opinion is that it was introduced from outside, perhaps Mongolia, about 49 A.D. as a result of war with the Mongols: one general, Ma Yuan, actually succumbing to the disease. An epoch-making contribution of the Sung dynasty was the discovery of inoculation against smallpox. This happened in 998-1022 A.D. when the prime minister, Wang Tan, invited a learned philosopher of Omei Mountains in Szechuen to treat his sons. It is quite possible that scientific ideas regarding inoculation were exchanged between Chinese, Arabian and Persian savants at that time resulting in its introduction into Constantinople, whence Lady Mary Wortley Montague, wife of the then British Ambassador to Turkey, introduced the method into England in 1717 by first trying it upon her own children, and then upon intimate friends of her aristocratic circle. This valuable means of prevention against a disfiguring, often fatal disease, became prevalent until superseded by the safer method of vaccination with calf-lymph, as introduced by William Jenner, in 1792. When the East India Company commenced to trade with South China, its medical officer, Dr. A. Pearson, ordered the virus from India, where it had been received with favour, so that the year 1805 saw the first vaccination by cowpox vaccine of human beings in China. So rapid and universal was the success achieved, that calf-lymph vaccination became most popular, not only in Kwangtung, but as far north as Shanghai and Peking, and soon replaced the older and cruder means of inoculation with human-pox powder. This period may be termed the first stage in the introduction of scientific medicine into China. At the same

time, it would be wise to withhold as far as possible the use of the word "western medicine" when indicating modern or scientific medicine, for, as has been seen above, the first seeds were sown in the east, not in the west, and if an error was committed by early Cantonese in using the term *hsi* (western) as distinguished from *chung* or *kuo* for Chinese or national, thus bringing with it misunderstanding and prejudice, the former should be discarded, and a simpler and plainer *hsin* meaning *new* or modern (新) adopted. The difficulty is more evident in the Chinese rather than the English application. For true science cannot be a monopoly of the east or west, since humanity is universal and benefits all creeds and races.

Plague or *shu-yi*, as contrasted with smallpox and cholera, is not found in any ancient Chinese publication. In a book called *Ping-yuan* or "Sources of Disease" published in 610 A.D., mention was first made of *E-hê* or "malignant bubo," described as "coming on abruptly with high fever together with the appearance of a bundle of nodes beneath the tissues. The size of the nodes ranges from a bean to a plum. The skin and muscles around are dry and painful. The nodes may be felt to move from side to side under the skin. If prompt treatment is not given, the poison will enter the system, cause severe chill and end in death."

The treatise on epidemics or *Wen-yi-lun* published in 1642, introduced the word *ko-ta-wen* which has been copied into German and English books. Until the word *pesuto* (transliteration of *pest*) was introduced after Kitasato's time, the Japanese used the character *yi* or *yeki* (疫 meaning epidemic) for plague.

From a book of 31 pages by Hung Liang-chi (1736-1809) entitled "Poems by Pei Chiang" the term Yang-tsu Ping or glandular infection was found. Shih Tao-nan (1765-1792) a young man of extraordinary talent who died of the plague, composed a poem in which one part "Death of Rats" vividly described the plague epidemic occurring in a city in Yunnan in 1792. Because of Hong Kong's close connection with this disease, I beg permission to quote four of the striking verses:

Dead rats in the east,
    Dead rats in the west!
As if they were tigers,
    Indeed are the people scared.

Few days following the death of the rats,
    Men pass away like falling walls!
Deaths in the day are numberless,
    The hazy sun is covered by sombre clouds.

While three men are walking together
Two drop dead within ten steps!
People die in the night,
Nobody dares weep over the dead!

The land is filled with human bones,
There in the fields are crops,
To be reaped by none;
And the officials collect no tax!

You will notice his reference to the connection between rodents and the disease.

Syphilis is another important disease widely prevalent during the latter part of the Ming dynasty (1368-1644). No doubt, it was introduced by Portuguese sailors visiting China, who had themselves received infections from Spaniards returning with Columbus after the discovery of America. Li Shih-chen, author of the *Pen Ts'ao Kang Mu,* said that syphilis was unknown in China until 1488-1521, when patients were given pills of mercury for treatment. It started in Kwangtung, spread to the north and then other parts of the empire.

Materia Medica.—The systematic use of drugs for the treatment of diseases has a history as old as that of the Chinese race. The oldest Herbal, the *Pen-Ts'ao Ching,* is ascribed to Emperor Shen Nung (2838-2698 B.C.), though it actually appeared during the Western Han dynasty (206 B.C.—25 A.D.). Since that time numerous works on materia medica have been published culminating in the Great Herbal (*Pen-Ts'ao Kang-Mu*) by Li Shih-chen in 1595 A.D. This great classic consists of 52 volumes, the material being arranged in 62 orders under 16 classes—water, fire, earth, metals and minerals, herbs, grains, vegetables, fruits, trees, garments and utensils, insects, fishes, molluscs, birds, beasts and men. Of the 1,871 drugs enumerated 1,074 are derived from plants, 443 from animals and 354 from minerals and other substances. Besides numerous drugs common to both Chinese and European medicine, the former contained such valuable materials as kaolin, eumenol, chaulmoogra oil and ephedrine, which last is now included in most official pharmacopoeias.

In a paper read at the Congress of the Far Eastern Association of Tropical Medicine, Nanking, October 1934, on "The Newer Pharmacology and its Relation to Ancient Medicine," Prof. B. E. Read emphasised the changes that had taken place in recent years regarding the armamentarium of the modern physician, who now looks to glandular products for the treatment of deficiency diseases and to a study of the patient's diet, not so much to limit it as to provide what is lacking in its constituents. In the place of the nine substances of animal origin appearing in the 1909 pharmacopoeia,

there are now nearly one hundred, including liver extract, stomach, insulin from the pancreas, fibrinogen from the lung, vitamin A from the eye, adrenalin, thyroxin, parathormone, etc. The new conception of treatment fairly corresponds with ancient Chinese ideas, by which at least 26 parts from six different animals are used for medicine. From the pig alone, 34 parts are listed as of medicinal value. Thus, pig's liver (rich in vitamins A, B, C, D and E) was recommended in the *Pentsao* for night blindness, beri-beri, scurvy, emaciation and oedema; pig's pancreas is the source of three digestive principles; sheep's eyes are used for dimness of vision and conjunctivitis; dog's brian obtained from the same animal that bites a person is applied to the wound, thus suggesting a connection with the modern Pasteur treatment of injecting an emulsion of the brain and spinal cord of rabbits infected with rabies into the victim.

With regard to deficiency diseases, it has been found that for night-blindness (due to lack of vitamin A) the addition of 5 per cent. of dried yellow day lily (黃花菜) to the diet quickly cures the complaint in rats. The Chinese pharmacopoeia recommends other remedies, such as, mung beans, shepherd's purse (薺), walnut, pig's liver and others for this trouble. For beri-beri or *chiao-chi* (脚氣) 89 drugs are said to be of value, and Ch'en Ts'ang-chi'i (陳藏器) as far back as the T'ang dynasty warned against the constant use of polished rice, which he said would lead to weakness of muscles, drowsiness and general lassitude. Considering that modern medicine has traced beri-beri to lack of vitamin B in polished rice, this statement by an ancient Chinese physician is almost prophetic. Vitamin E, the lack of which is supposed by modern workers to cause sterility, may, if the opinions of ancient Chinese pharmacologists do not go astray, be supplied by human placenta, rat's feces, dog's meat, deer-horns, etc. A considerable amount of research has also been done by W. Y. Lee and R. G. Cheng in a basic analysis of common Chinese foods and drugs, varying from spinach, mustard leaves, bamboo sprout to taro, pumpkin, eggplant, cowpea, soybean and cabbage. Prof. S. Kubota of Mukden draws attention to the isolation of an active principle, called sinomenin, from the well-known Chinese drug *han-fang-chi* (漢防己) which is most useful for rheumatism; also *hai-jen-tsao* (海人草) for the treatment of round worms. From the woody part of the camphor tree two preparations, novonal and mibunol, have been extracted for the treatment of gonorrhoea. For coughs, glucosides from the root *yuan-chih* (遠志) and the seed *ch'e-ch'ien* (車前) have been obtained, while the alkaloid ephedrine derived from *ma-huang* (麻黃) is too well-known to need reiteration. Lastly, a valuable heart tonic, *vitacamphor*, has recently been recovered from the urine of dogs fed with camphor, which seems to decompose within the body of the animal and produce a strong and yet safe cardiac stimulant giving quick and accurate effects when needed.

