THE CADUCEUS

JOURNAL OF THE HONGKONG UNIVERSITY MEDICAL SOCIETY

Vol. 5 August, 1926 No. 2

All medical papers and other scientific contributions intended for the Journal, and all books for review and magazines in exchange, should be addressed to the Editor, "Caduceus," Hongkong University, Hongkong.

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ENCEPHALITIS EPIDEMICA IN CHINA.

A Contribution to the History of Encephalitis Epidemica in China.

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In a former paper (China Medical Journal, March, 1924) I endeavoured to give an extensive picture of the symptomatology of encephalitis epidemica and the first appearance and spread of the disease in Europe. Since then I had the opportunity of observing a good many more cases in China so that I am able to give in this paper a resumé of a hundred cases which for the greater part came under my observance during my stay at the Peking Union Medical College, and which have been studied very carefully especially from the neurological point of view.

The literature on encephalitis epidemica which has grown so immensely in Europe during the last ten years, is still very scarce with regard to observations from China (papers on epidemic encephalitis in China will be found in chronological order in the bibliography at the end). I regret to say that this scarcity is not due to the fact that the disease is rarely found in China but to a great extent to the lack of interest which the general practitioner pays to neurological diseases; and yet neurology is one of the most interesting parts of medical science and must not any longer be considered so absolutely hopeless with regard to treatment as many medical men still believe.

The epidemic encephalitis in particular belongs to a pathological entity of nervous disorders, which by involvement of only the extrapyramidal tract system displays quite a peculiar complex of symptoms of an interesting and polymorphous character.

The disease is not at all rare in China, as it is still generally believed. Besides the many cases I have observed in northern parts of the country I have already seen five cases in Hongkong within a few months.

With this paper I hope to give some stimulation for further studies of encephalitis in China.

Table 1 shows the **places**, from where the patients came for observation. As a matter of fact more than half of the patients came from Peking or its immediate neighbourhood, seven were from Tientsin, the rest mostly came from cities, situated at the coast or at the lines of railway traffic. The province furthest interior, from which a patient was sent to us was Szechuan.

Table I.

Peking	53	Shansi	3	Chefoo	2
Peking (country)	13	Paoting	3	Tsingtao	1
Tientsin	7	Nanking	3	Kalgan	1
Peitaiho	4	Shanghai	3	Chengtu	1
Foochow	4	Mukden	2		
					100

Reliable observations of cases of encephalitis epidemica in the interior and the western parts of China have to my knowledge not been made yet, but from my experience in places where I found the disease present and where it has been unknown up to that time, I am inclined to presume that the encephalitis has by now spread all over the country in approximately the same proportion as has been found in Peking or in Europe.

Of special interest is the sporadic outbreak of the disease in Peitaiho, which since 1921 occurred every summer among the foreigners. In the first years the cases were of a rather acute and severe form—several patients dying within a few days of their illness—lately the character of the disease has become much milder.

The first incidences and the frequency of the encephalitis in the following years are given in the following table (2).

Table 2.

	1919	1920	1921	1922	1923	1924	1925 (½ year)
Number of cases:	5	12	8	20	23	26	6

TABLE 3.

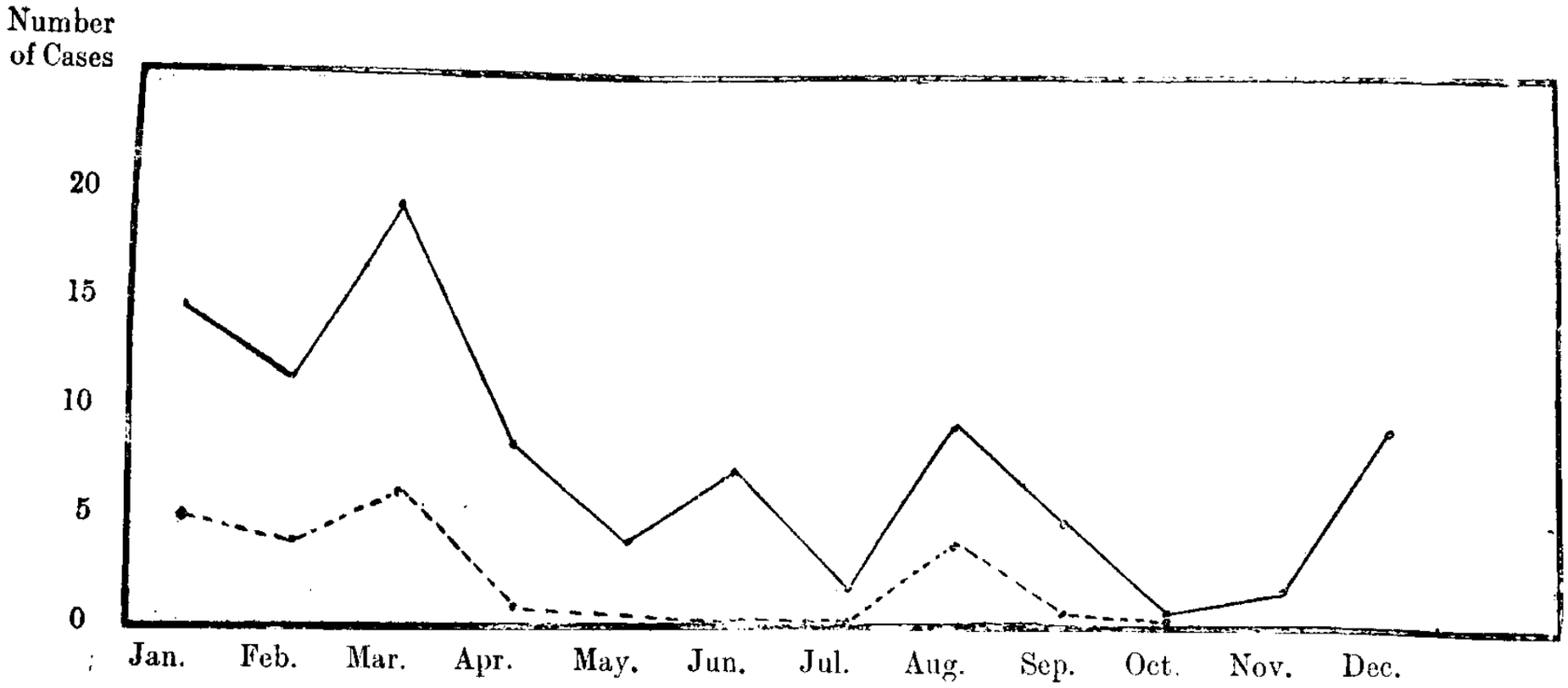
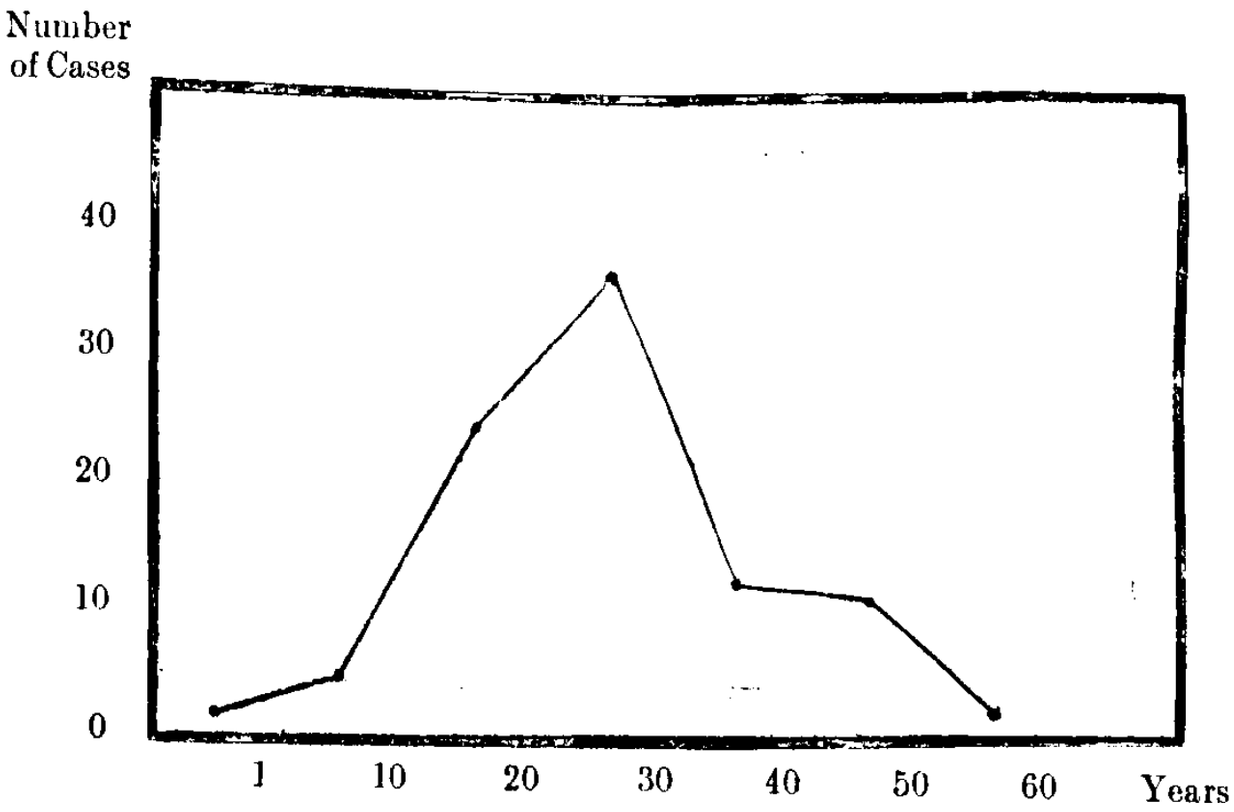