Compare this with the isolation of *theelin* from the urine of parturient women by an American firm of biological chemists for female disorders.

Hygiene.—A study of ancient Chinese medical literature also shows that the prevention of disease was placed above cure, as may be judged by the following quotations:—

"The sage does not treat those who are ill but those who are well."

"The good doctor pays constant attention to keeping the people well so that there will be no sickness."

"The good physician first cures the disease of the nation, then individual ailments."

Chinese medicine attained a high degree of development during the Chou dynasty, particularly in the matter of medical organisation, hygiene and public health. The *Chou Rituals* distinguished four kinds of doctors, namely physicians, surgeons, dietitians and veterinarians. The writings of Confucius, Huai Nan-tzu, Chuang Tzu, Chou Kung and others contain numerous happy references to the performance of healthy living. Thus:

Diseases enter by the mouth.

Take deep breathing to live long.

Do not fatigue your body, not exhaust it, and you will live long.

Contentment and peace shut out all worries, giving no chance for evil to sneak into the system.

Do not marry first relatives, etc.

Among other recommendations was the establishment of hospitals for the deaf, blind, dumb, lame, deformed and insane.

Ideas of a progressive nature may be detected in old Chinese medical literature, and not a few of the old-style therapeutic agents have found a permanent place in the pharmacopoeia of the modern physician. Many factors contributed, however, to reduce or even nullify the benefits of innovations, because these were often kept secret by the discoverers and their immediate pupils. On the whole, old-style Chinese medicine became more and more stagnant as time went on. In China, as in mediaeval Europe, over-reverence for ancient beliefs and traditions became a stumbling block to progress. The ingenuity of most *savants* was wasted in compiling subtle commentaries upon the old writings instead of being directed toward fundamental research, and the introduction of radical changes was deemed nothing short of heresy. In Europe the medical profession gradually managed to free itself from these superstitions and to give to medicine the dignity of a progressive science taught side by side with other branches of learning at the universities and practised by men of high standing.

In China, on the contrary, the profession could not extricate itself from such legendary quagmire. The status of practitioners reached a deplorably low level. Though a few of the ancients were venerated as gods, the average medical man was looked upon as a kind of artisan to be called and dismissed at will. Often he could see, and prescribe for, a patient but once, so that he had no chance to watch the evolution of diseases or to obtain a thorough insight into the action of therapeutics. His prescriptions were criticised and changed at will by the family and friends of the patient, who did not hesitate to employ quacks and fortune tellers side by side with the regular practitioners. The higher the status of the patient, the greater the number of questionable advisers and therefore the fewer chances to recover.

No wonder that the medical profession ceased for centuries to attract men of good education and character. Consequently the profession was recruited from a class either unfit for manual labour, literary positions or official appointments.

Though praiseworthy attempts at proper education, holding of state examinations and registration of practitioners are on record, efforts in this direction were spasmodic in nature and ceased altogether as time went on. Would-be practitioners were obliged either to acquire elementary training in a haphazard manner or to serve an apprenticeship. It is clear that this system, even if imparting useful knowledge, was unable to provide a proper background for the pupils, who lacked adequate preparation. Apprenticeship was found to produce more promising results in cases where sons were trained by their fathers. Proverbs like "Do not take medicine by a doctor who is not backed by the experience of three generations" explain the greater prestige of men, who besides their own skill could claim descent from noted medical families.

Beyond such family connections and the benefit to be derived from the study of a limited literature, there was little to encourage the practitioner in his professional life. Though some leaders had set high standards of conduct by their example and the laying down of ethical rules, these were never generally accepted. Medical societies, where the doctors could get guidance and where they could discuss their problems, were totally lacking. Thus each individual was largely left to his own devices.

Looking back upon this evolution we can easily understand why so many of the early foreign doctors coming to China decided that the old system of medicine was devoid of any value whatsoever. It is not surprising, therefore, that attempts by some newcomers to work hand in hand with the old-style practitioners did not lead to satisfactory results. At the Tung-Wah Hospital, Hong Kong, both systems have

been maintained for scores of years; the annual medical reports of the Director of Medical and Sanitary Services provide interesting reading in this connection.

The pioneers mentioned earlier in this lecture were but the harbingers of an ever-increasing group of foreign physicians who not only continued the work in and near Canton but extended it along the coast to Swatow, Amoy, Foochow, Ningpo, Hangchow, into Shanghai, Nanking, Soochow, then Peiping, Tientsin and finally into the larger cities of Manchuria. Their work was at first largely individualistic, but gradually united efforts became possible. Some of the important milestones along this road were the establishment of a medical school in 1866 connected with the Canton Missionary Hospital under Dr. John Kerr, who published a series of textbooks in Chinese for his students, the creation of a Customs Medical Service leading to publication of a stimulating series of reports, and the foundation in 1886 of the Medical Missionary Association resulting in the issuing of a journal, invaluable equally through the articles it contained and through the opportunities afforded for the discussion of ways and means.

Whilst these labours were instrumental in bringing proper relief to thousands of sufferers, it may be stated that for a long time the new medicine developed rather side by side with the continuance of old-style practice than in open competition with it. One might almost say that their fields had become divided up. Whilst the modern medical men were usually consulted when surgical interference seemed necessary, the majority of Chinese still preferred the old-fashioned therapy for so-called internal complaints. The first serious clash of the two schools arose out of the terrible Manchurian pneumonic plague epidemic, which swept over Manchuria and North China in 1910-11, killing 60,000 persons and costing the government and people about $20,000,000. Whilst old-style medicine showed itself utterly powerless in this catastrophe, and at least 40 of its protagonists died from the infection, the efficiency and heroism displayed by modern-trained Chinese physicians were instrumental in ridding the country of the plague within the short space of three months. Their work attracted universal attention and laid the foundation of systematic public health activities, thus ushering in a new (second) phase in Chinese medical history. Then followed an interval of consolidation, which the Revolution and the establishment of the Republic delayed but did not stop. The inauguration of the National Government in Nanking and the establishment of the Ministry of Health in 1927 (later changed to National Health Administration) finally co-ordinated all health activities under one central organ. Under the able guidance of Dr. J. Heng Liu, a graduate of Harvard, a series of fine institutions have during the past six years been con-

structed and equipped in one medical center in the capital (measuring 400 moud or 65 acres) for the treatment and nursing of patients, the investigation of disease, the analysis of drugs, and the teaching of health and auxiliary personnel. These and affiliated institutions include the Central Hospital of Nanking, the Central Field Health Station, the Nursing School, the Central Serum and Vaccine Laboratory, the Bio-chemical department, two midwifery schools—one in Nanking and the other in Peiping—a Child Health Station, School Health Services, Rural Health Centres, the National Quarantine Service, Central Epidemic Prevention Bureau in Nanking with a branch in Peiping and also stations in Fukien and the North-west. In order to co-ordinate activities between the Ministry of Education and the Central Health Administration, a joint Commission has been founded with a trained medical secretary in charge and having sections on medical education, widwifery and nursing.

If we contemplate the amount of work and success crowded into the comparatively short space of a century, the new medicine may indeed be proud of its record in China. But whilst these achievements encourage us to approach the work before us in a spirit of hopefulness, they should not mislead us into minimizing the difficulties and rocks ahead.