Number of Cases
20
15
10
5
0
Jan.
Feb.
Mar.
Apr.
May.
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
Cases 1919-25
Cases 1924 only

TABLE 4.



The disease first occurred in China in the year 1919. The earliest date was given to me by a Chinese student who gave a reliable account of his own disease. For its "historical" interest the history may be briefly mentioned here:—

Student, aged 25; March 1919 whilst in Shanghai, fever of ten days' duration, dizziness and double vision, later sleepiness continuing for several weeks. Since 1922 increased difficulty of speech, increased salivation and appearance of involuntary movements of head and hands.

Findings: Typical Parkinsonian posture and gait, myoclonus of left sternocleidomastoideus, tremor of both hands, pupils dilated, absence of light reaction, paresis of rectus internus, tendon reflexes active, W.-R negative.

In the same year four other patients contracted the disease, one in July in Foochow, the rest in autumn in Peking, Paoting and Taiyuan (Shansi). Recently the number of cases which I have observed has gradually increased, probably partly due to the growing interest of the medical men, who had sent these patients to us for further study. On the other hand during the last few years several small epidemics have occurred in Peking and its neighbourhood, to which I have to refer later.

With regard to the season Table No. 3 shows that the disease occurred throughout the year, but as it is known from other countries a marked rise sets in, especially in 1923 and 24 in Peking, during the winter months, December to March. At this time, the climatic condition of Peking and Northern China is dry and cold with dusty winds, the season of catarrhs of the respiratory tract.

Table 3.

There is a second but only slight elevation of the curve in August, the end of the rainy and beginning of the dry season. It might be mentioned here that the outbreak of the great epidemic of a special form of encephalitis epidemica in Japan in 1924 also set in during a remarkably dry summer and abated with the onset of the wet season.

Table 4.

With regard to age (see table 4) the majority of the patients were between the years of puberty and middle age, (more than half between 14 and 27 years), the youngest was 5 months, the oldest 61 years old, 80 of the total number of 100 patients were males, 20 females; 82 Chinese, the rest foreigners.

The distribution among the classes of people is illustrated in Table 5. Farmers were less affected than people, who spent most of their time in closed rooms. A great percentage of our patients were students, but very few soldiers who on the other hand represent our richest clinical material in neurosyphilis.

Table 5.

Students	27	Farmers	4	Labourers	2
Housewives	10	Apprentices	3	Officers	2
Merchants	9	Servants	3	Soldier	1
Missionaries	7	Ricksha-pullers	3	Lawyer	1
Teachers	5	Officials	2	Technician	1
Nurses	4	Policemen	2	Dressmaker	1
				No profession	13
					100

The clinical picture of encephalitis epidemica does not differ essentially from what we see in western countries. Also in China the Parkinsonian type (35% of all forms) represents the largest group. It is strikingly interesting how closely members of the white and yellow races come to resemble each other, how the racial differences disappear in the mask-like face with lacking mimic expressions and when movements and gestures are restricted to a stiff doll-like appearance.

Parkinsonian Types.

Among the **Parkinsonian types** (Figure 1) were the cases of longest duration, the 5 cases with onset in 1919 belong to this group. The interval between the onset of the disease and the first manifestation of symptoms of disturbance in movements (bradykinesia) varied a good deal. The earliest date at which I found Parkinsonian signs fully developed was 3 months after an acute onset with fever, oculomotor symptoms and lethargy. Other patients and also their relatives affirm that 2 and even more years had elapsed between the initial symptoms and the appearance of the first kinetic disturbances.

A striking feature in the history of this group of patients is the pronounced **sleepiness**, which usually greatly impresses the patient as well as his family, so that this symptom is rarely forgotten by the patient, when relating the history. The patients fall asleep while standing and talking to someone, at their meals, in the bath tub or at other such like occasions. In the other forms of encephalitis the lethargy does not play this important role in the history as in the Parkinsonian type. In a few cases a trauma was considered the provoking agent of the

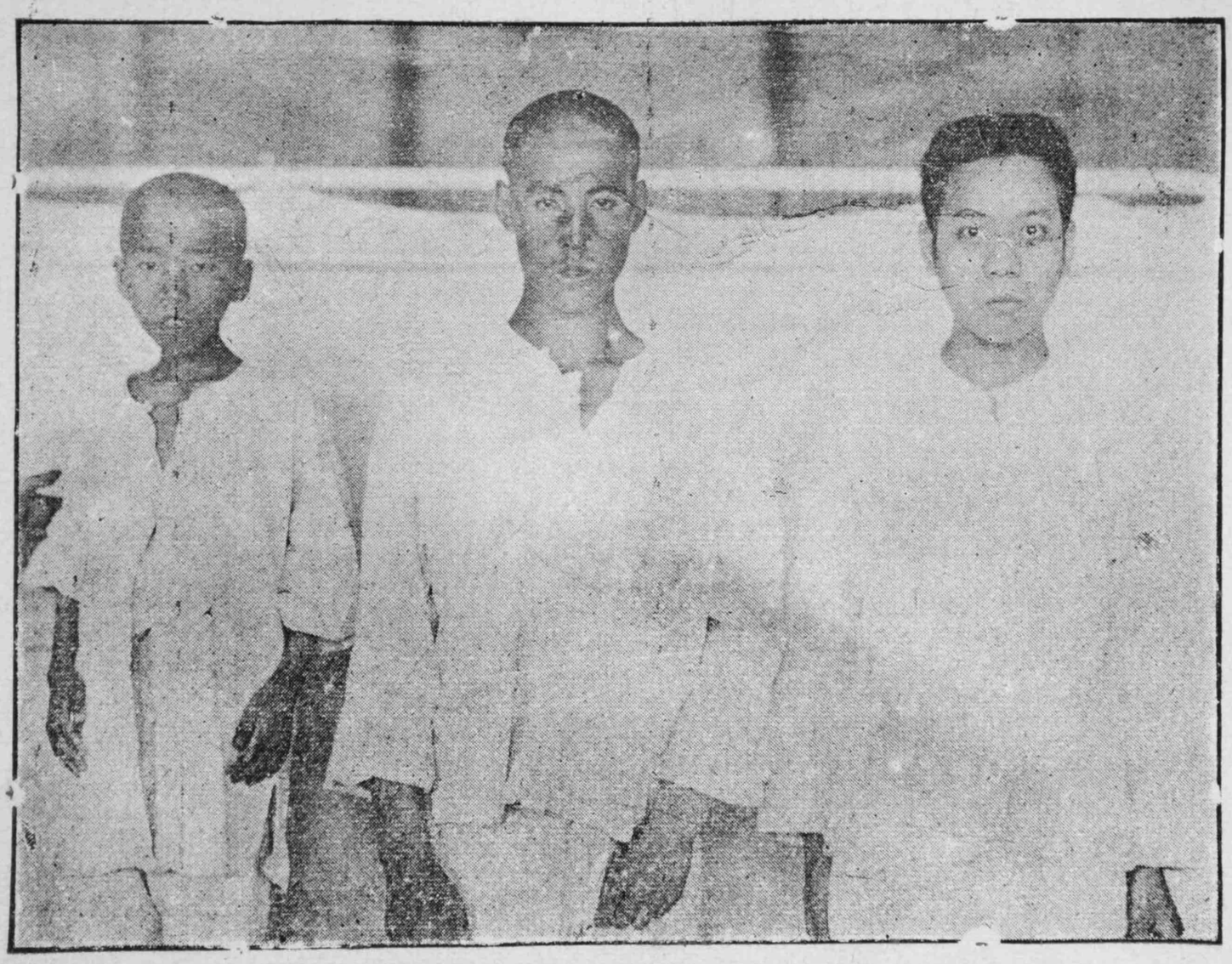


Figure 1.

Encephalitis Epidemica. Parkinsonian type. Mask-like face, rigidity of arms, increased salivation, (middle), staring eyes (right).

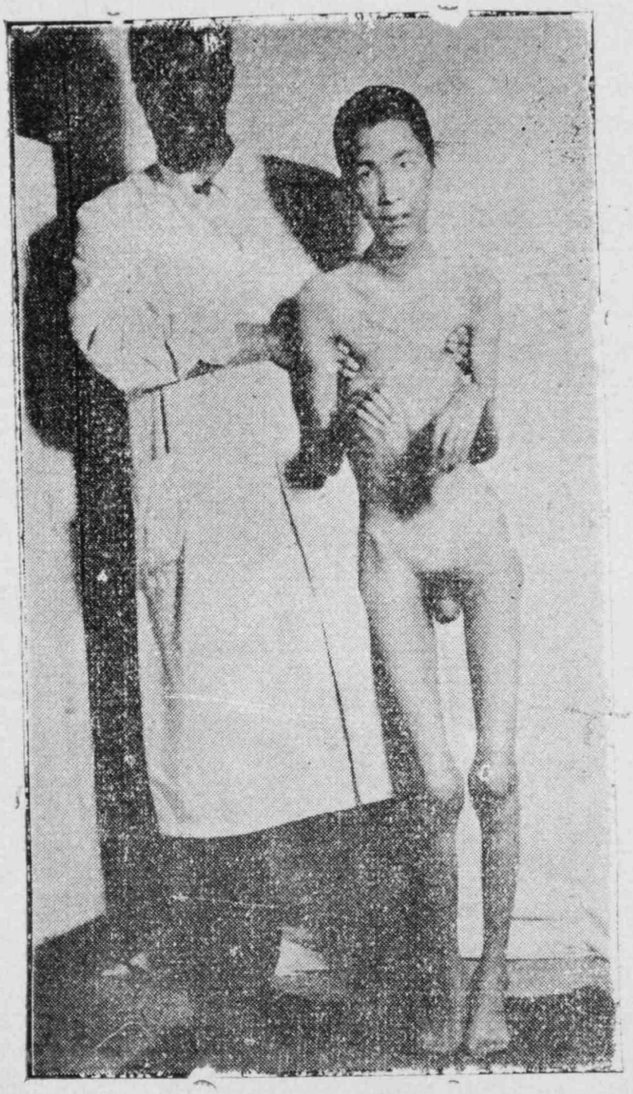


Figure 2.
Parkinsonian type. Very marked rigidity of whole body.