In this connection let us deal first with the present status of old-style medicine. The vast numbers still practising these methods have become thoroughly alarmed through the advance of the new medicine, which now really threatens their continued existence. More than that, they have realized that their only hope of salvation lies in uniting their forces. They have been organized into a group powerful enough to secure the support of influential high officials and to prevent efforts to abolish their practice. There is no doubt that many difficulties will be met with until ways and means can be found to settle this involved problem. It is the duty of all modern practitioners to be constantly on the alert and to give their whole-hearted support to their leaders and organisations. Nor should they altogether ignore the herbalists as far as their individual work is concerned. Some pertinent remarks on this point were made by Dr. Knud Faber in his 1931 Report on Medical Schools in China; he thus observed :—

> When an ever increasing number of Chinese physicians is educated and graduated on modern lines, it will be more and more understood by the population that there can be different kinds of doctors but only one science and art of medicine. I have the idea that this evolution would be hastened if the students in the medical colleges and special schools had to attend a course of medical history including the history of philosophy and the content of the old Chinese medicine—not for using the old methods

but for better understanding what they will have to compete with in their future practice. The best manner to combat the superstitions of the old Chinese medicine is to let them come out in the daylight. The modern Chinese doctor must know them as then only will he be able to overcome them and to educate the population in this respect.

Another point I would like to mention in passing is the tendency to rely on proprietary brands of medicine rather than on Galenic prescriptions. It is true that the glaring publicity given to all sorts of patent medicine is influencing laymen in favour of the former, but it seems to me that not a few qualified practitioners also appear too willing to follow these tendencies. Rather should we insist upon the use of scientific preparations adapted to the individual needs of each patient, instead of doling out ready-made stuff indiscriminately. Likewise, we should not neglect the basic methods of physical examination in spite of easy access to supplementary facilities. The danger of debasing our medical art into a craft should not be forgotten.

The vital problem facing medical administrators and educators is, however, not how to deal with individual sufferers but how to extend the influence of modern medicine in its preventive as well as curative aspects, so as to render real service to the masses. If we review this matter by comparing the number of modern-trained practitioners in China with the standards of other countries, we find the former grossly inadequate. For instance, while Great Britain has one doctor for every 800 and the U.S.A. one for 1,000 inhabitants, we find in China, even admitting the maximal figure of 15,000 qualified practitioners, a proportion of 1 : 30,000.

This situation becomes more serious when the regional distribution of the doctor is considered. An attempt in this direction was made by Drs. Chu and Lai, who in 1935 collected data on 5,390 modern-trained physicians in China, of whom all but 13 per cent. were Chinese. It was found that these were congregated in a few large cities, 22 per cent. being in Shanghai alone. Nanking and Canton are also crowded with doctors. In the former one-third of the population receives no proper attention, whilst in the latter the saturation point appears to have been reached regarding the number of physicians.

Dr. C. C. Ch'en of Tung-hsien, who investigated conditions from the viewpoint of demand rather than supply, points out that China is an agricultural country, about 85 per cent. of her population living in villages and small towns. On account of over-population, the average holding of a farmer's family is five *mou* (or 5/6 of an acre), producing $40 annually. It is clear that under these circumstances only a minimal sum can be spared for medical relief and indeed it has been found that the farmer spends on an average thirty cents annually for this purpose.

If now $600 per annum be computed as the minimum salary for a qualified physician, 5,000 people would have to contribute 12 cents *per capita* to keep him alive and an addition of at least $400-500 per year would be necessary to equip him for active work. This would mean that 10,000 people are necessary to support a physician—a number which no practitioner could possibly care for.

It is obvious, therefore, that a mere increase in the output of graduates would not really remedy the present situation unless it is accompanied by measures which would direct this increased supply into the proper channels. In other words, since the vast majority of the people are unable to support an adequate number of modern-trained physicians, the introduction of a system of State Medicine becomes inevitable. I am glad to note that this idea is not only shared by medical educators but has been definitely adopted by the National Health Administration. Steps have already been taken to adapt the curriculum of medical schools to this new policy, and it is hoped that the teaching of State Medicine will henceforth form a prominent feature of the educational programme. The strategic position of Hong Kong University calls for urgent consideration of the establishment of a Chair of State Medicine and of post-graduate courses in Public Health.

It is quite possible that some persons may be against enlarging the powers of the State at the cost of private enterprise. They may fear that the new officials, bereft of the incentive of competition, may be tempted to do a minimum of work. It is beyond my task to deal with the general merits of this view. I feel sure, however, that it does not hold good as far as the medical profession is concerned. We medical men fortunately belong to a calling which demands the highest ethical standards and a spirit of sacrifice. We have seen that many practitioners have in times of need nobly responded to this spirit inculcated by their schools. Quite a number of promising men and women avoid private practice and prefer to receive modest salaries in working for the public weal.

The conscientious doctor in the China of the future would have to know more of preventive than of curative medicine, possessing at his finger tips accurate knowledge of the causes of such infections as smallpox, plague, cholera, diphtheria, typhoid, typhus, trachoma, tuberculosis and willing to send such patients to municipal or government hospitals for treatment rather than attempt it at his own confined or perhaps insufficiently-equipped office. He will practise partly in rural areas and probably receive an allowance from the government for keeping his district inhabitants as free from sickness as possible; in any case he will be in touch with the nearest government health clinics where more facilities for treatment in the form of space, equipment, nurses and medicines are at hand. Through these health

stations he will also take a share in advising pregnant women from the early days of conception to childbirth, which had best take place in a maternity home or the maternity department of a hospital. As the child grows up he will watch its progress step by step up to school-age, when trained school medical officers will supervise the welfare of the pupils through the toils of scarlet fever, diphtheria, measles and such like. Under constant vigilance and examination, a new generation of children will develop with proper physique under a sunny clean atmosphere, immune from infectious diseases, strong against the inroads of tuberculosis, with eyes clear of trachoma and knowing simple methods of not only protecting themselves but also preventing others from being attacked. As the years go by, such a trained generation will marry healthily, possess as many or as few children as it pleases, but all being brought up with a knowledge of the ordinary principles of health. From this the next step to living to a ripe old age is logical, which end can best be achieved without the purchase of old-fashioned and expensive medicaments like ginseng, deerhorns, fungi, etc.

Events in other directions than medicine are shaping themselves very rapidly throughout China, and it is not too much to hope that through a proper appreciation and practice of the new medicine by both the medical and lay public a healthier and stronger generation of Chinese will blossom forth to undertake their duties for their country with greater freshness and energy, thus helping this present quarrelsome world to move along the paths of peace and happiness.

A CASE OF ALBERS SCHONBERG'S DISEASE IN A CHINESE.

by

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} University Medical Unit, G. C. H.

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A Chinese male patient, 22, a native of Fukien was admitted to Kowloon Hospital on August 11, 1936, suffering from an injury of the left forearm. Patient had fallen heavily in the course of his work as a coolie at the Shing Mun Valley reservoir.

Examination revealed signs and symptoms of fracture of both forearm bones. There was singular absence of the usual severe pain associated with fracture.

Routine radiological examination showed not only a double almost transverse fracture of the radius and single fracture of the ulna but abnormal appearances of the bone structure suggestive of the changes found in the condition known as "marble bones," osteosclerosis fragilis generalisata or Albers-Schönberg's disease.

Clinical Investigation :—

Patient was obviously very anaemic. There was palpable enlargement of both liver and spleen.

Blood Examination :—

Haemoglobin = 65%

Total R.B.Cs. = 3,700,000 per c. mm.

„ W.B.Cs. = 3,450 „ „

Differential Count :

Polymorphonuclears ...	= 47
Lymphocytes (L. & S.)	= 33
L. Mononuclears	= 2
Eosinophils	= 18
	100

There was some degree of polychromasia and anisocytosis. No malaria parasites were seen. W. R. was negative.

Serum Calcium = 9.8 mgms per 100 c.c.
Serum Phosphorus = 3.3 „ „ „ „
(as inorganic P)

Faeces examination revealed a moderately heavy infection with ankylostome duodenale.

Treatment :—

The fractured forearm was dealt with in the ordinary way and the ankylostome infection was treated by the administration of chenopodium and subsequent haematinics.

Blood examination at the end of two months showed :

Haemoglobin = 80%
Total R.B.Cs.= 4,800,000 per c. mm.
„ W.B.Cs.= 6,700 „ „

Differential Count :

Polymorphonuclears ...	= 67
Lymphocytes (L. & S.)	= 21
L. Mononuclears	= 6
Eosinophils	= 6
	100

Etieogy :—

This is still unknown although of late it has been referred to hyperparathyroidism. Zondek has described a case of "marble bone" disease associated with the dystrophic type of infantilism in a male aged 26. Certain observers, in a characteristic case, have noted enlargement of the parathyroid glands. In 1914 Goetsky and Weils described a case of myxoedema with transverse striations near the diaphyseal ends. The bone changes were attributed to growth inhibition of the bone due to periodic functional disturbance of the thyroid.

Corresponding bone changes have been obtained in rats by prolonged administration of large doses of parathormone. It is possible that such an external factor as infectious disease may cause the condition. Sometimes "marble bone" disease is met with as a congenital malformation and, in common with some other skeletal dystrophies, heredity seems to be a very important factor. Writers have described several affected members of one family and consanguinity of the parents has been noted.

Age :—

By means of radiological examination the disease has been discovered as early as in the foetus. In other cases it escapes detection until adult life. In children and adults spontaneous fracture or fracture due to slight injury would appear to be the outstanding condition leading to discovery of the disease.

Diagnosis :—

This depends on the radiographic appearances. The affected adolescent exhibits the most characteristic picture. The bone actually has the appearance of marble, chalk or ivory. In the lower portion of the femur and upper part of the tibia the bone appears homogeneous and dense. No cancellous trabeculation is evident. In some bones multiple closely packed transverse lines parallel with the metaphyseal growth cartilage can be seen. The vertebral bodies often show three zones, an upper and lower dense zone with an intervening zone of almost normal density. The ribs are opaque but the rib cartilages are not affected. The skull shows increased density.

In an advanced stage the entire osseous system may be affected. There is great sclerosis and abnormal brittleness. Sternal puncture fails to be successful and in Zondek's case repeated puncture showed no trace of marrow but brought to light only splinters of bone.

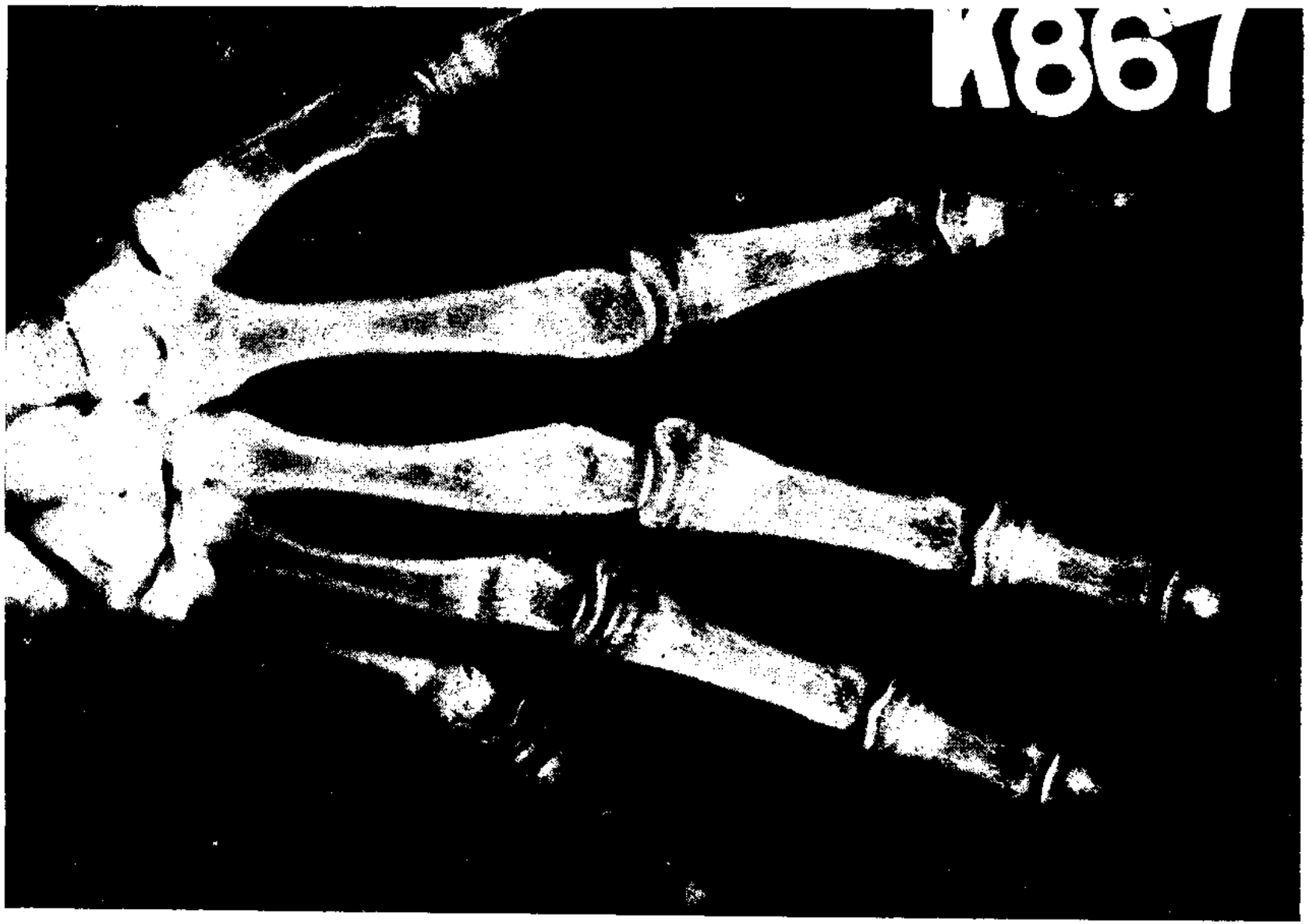
In infants there may be simply a condensation at the ends of the diaphyses of the long bones.

Cases have been reported at 10 and 12 months with areas of dense bone formation at the growing extremities of the diaphyses. Both in children and adults fracture occurs from slight injury but repeated fractures are not common.

During adult life the mechanical effects of sclerosed bone may produce symptoms. Deposition of bone around foramina will lead to narrowing. Signs of pressure on nerves at the base of the skull may appear and both optic atrophy and ocular palsies may be found. Because of the encroachment on the medullary canal of the long bones the marrow may be involved and almost completely destroyed. The blood forming tissues cannot escape where there is intense calcification of the cancellated tissues. A marked and progressive anaemia may result and this may eventually end as an aplastic condition.

The enlargement of the spleen particularly, liver and also lymph nodes is probably of a compensatory nature because of the almost complete destruction of the marrow. There is evidence that atypical cases occur and in these the diagnosis is not easy.