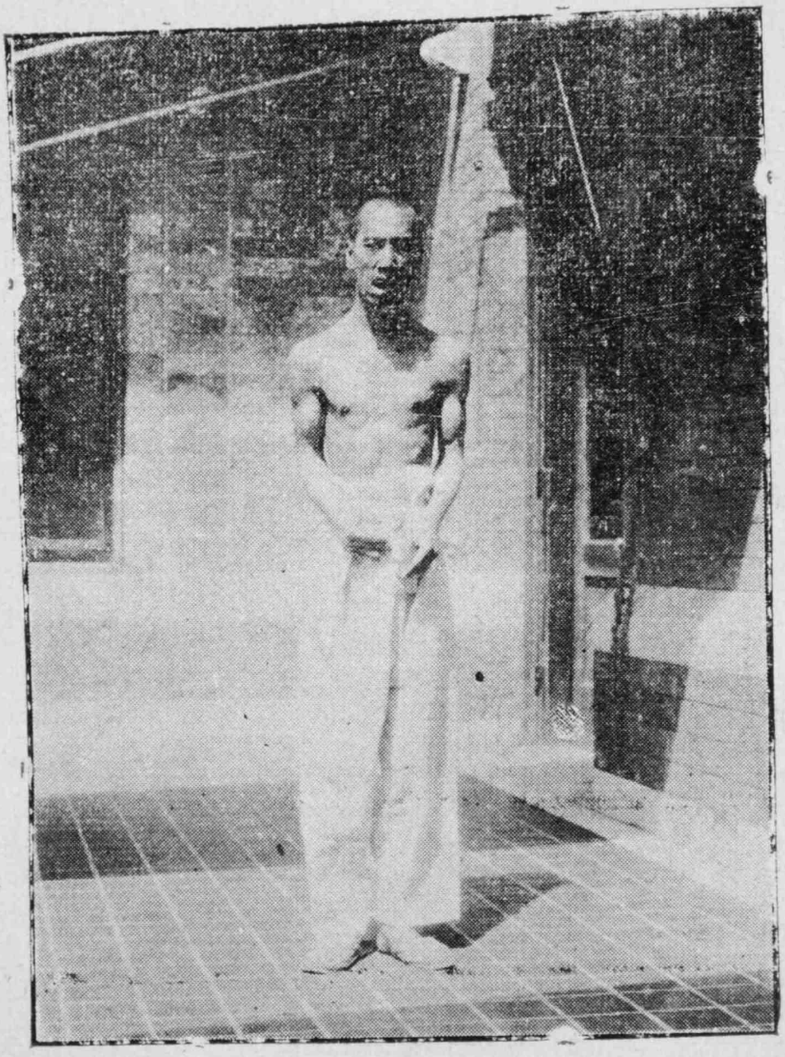


Figure 3.

Parkinsonian type. Tremor of lower jaw and hands. Tetany position of hands.

disease. In some, especially in young patients the **akinesia** developed to a very high degree. Neglected by their family, half starved, such patients would lie in their beds with their limbs rigidly fixed at the elbow and knee-joints, unable to move (Figure 2), except that their eyes, like search lights constantly moving from one place to another, betray that the patient is taking an interest in his surroundings. No wonder that superstitious people even among the nursing staff cannot overcome a certain feeling of fear at the aspect of such statue-like patients, which they believe to be possessed by some kind of evil demon.

The typical tremor of paralysis agitans was absent in all cases of this group, but involuntary movements of various kinds from the finest muscular contractions to coarse tremors and extensive choreiform movements of the extremities were present in 75% of the cases (Figure 3). 8 patients displayed no hyperkinetic signs at all, although in a few of them those movements had been present before and had subsequently disappeared.

Whereas the mask-like face can be considered a typical sign, in Parkinsonian patients of the yellow race I was not able to confirm another sign as being present in our Chinese patients, which we constantly observe in the same type of the white race, the so-called "ointment" or greasy face. This sign, therefore, cannot be considered as a significant feature of the Parkinsonian form of the disease among the Chinese. The natural appearance of the facial skin of the yellow race is of a somewhat shiny character, probably also the yellowish tint does not render differences in glamour so easily distinguishable as in the white race.

In most cases the **oculomotor nerve was involved** with partial paralysis of one or several muscles; more or less increased salivation was another constantly present symptom.

In 5 cases (4 men and 1 woman) and only in those of the Parkinsonian type **compulsory movements of both eyes** were observed. They were accompanied by a certain feeling of uneasiness and anxiety; one boy used to cry aloud at the onset of these attacks. The patients experience the feeling that they cannot move their eyeballs any more and are unable to turn them out of their forced direction to another side, except for a few seconds. In one case the attacks were accompanied by loud gargling sounds in the larynx; another patient spoke of these crises as attacks of blindness.

In all patients the eyeballs were rolled up during the attacks and were fixed in this extreme upward direction for 5 to 10 minutes or even longer, then slight conjugate movements to

one or the other side began in the way of a lateral or slightly rotating nystagmus until after 15 to 20 minutes the spasms gradually disappeared. The upward movement and fixation rigidity of the bulbi were regularly followed by a movement in the same direction and **fixation of the head in extreme extension,** which continued during the whole attack. The extremities during this period were also held in a flexed and rigidly fixed position.

The eyes during the crisis could be closed only with great effort and soon resumed the former fixed position under rhythmic winking movements of the upper lids.

In one case the movement and fixation of the eyes and head in the upward direction were immediately followed by a similar movement downwards of both eyes and head. The pupillary reaction was always preserved. According to the intensity of the spasms the attacks lasted from one to several hours, they often returned in somewhat regular intervals of 2-3 days, generally in the late afternoon. Fatigue of the eyes after long reading or prolonged gaze at an object was considered responsible by some patients for provoking the attacks.

In another case the ocular crises were accompanied by a nystagmus like myoclonus of the left sternocleidomastoid muscle.

In one instance these compulsory eye movements appeared very soon after the initial stage and formed the main symptoms of which the patient complained during the following year; at the end of this period other **myostatic** disturbances appeared. There was **a remarkable staring glance of the eyes** in all these cases. (Figure 4).

The following case represents an example of the Parkinsonian forms:—

No. 40. Fan, merchant, aet. 17 y. Admitted October 1923. Begin January 1921 with lethargy continuing for 4-5 months, later the movements gradually became stiff and also the facial mimic expressions; increased salivation; since June 1922 after a fright rapid increase of the muscular rigidity.

Status: Mask-like face, typical akinesia and bradykinesia, no tremor, the slow movements and the jerky play of the eye balls resemble much the behaviour of a chamelion. Marked rigidity: the mimic movements at the expressions of laughing and pain remain in the face for some time. (Fig. 5.) Sensation: o.k. Tendon reflexes active, skin reflexes weak, no Babinski reflex. Skin dry, perspiration diminished, but excessive salivation. Pupils: right larger than left, normal reaction. Closure of eyelids quick, but opening slow (5-7 seconds with tremor of the upper lids), absent convergence, no corneal ring.

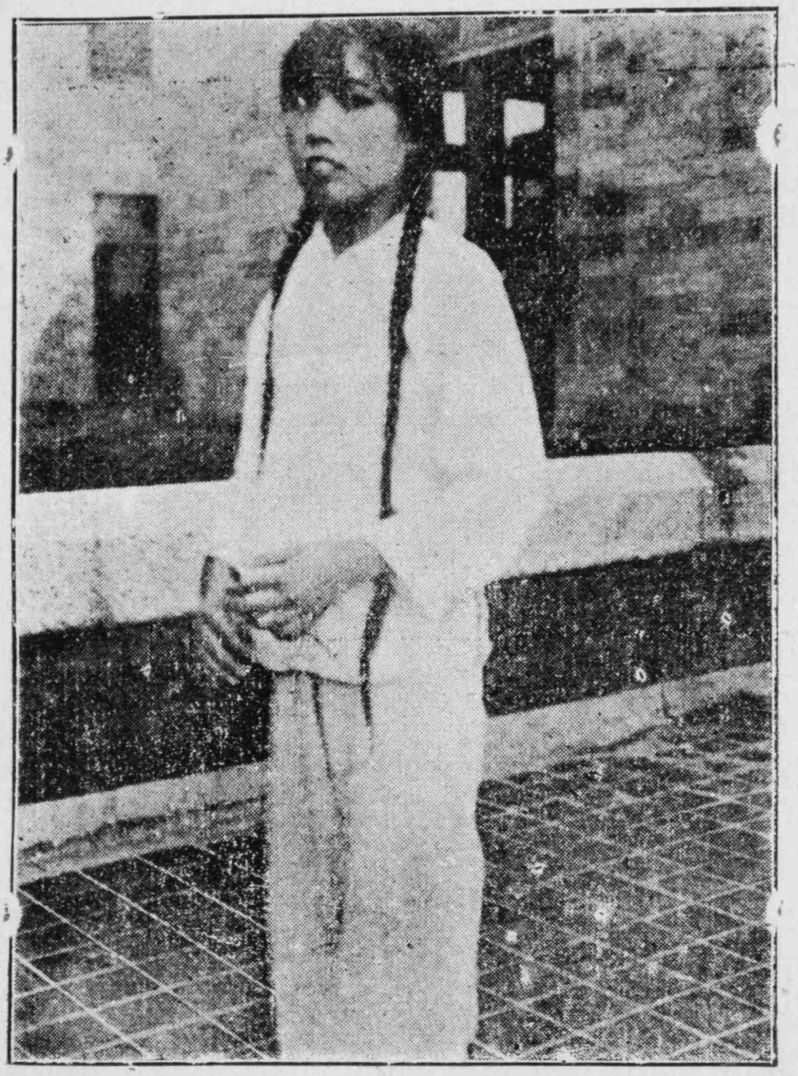


Figure 4.
Parkinsonian type, Statue-like-station.
Staring eyes.

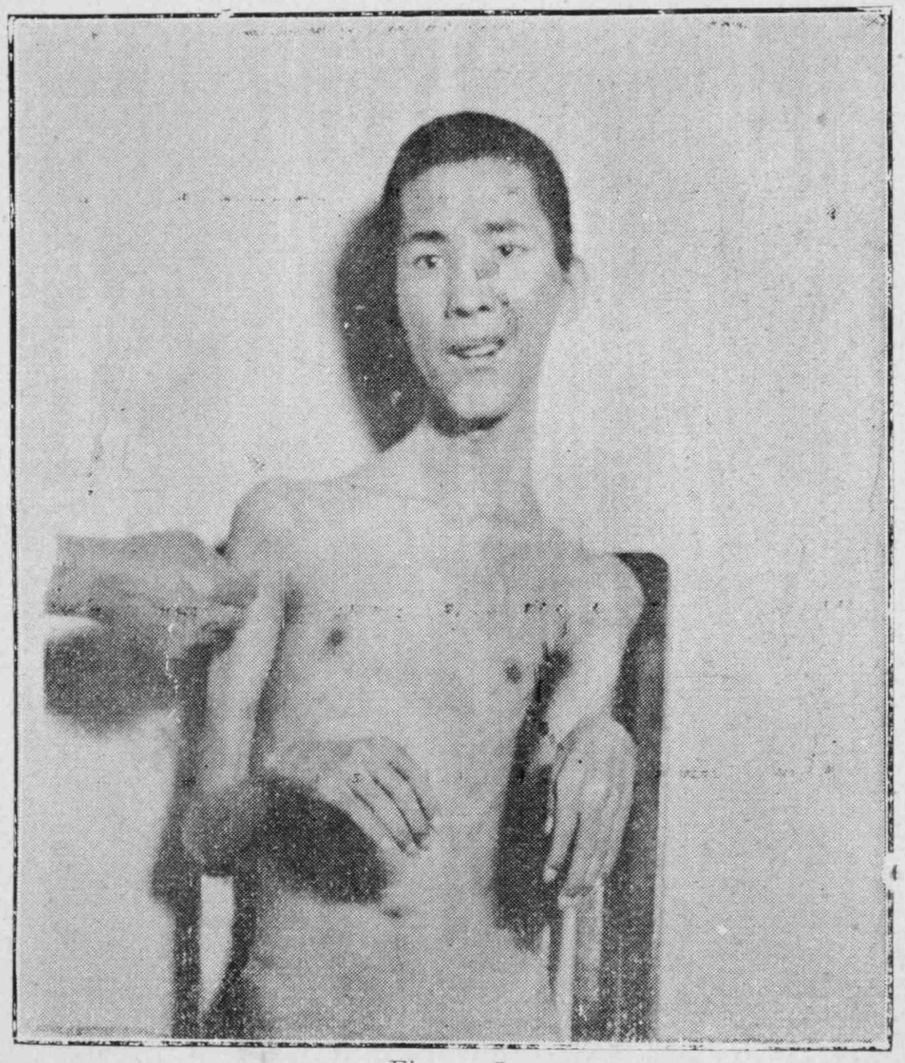


Figure 5.