Biochemical tests do not seem to be of any aid in the diagnosis.
Differential Diagnosis :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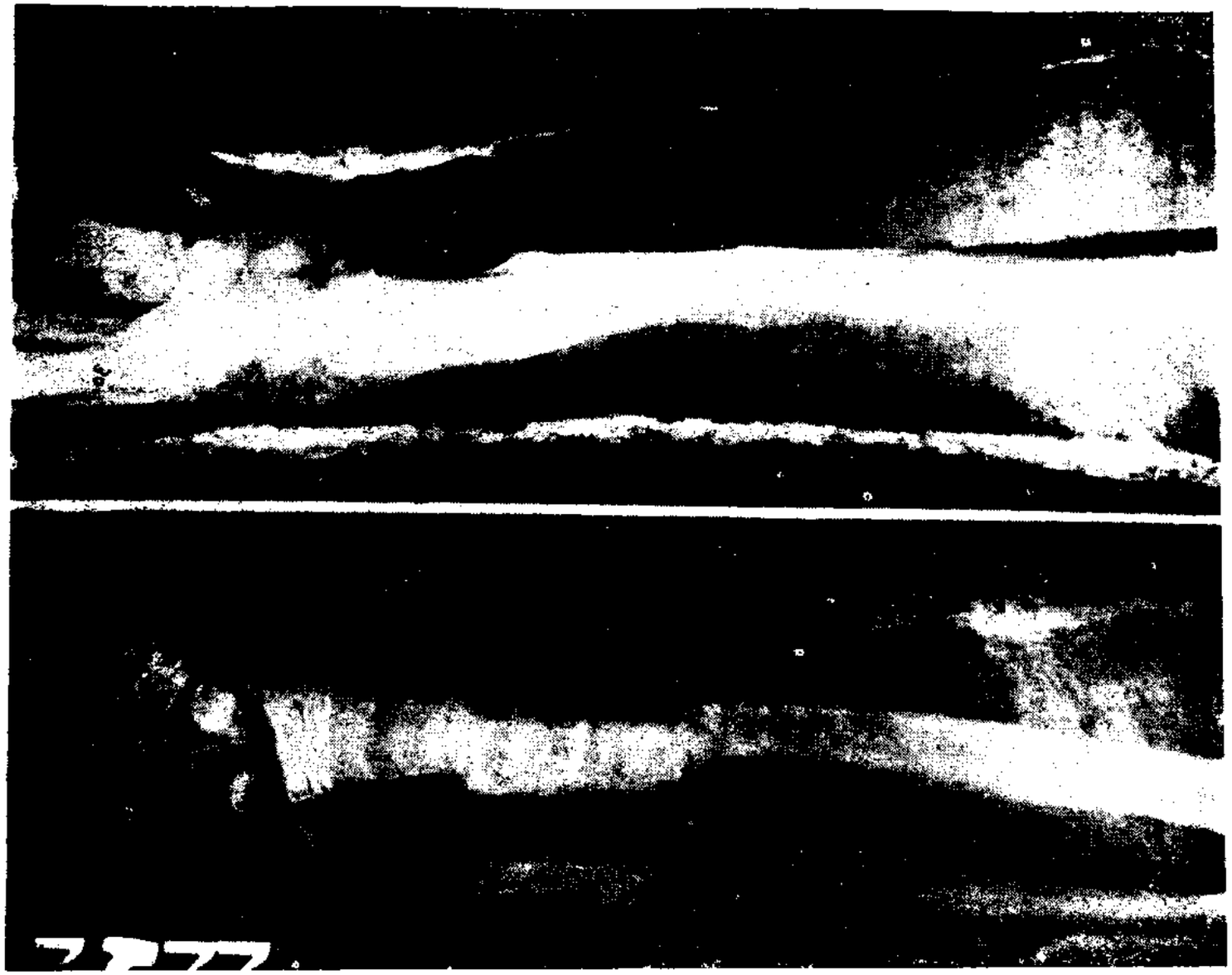