Parkinsonian type. Flexion rigidity, in mimic expression.

Patient cannot speak nor protrude the tongue out of his mouth and swallows only a small amount of fluid, which has to be passed deeply into the pharynx. Internal organs, especially the liver o.k. Urine o.k., Blood and spinal fluid W-R negative. Spinal fluid: no cells, globulin 0.34 mg. in 1 cc. sugar 67 mg. per 100 cc.

Hyperkinetic Forms.

Of purely **hyperkinetic forms** there were 20 such cases with finest galvanoid muscular contractions in the face, increasing at voluntary movements, or others, in which the myoclonus was more marked as regular, more or less strong contractions in the flexor area of the extremities or in the back muscles. In four cases rhythmic contractions of the neck muscles were present, which resulted in very annoying, nystagmus like lateral movements of the head. Three patients displayed clonic contractions in both masseter muscles with continuous up and down movements of the lower jaw; in one case these symptoms were unilateral.

The majority of these patients came to the clinic only on account of the abnormal movements and when examined no other changes could be found. Only after careful inquiries the connection with a previous illness with lethargy, double vision and other symptoms could be elicited.

All grades could be observed from the most minute tremor of the hands scarcely being visible but still disabling the patient from writing, to coarse extensive choreiform movements of one or several extremities which, in some cases, were only unilateral.

In a few cases, especially when the patients were excited, these movements became very violent and developed into attacks of a general shaking tremor of the whole body, followed by profuse sweating and prostration.

Acute Forms.

Of **acute forms** in development twenty-five cases were admitted, three of them died a few days after the onset with very grave symptoms. General malaise in the beginning, fever, headache, nausea, joint pains, tired feeling and sleepiness were the common complaints.

Eye symptoms were of the earliest signs that usually appeared, especially double vision, later speech and swallowing became difficult, in a few cases a scarlatinoid rash of short duration was observed. After the initial feverish stage had subsided rhythmic muscular contractions often appeared

especially in the face, or they existed as a condition of a sort of latent myoclonus only; the contractions would readily appear upon the slightest mechanical stimulation or after a spontaneous voluntary movement of the respective muscles. Twice I saw unilateral facial paralysis, but never combined with the involvement of the acoustic nerve, as we see it so often in the syphilitic neuro recidiv. In one case the sixth nerve was paralysed. In nearly all cases the oculomotor symptoms persisted for a long period, mostly as ptosis and loss or weakness of convergence.

The following very instructive case with post mortem findings represents the grave acute form:—

No. 73. Missionary. aet 26. Admitted October 30, 1924. A fortnight ago symptoms of bronchitis; patient thought to be suffering from influenza. 20. Oct. double vision, 24 Oct. pain in the forehead, 26. Oct. first day, at which the patient felt really ill. 27. Oct. great fatigue, vomiting. 28. Oct. double vision; consulted an eye specialist, who could not find any pathological changes, 29. Oct. Sleepiness, slight fever, eyes can scarcely be kept open.

30 Oct. admission: slight lethargy, ptosis r > l. pupils r < l. light reaction preserved, accommodation absent, speech slow, undistinct; salivation increased, movements slow, stiff; muscular tonus increased. No pyramidal tract symptoms. Sensibility, reflexes, sphincters o.k. Blood: W-R. neg. Spinal fluid: W-R. neg. 13 cells, total protein 0,96 mg per cc.; sugar: 58 mg per 100 cc. Colloidal gold: 001210, mastix: 1100. Course: Lethargy increasing, ptosis more marked, cramp-like pains in the joints, myoclonus of lips. Temperature between 102°F 104°F. 6. Nov. Exitus after increasing somnolence and raise of temperature to 106.8°F.

Anatomical findings: Brain macroscopically o.k. except slight discolouration of both substantiae nigrae. **Microscopic findings:** Extensive cellinfiltration within and around the vascular sheaths, small cell infiltration in the tissue. These histological changes are most marked in both substantiae nigrae, the ganglion cells there showing extensive degeneration. Similar areas of infiltration are found ventrally of the aquaeduct of Sylvius round the ganglion cells of the oculomotor nucleus and still further distally penetrating the fibres of the root of the third nerve itself. The red nuclei are entirely free and also the pedes pedunculi, but the medial longitudinal bundle and the crossing fibres from the tegmentum are slightly infiltrated. The inflammatory process rapidly decreases cephalad as well as caudat. In the globus pallidus there are only a few perivascular infiltrations to be found and in the pons a few scattered areas between the pontine nuclei; nucleus dentatus and medulla are free of changes.

Bulbar Forms.

Besides the small epidemics of acute cases in Peitaiho which were mentioned above we observed a small epidemic of **15 cases of a quite benign character in Peking** from January to March 1924. More than half of these cases (9) were women. Fever was either entirely absent or present only in a slight degree, but nearly in all cases bulbar symptoms were found besides ptosis

and double vision: Difficulty in speech and swallowing and pareses of the eleventh nerve. Several of these patients had suffered from a previous catarrh of the upper air passages, but frank influenza was not prevalent. In five cases which followed a strikingly similar course the possibility of a direct contact infection can not be entirely excluded.

The following cases illustrate the type of the **bulbar form** and the possibilities of a **contact infection.**

No. 39 Physician's wife, act. 33. Admission March 3, 24. Two weeks previously slight fever, cold and a sore throat. Husband and 3 other persons, with whom he was in touch, suffered from similar symptoms at the same time, but recovered after a few days without further consequences.

Febr. 29 Difficulty in moving the tongue, swallowing only possible with great effort, eyes cannot be fully opened, no headache.

March 3: Admission: slight lethargy, bilateral ptosis, pupils l > r, light reflex sluggish, convergence weak, paresis of all muscles, supplied by the oculomotor nerve more marked on the left side. Larynx o.k. Head can only be lifted from the pillow with the help of both hands (Paresis of the sternocleidomastoid and trapezius muscles). Patient can swallow only a few drops of fluid at a time. Movements of tongue and extremities, reflexes, sphincters o.k.. subfebrile temperature, W-R in the blood and spinal fluid negative.

Course: Continually improving, lethargy gradually subsiding. April 12: Discharged, there is only slight ptosis and difference in the size of the pupils present, re-examined one year afterwards also these signs had entirely disappeared and the patient felt quite well.

On March 16 a Chinese nurse, who did work on the same floor, on which the patient, mentioned above, was lying ill, complained of sore throat followed by slight fever, sleepiness, ptosis, difficulty in swallowing, and accessory paresis, double vision was also present. After 4 to 5 weeks the patient had recovered again, only ptosis and weakness of convergence were still present, patient is now quite able to do her work again.

On March 19 a second nurse, since March first on the same ward, complained of double vision as first symptom, within a few days the same symptoms developed as in the other patients, but the course in this patient proved more prolonged, still after several months the nurse felt very tired and there existed still marked weakness in convergence and pupillary difference.

The girl, who attended the first patient and a fourth one who occasionally came into contact with the latter, also became ill with slight catarrhal symptoms at the same time as the others were affected, but no signs of encephalitis appeared.

During the whole summer when this outbreak of acute encephalitis occurred in Peking, I happened to observe 9 other patients who complained only of visual troubles,—in most cases previous double vision had existed or still was present, in others the loss of accommodation had rendered reading difficult and this symptom had brought the patient to the eye specialist. In one employee of the hospital, whose only complaints were double vision, a total paralysis of the left internal rectus of the eye at conjugate movements was found and only in these; the function of the muscle at the monocular movements proved to be absolutely normal. Signs of syphilis in this patient could not be detected, the W-R in blood and spinal liquor was negative. After a duration of 4 days the paralysis had entirely disappeared.

Considering the epidemic, prevailing at that time in Peking these cases just mentioned as well as 7 others with more or less marked lethargy but lacking other symptoms have to be classified in my opinion among the abortive forms of encephalitis epidemica. According to extension and intensity of the infection, to individual disposition and resistence, apparently we have to deal with different grades and variations of the nosological picture. The epidemics of the various years often show distinctly each their special character.

Ocular disturbances as result of the involvement of one or several oculomotor nuclei in various combinations were found as one of the most constant symptoms.

Patients who have to walk with their head characteristically tilted downwards in order to be able to see the ground (on account of bilateral paralysis of their recti inferior muscles!) and those with isolated paralysis of accommodation and convergence, rigid or different pupils, but lacking other symptoms have always to be considered suspicious of an encephalitis previously contracted. In times of epidemics special attention is to be paid to these monosymptomatic forms and I recommend in doubtful cases a careful examination of the eyes in the darkroom, as the only means to detect slight changes in pupillary reactions in the darkly pigmented eyes of the yellow race.

A significant feature of the neurological findings in encephalitis epidemica is the **absence of any marked pyramidal tract symptom,** in some especially the older Parkinsonian cases the tendon reflexes were slightly increased but never to such an extents as to result in a clonus, the sphincters were always under control. Mental disturbances have not been observed in our cases. Blood and spinal fluid have been examined in all cases, the **W-R was always negative.** The cells in the spinal fluid kept

within normal limits except in the more serious acute cases, where an increase of 13-15 cells was found. In several instances the content of sugar in the spinal liquor was slightly higher than normal, but the findings proved not regular and cannot be considered to be of any diagnostic value.

With regard to **treatment** there is not much to say, with none of the recommended remedies have we seen any result worth to be mentioned. In acute cases intra-muscular injections of convalescent's serum seem to render the course of the disease milder, also intravenous injection of Pregl's iodine solution and Trypaflavin may have some good effect. In chronic cases systematic physical exercise, especially swimming seems to me to give the most promising results. A lady in the early stage of Parkinsonism with already marked rigidity on my recommendation took up swimming with great energy and already after 5 weeks had remarkably improved in her external appearance as well as in her movements, which had become almost normal again. Unfortunately such cases are exceptions.

Before concluding this paper I will shortly discuss the **routes by which the epidemic encephalitis probably has found its entrance into China. Three main lines have to be considered.** The invasion could have come from the east, from America by way of the Pacific and Japan, or secondly through Siberia and lastly from the West by way of India.

In America the first cases had been observed in the east of the country in the end of the year 1918, but in the western parts the disease appeared a whole year later. As the first case in China occurred in Shanghai already in March 1919, the introduction of the disease by the long sea route from America seems not very probable.

In Russia cases of encephalitis have been observed already some time before 1919, but the disease apparently appeared in Siberia not before the end of the latter year. The trans-Siberian railway connection between Europe and China had still been interrupted at that time at various places and it seems to me much more probable that the disease which appeared in Peking for the first time in autumn 1919, was imported from southern parts, by the railway line from Shanghai, besides the reports of the first cases in Harbin and Mukden are of a rather later date than those in Peking.

The last route, by which the disease could have intruded into China, the southern route from Europe by way of the Red Sea

and India to the south ports of China, seems to me the most probable path on which the encephalitis has travelled, for the facts that firstly the disease made its first appearance in the southern ports of China, places situated at the great connecting lines between West and East and secondly in the same year cases of epidemic encephalitis were observed among soldiers in the barracks in Karachi and also—in July 1919—on the Adaman islands, thus very likely soldiers have been the carriers of the disease to the Far East. We often see other epidemics, for instance, cholera, when intruding China from the West following the same successive steps—Canton, Foochow, Shanghai, Nanking, Tientsin. It might be mentioned that, according to reports, the encephalitis has since appeared in India only in very sporadic incidences.

In Japan the disease appeared approximately at the same time as in China, probably along the same lines of transmission.

Conclusions.

(1) The clinical picture of encephalitis in China is not essentially different from that in other countries, and the disease not less common than elsewhere.

(2) Most of the cases occur at least in northern China during the dry season from January to March.

(3) 35% of all cases belong to the Parkinsonian type.

(4) In 5 patients attacks of compulsory fixation of the eye balls were observed.

(5) The "greasy" face is no characteristical sign of the Parkinsonian type in the Chinese.

(6) The first incidence of epidemic encephalitis in China occurred in spring 1919, the course of the disease has since adopted a milder character.

(7) Most probably the introduction of encephalitis has taken place from Europe by way of India to the sea ports of the southern and eastern coast of China.

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MATERNITY WORK IN THE COLONY OF HONGKONG.