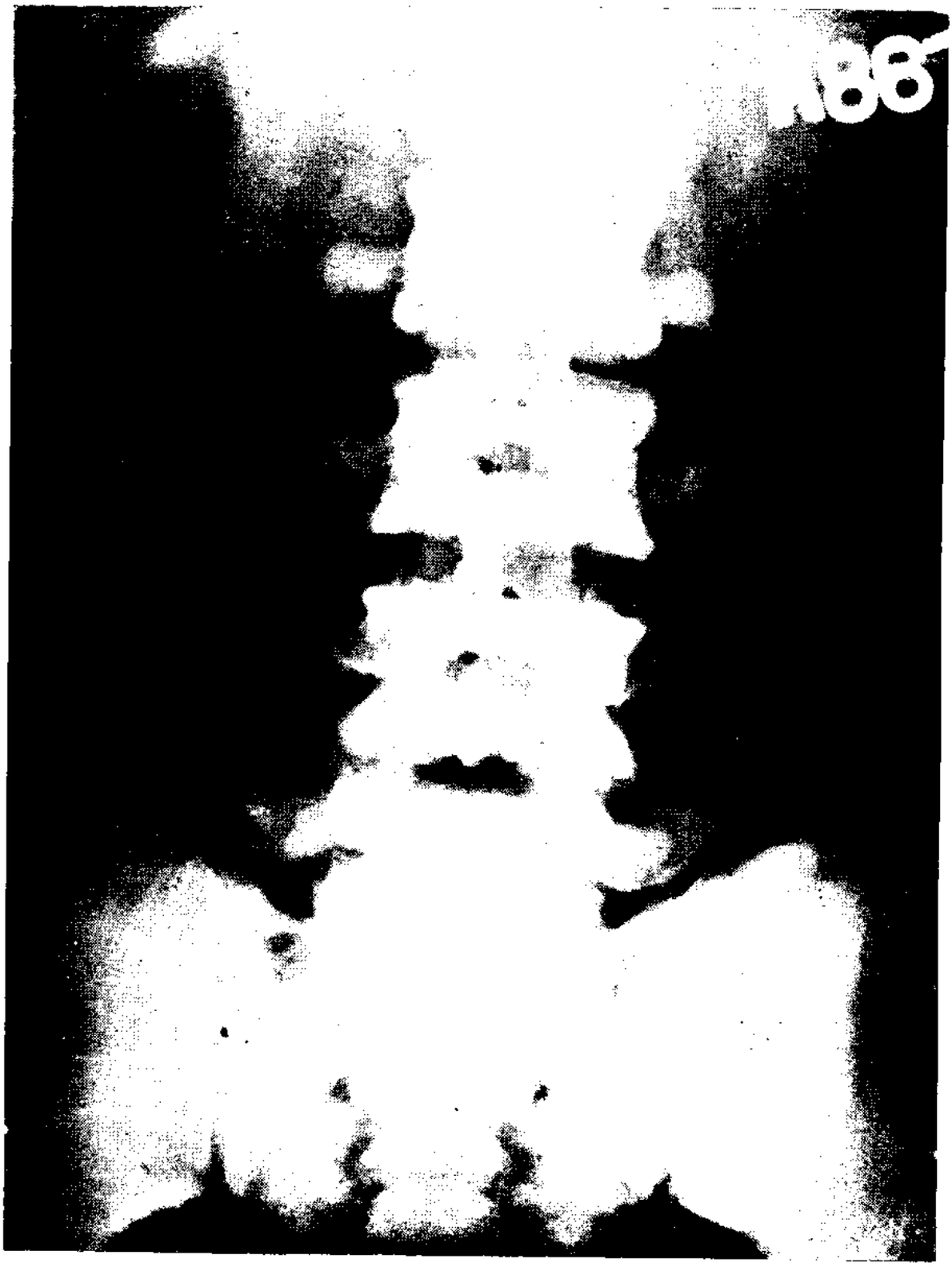
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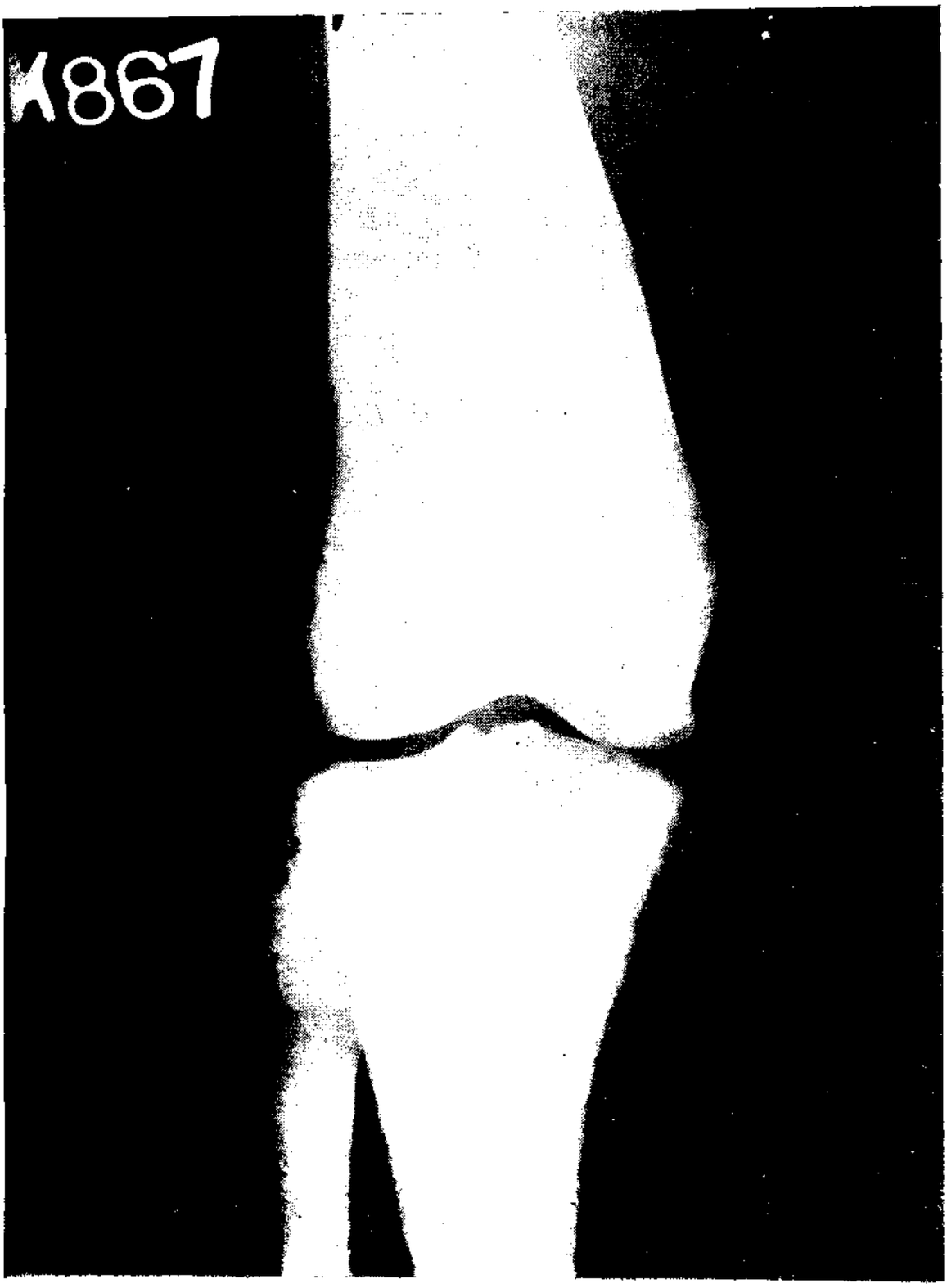
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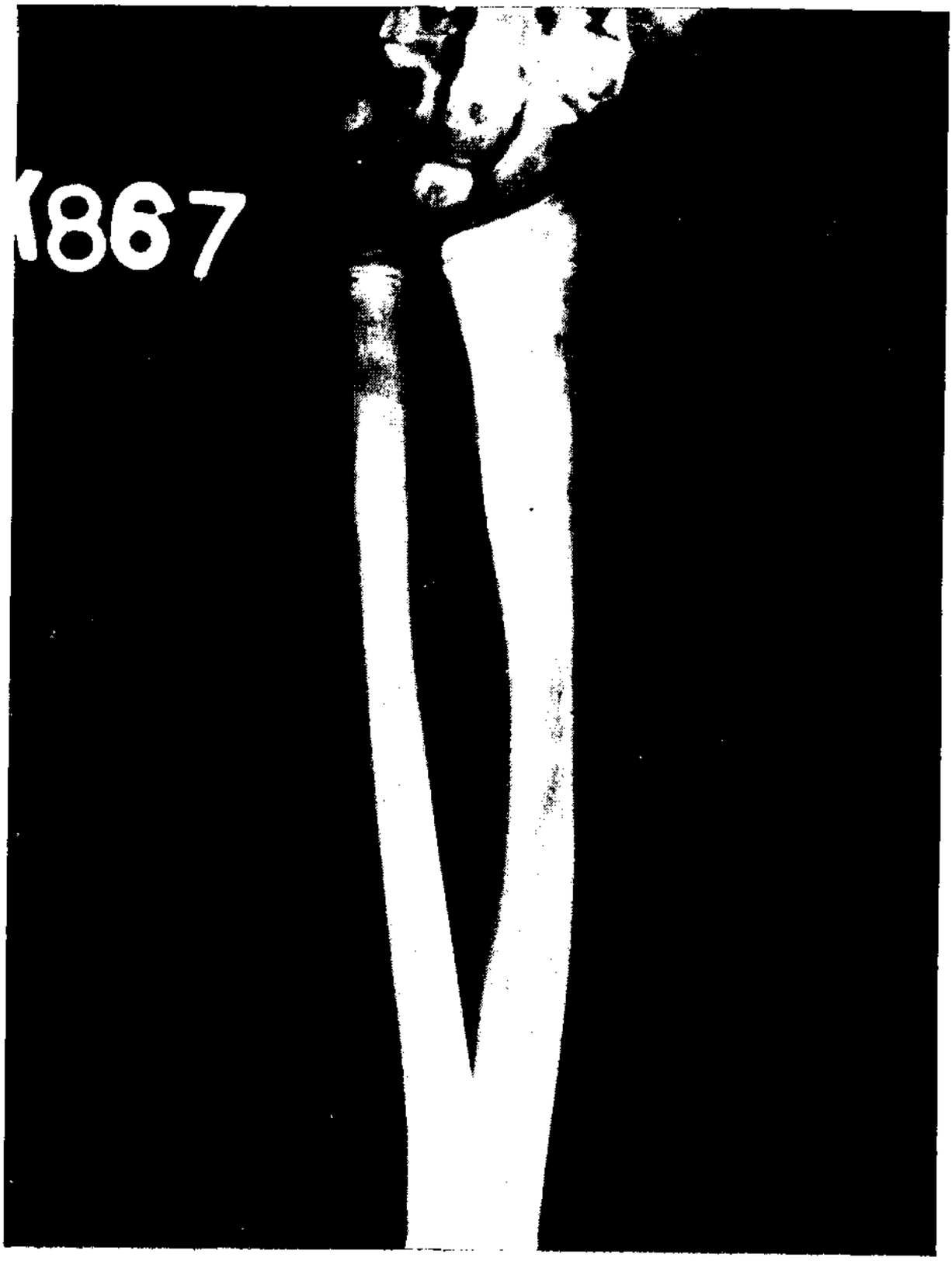
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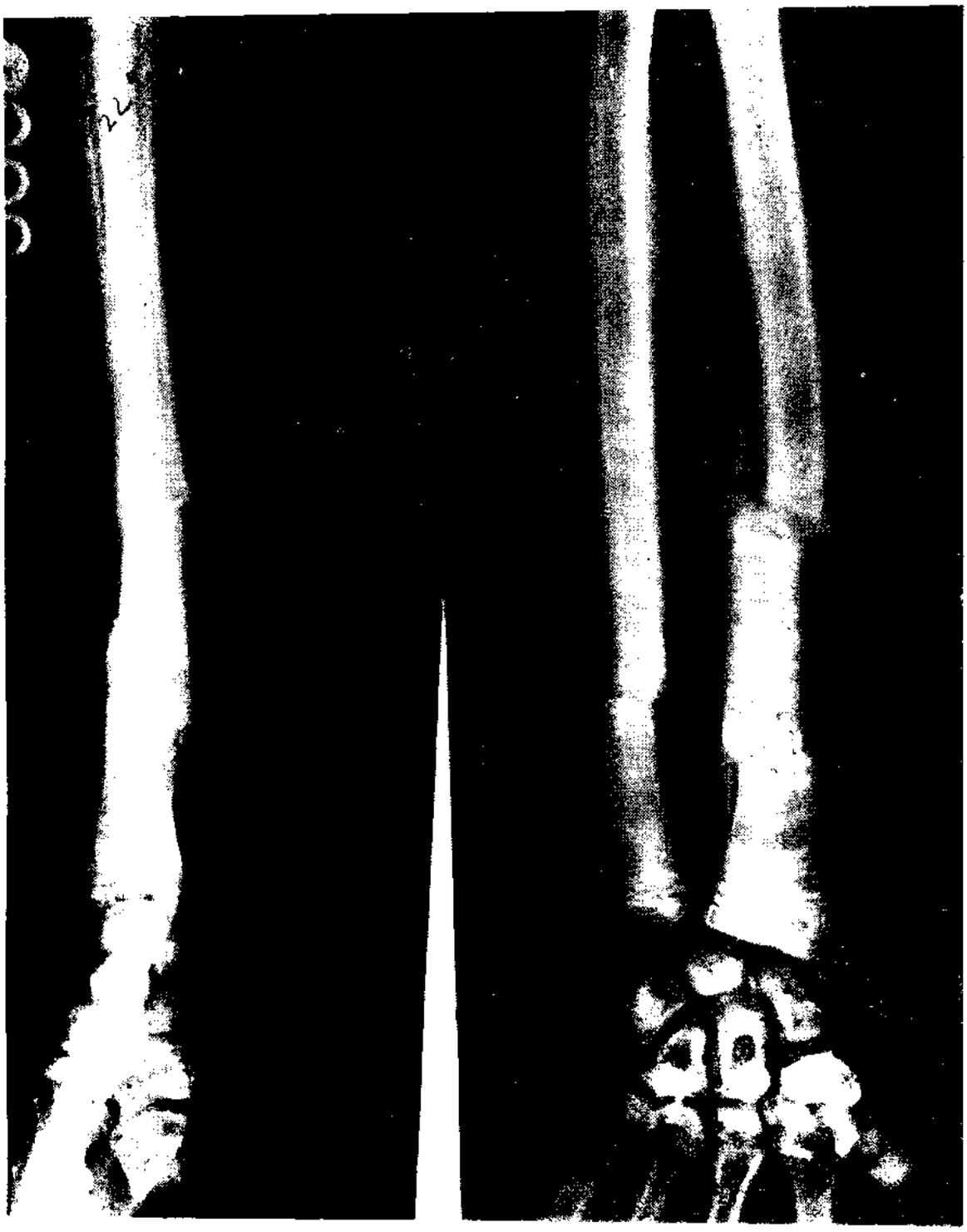

In the adult there is no other disease which gives the typical radiographic appearances. There may be some resemblance between osteosclerosis fragilis generalisata (marble bones) and osteogenesis imperfecta. In the late stages of the latter the X-ray appearances closely resemble those of "marble bone" disease. Clubbing of the extremities is frequently seen in the less severe types of osteogenesis imperfecta and in hyporthyroidism. The relationship is not quite clear. In both "marble bones" and osteogenesis imperfecta the bone density is much increased but the two conditions are quite different.

Another condition which may resemble "marble bones" has been described by Albers-Schönberg. This is osteopathia condensans disseminata or osteopoikilie in which there is a dense deposit of calcium salts in the bones but the areas of compact bone are scattered throughout the cancellous tissue. The bone has a mottled appearance as the dense deposits are not continguous. This condition has been described as a familial one.

Prognosis :—

In Albers-Schönberg's disease prognosis must be guarded. The calcifying process undoubtedly endangers the patient's life. In this case the fractures have healed in a satisfactory manner. Apparently union in normal time without excessive callus is the usual result.

Treatment :—

At the present time there is no known treatment.

Discussion :—

In our case in a Chinese a diagnosis of Albers-Schönberg's disease, "marble or chalky bones," or osteosclerosis fragilis generalisata has been made.

The characteristic bony changes are very well seen in the accompanying photogarphs.

This is a rare condition and only about forty typical cases have been described in the literature since Albers-Schönberg's original communication in 1904.

The clinical picture of this case is complicated because of the accompanying ankylostome infection.

The blood condition greatly improved as a result of treatment and it would seem that there was no great involvement of the bone marrow.

An excellent account of the disease is given in "The Radiology of Bones & Joints," 2nd Edition, by James F. Brailsford, M.D. (J. & A. Churchill, Ltd.)

Acknowledgments :—

Dr. Pringle very kindly transferred this case to the wards of the University Medical Unit, Government Civil Hospital.

We are much indebted to Dr. K. D. Ling of the Department of Physiology, University, Hong Kong, for his determination of the blood calcium and phosphorus.

We also thank Dr. Farr, Radiologist, and Dr. Newton, M.O. i/c G.C.H. for useful suggestions.

Our acknowledgments are due to the Hon. Dr. A. R. Wellington, C.M.G., D.M.S., for permission to publish this case.

A SKIN GRAFTING RAZOR (FOR THIERSCH'S METHOD).

by

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Skin grafting is a minor operation, met in ordinary surgical practice. So frequently has one to do it, that one acquires a proper technique without much difficulty. Nevertheless, an inexperienced man may encounter numerous practical difficulties either due to faulty technique or to the use of a blunt razor which makes it into a prolonged tedious procedure, especially when a large area is to be grafted. Thiersch's graft is usually our method of choice as it suits most occasions whenever new skin is needed. Therefore this instrument is made for use in this method only.

Before one can be fond of an instrument of practical utility, it is firstly necessary to understand all the essential points that it may serve, in the course of operation when a proper technique is employed. It is perhaps not superflous here to mention the most essential points which the surgeon should observe in order to enable him to raise a good graft quickly by Thiersch's method. Apart from observing the ordinary rules for skin grafting and asepsis the following points should be carefully noted:

1. Any grease or vaseline on the razor blade should be thoroughly removed. This is wiped away by means of a swab dipped in ether and then spirit.

2. The skin should be tensely stretched by hand (held by an assistant with a dry swab) and the surface should be presented underneath the razor as evenly and flatly as possible. In case grafts are taken from limbs of small circumference (thighs are chosen) one should attempt to produce a wider tangent surface in contact with the razor so that a broader strip of skin can be raised.

3. An even and firm pressure by the razor should be employed.

4. The angle of inclination of the blade in relation to the skin surface must be constant. If this is strictly observed the graft should be of uniform thickness.

5. A firm grip is applied to the handle of the razor to prevent rotation of the instrument and to maintain firm pressure.

6. The skin is raised by successive sawing movements.

7. The graft, when being raised, is allowed to slide along over the top of the blade, in order to be able to continue the slicing movement indefinitely till a required length is reached.

Having understood those points mentioned above, now let us turn to this razor which is devised to meet these requirements:—

This razor (see picture) consists of three separate parts:—

a. The handle with a supporting plate. (Figure I).

b. Razor blade ($2\frac{1}{4}'' \times \frac{3}{4}''$) with two sharpened cutting edges. (Figure I).

c. The shield which covers the top of the blade. (Figure I).

The whole instrument weighs (147 grms.) and measures 8" long. The handle is made purposely heavier than the opposite end of the instrument so as to facilitate better control of the blade. The gripping part measures 4" long, cylindrical in shape of a diameter of one inch. (Size suitable for average size of hands). The last inch of the cylindrical part of the handle which is next to the neck (figure II) is tapered to a narrower diameter to allow the index finger and the tip or the thumb to rest on it firmly. The surface of the handle is serrated to prevent it rotating on its long axis inside the rubber gloved hand. The handle is joined to the supporting plate through a narrow neck which is bent in one end to produce an elevation or the handle of $\frac{5}{8}''$ from the level of the blade. This design prevents the gripping hand from touching the part in doing to and fro movement. The supporting plate is made of the same size as the razor blade i.e. ($2\frac{1}{4}'' \times \frac{3}{4}''$). Its under surface is slightly convex in the middle and is extremely smooth. The upper surface of it has two screws for the fixation of the blade. The best position for the blade should be placed at $1\frac{1}{2}$ mm. projecting beyond the edge of the supporting plate. (This distance can be varied as desired to suit the thickness of the skin).

The shield consists of an upper curved and a lower flat plate. The lower plate is narrower than the razor blade. It serves to press the blade down and fix it in a chosen position by means of two screws which are tightened with a spanner made for this purpose (figure III). The upper curved plate of the shield is joined to the lower one by a flexible spring. When it shuts, the spring keeps the curved plate pressing closely against the razor blade (figure II). This serves the purpose for the graft to slide over the smooth convex upper surface of the shield. (Note: special emphysis should be laid on the fact that this curved plate must touch the blade closely all along its free edge, otherwise any space will allow the graft to crumple and therefore to hinder onward movement).

One can easily see that this razor has many advantages over an ordinary one. Firstly the blades are cheaper and can be changed frequently. One can afford to use a new blade for every operation. Secondly the blade can be fixed in an optimum place on the handle

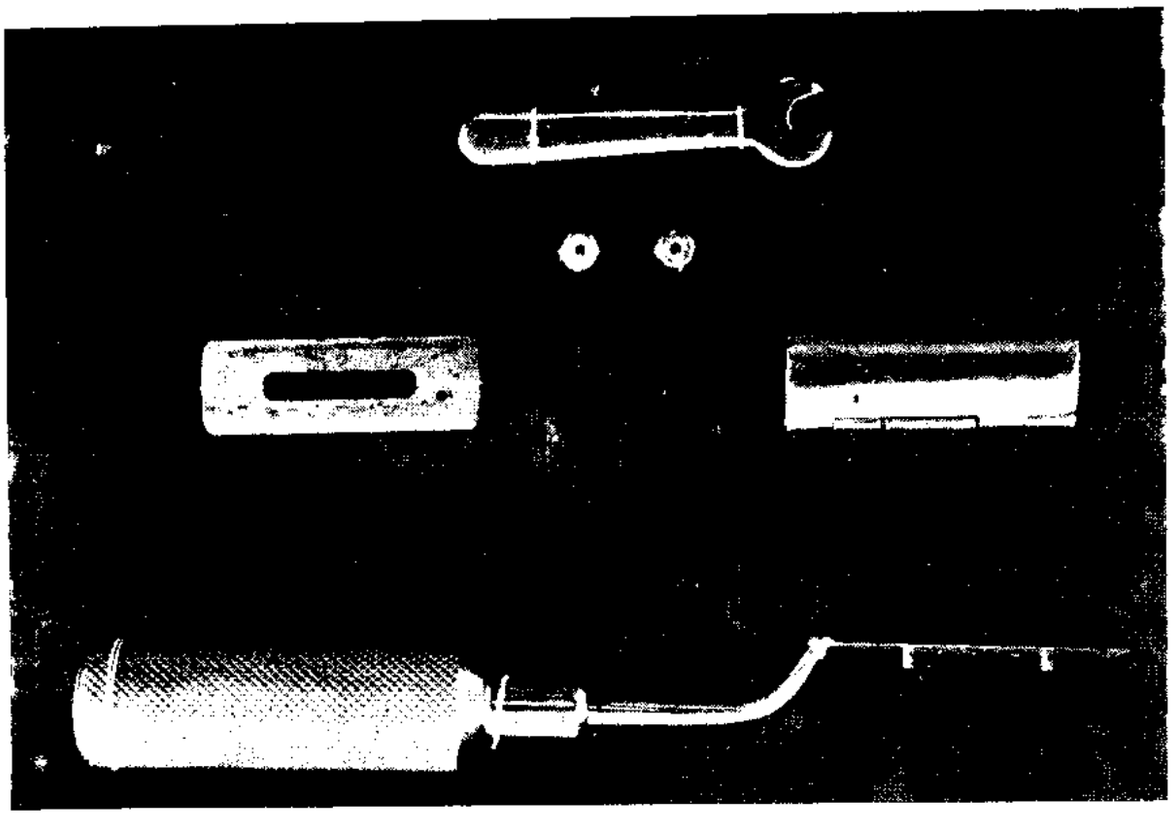

Figure I.

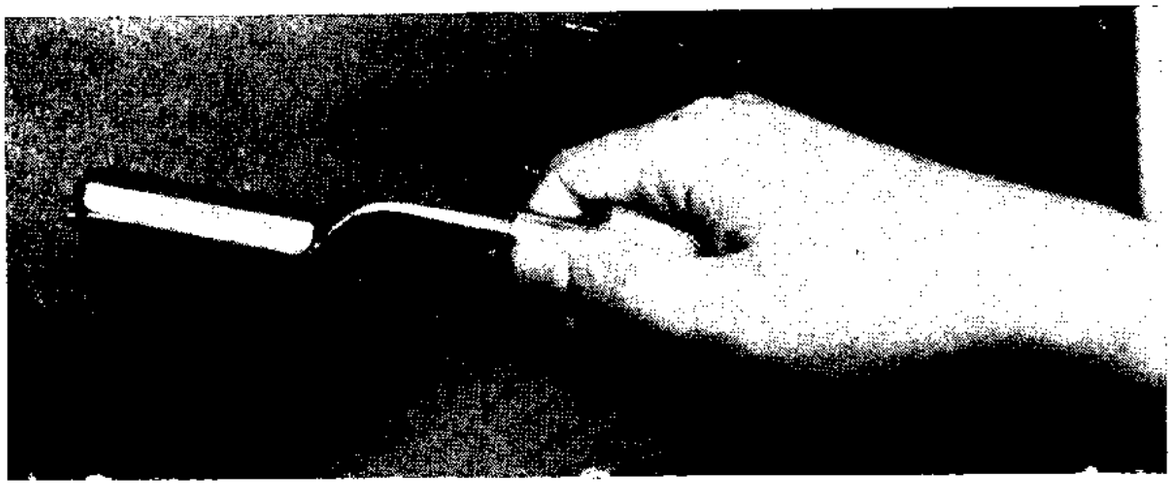

Figure II.

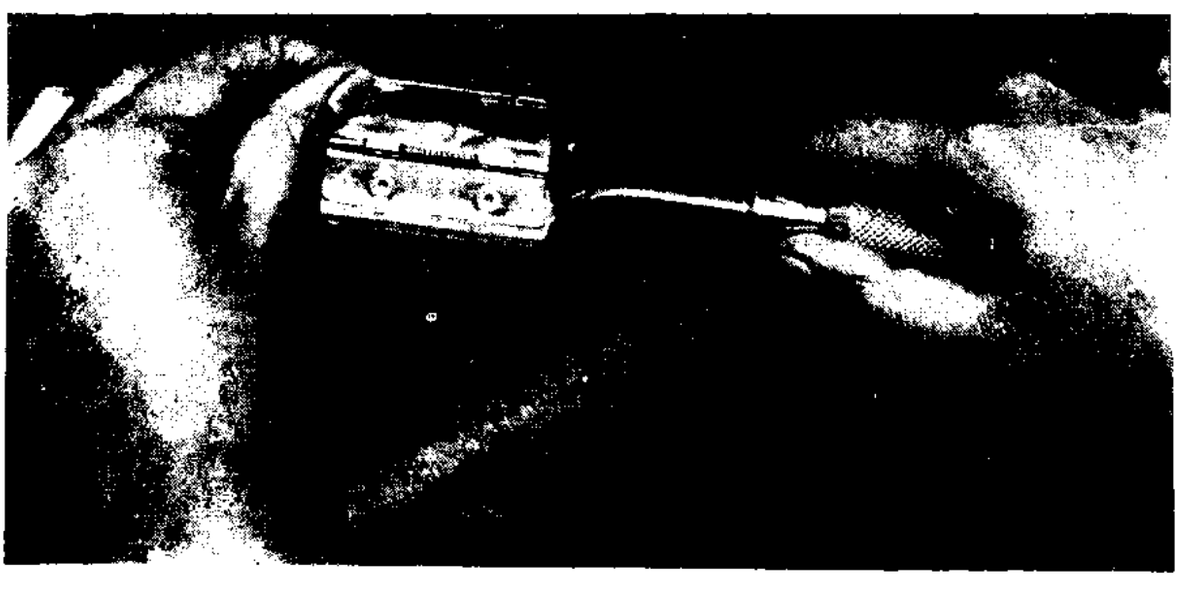

Figure III.

which can be firmly gripped and controlled, to obtain uniform thickness of the graft of any length. With the advantage of having the curved shield over the screws, the graft can slide over the surface very smoothly. Thirdly, with the elevation of the handle above the level of the blade, it is no longer in one's way when one is doing the slicing movement as in the case of using an ordinary razor.

I made this through the kind help of Mr. Weller of University Engineering Work Shop, who has given me many useful suggestions. Many alterations have since been made after several trials on cases in the last six months. It has been suggested that a longer blade (3″) would be better, but I have not been able to purchase ready made blades of that size in Hong Kong.

Prof. K. H. Digby has made several helpful suggestions in the making of this instrument to whom I am deeply indebted. I shall welcome any criticism or suggestions to improve its making in future.

Review of Books.

"Diagnosis of Some Delusional Insnaity Types in General Practice." ByEdwin Hopewell-Ash, M.D. Price 2/6 Nett. Published by John Sale Sons & Danielsson, Ltd. Oxford House, 83 Gt. Titchfield Street, London W.1.

This is an extremely valuable booklet. As the general practitioner is very frequently the first to come into contact with the early evidence of mental disturbances, a concise and simplified presentation of the main points for close observation is most helpful.

Unless the practitioner has had special training in the diagnosis of mental diseases, references to standard text-books only lead to increased confusion. The author has succeeded in producing a clear, condensed and thoroughly practical aid towards the diagnosis of the more common psychotic types.

One is glad to note the author's emphasis on "a definite predisposing basis of congenital origin."

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