R. E. TOTTENHAM, B.A., M.D., F.R.C.P.I., D.P.H.

When Dr. Adair very kindly asked me to write an article dealing with conditions surrounding maternity and maternal welfare movements here, he added "if any such exist." Now as I am not quite sure how to answer this latter remark, I will content myself with trying to describe what we are doing, which I am afraid compared with American or European standards must seem very insignificant. But I would ask that it should be remembered that we are dealing with a people, the masses of whom are very uneducated, and who do not take to new ideas kindly. Not only this but we are competing against those who practice Chinese Native Medicine and since they cannot profit by the introduction of modern methods, must of necessity be opposed to us. I do not wish to run down Chinese Medicine in any way. I am sure there is very much to be learnt from it, and that it would repay a thorough investigation; but at the same time I cannot believe that its universal practice would be attended with as low a mortality rate as that of modern medicine.

With regard to China proper I have no information, but I doubt if there is any maternal welfare work worth talking about outside the larger cities, except what Missionary enterprise may be responsible for.

Hospital development in the Colony is greatly hindered by lack of money; building sites are dear, for land is extremely valuable. There are three organisations which interest themselves in midwifery, and the training of midwives.

1. The Chinese controlled Maternity Hospitals, namely the Tsan Yuk and the Wanchai Hospitals, the maternity departments of the Tung Wah and the Kwong Wah Hospitals, the latter two being both general hospitals.
2. The Alice Memorial Hospital, which is under Missionary supervision.
3. The Government Civil Hospital.

The Tsan Yuk Hospital. This building is devoted entirely to maternity and gynæcological cases, and the maternity work here as in the case of the other Chinese controlled hospitals is under the supervision of Dr. Hickling to whom I am indebted for much of my information, and for facilities for working in the hospital.

The building was opened about three years ago; the ground floor contains an out-patient dispensary, a nurses' dining room, and an isolation ward for such cases as typhoid, or dysentery, where it is desirable to have the patients at some distance from the maternity wards.

On Friday mornings there is an infant welfare dispensary, and during the last year 341 infants were brought up, paying a total of 2,366 visits; all of these infants had been born in the hospital.

On Saturday mornings there is a general women's dispensary. We have so far regarded it as undesirable, if not impossible, to divide our dispensaries up into gynæcological and antenatal; patients will not readily appreciate the difference, and in the present state of education of the coolie classes practically no antenatal cases come up at all; indeed the average woman is inclined to regard any attention during pregnancy as entirely superflous, and in my department I am very glad if I can persuade a woman to remain in hospital for four days after her child is born. As a whole the Chinese are not yet believers in so-called "Western Methods" and often only come to hospital as a last resource.

There are probably not more than three men doing major gynæcological surgery in the public hospitals, and yet for the population there are relatively few operations performed by any of them. If all the patients recommended for operations from the public dispensaries sought admission, my staff would have to be doubled, or trebled.

The first floor of this hospital is devoted to midwifery, there are two large wards, some private wards, making a total of 25 beds, and also a nicely fitted-out labour ward. Last year the total confinements reached 608.

The second floor is a replica of the first. It was opened for gynæcology in October 1926, and as the first floor it contains space for 25 beds. The theatre situated over the labour ward only recently has been fitted out. Since October last when Dr. Hickling kindly placed this floor at my disposal we have operated on about 40 patients between us but it is really only in the last few weeks that the Chinese public are beginning to know of the work done.

The third floor is devoted to nurses' quarters.

The entire nursing staff is Chinese, including the matron; the hospital is also a training school for midwives. Before the

opening of the gynæcological wards, the period of training was two years, during which time the pupil midwife was resident in the hospital, and performed ordinary nursing duties under the supervision of the matron and trained nurses. Since the opening of the gynæcological wards the period of training has been extended by one year, so that the pupils will have a year's experience in the nursing of operation cases and theatre routine.

At the end of their three years they will obtain a certificate from the hospital if their conduct has been satisfactory, and will be eligible to sit for the Midwives Board Examination, which on passing confers permission on them to practice in the colony.

The Chinese make very good nurses, and readily take to routine of any kind; they are quiet, and have the curious quality of frequently being able to anticipate one's wants.

There are seven public Dispensaries in the Colony, some in connection with Chinese Hospitals referred to. On one day a week a gynæcological clinic is held in each by Dr. Hickling, and patients paid about 4,500 visits last year; and as she will now send most of the operation cases to the Tsan Yuk, it is evident that the gynæcological wards of this hospital will be very full in the future. I have given a somewhat lengthy description of the hospital for I believe that it will in all probability contribute more to the maternal welfare of the Colony than any other.

The Tung Wah Hospital. It contains some interesting features, notably the entrance hall, which is very resplendant with gold work pillars. In appearance it is suggestive of a Temple with its little altar, which I presume is dedicated to the Joss of Medicine. Another item of interest is the Chinese Pharmacy; like ordinary pharmacies it contains numerous drawers for storing drugs, but it is at once notable that none of these drawers are labelled, the attendants however appear to be able to find any medicine they require without difficulty.

Chinese drugs appear to be made mostly from roots and barks, but in addition one is shown objects which we "Western Doctors" would not suspect to possess any medical value, namely cockroaches, sea horses, and such like; the latter I am informed are a very expensive medicine.

In addition to the ordinary pestle and mortar, the Chinese have a novel method of grinding up a drug. On the floor there is an oval trough, about two feet in length, about six inches wide at the top, shelving down to about a quarter of an inch at the bottom; the trough also slopes from each end towards the middle.

The substance requiring to be ground is placed inside, the mechanism is supplied by a small boy, who stands on the axle of a heavy metal wheel, about eight inches in diameter, which he rolls to and fro with his feet, keeping his balance by holding a rope suspended from the ceiling.

The pills are large, and are contained in a hollow ball of a bees' wax substance about the size of a ping pong ball which acts as a preservative.

In an adjoining room are rows of small ranges, each adapted to hold one pot, (about the size of a tea pot) in which the roots or barks are placed for boiling, the infusion or decoction being then given to the patient. The dose is large, probably about a pint, given, I understand usually in the morning. Outside there are rows of little open boxes, one for each patient being treated; as soon as the infusion is poured off, the spent roots are emptied into a box, where they are left for 24 hours, so that the patient's relatives can come and inspect the kind of medicine given.

I understand there are wards for "Western" treatment only, and wards for Chinese treatment, and that it is optional for the patient which he goes to.

As far as I can make out every type of case appears to be admitted to the Chinese treatment wards, including fractures, but I have no means of judging of the efficacy of such treatment with regard to the latter.

In the maternity wards of the Tung Wah General Hospital, with 17 beds, 1,122 patients were attended in their confinements by the nursing staff, consisting of two trained nurses only.

In the same wards at the Kwong Wah, with 18 beds, 1,218 patients were confined during the year; the nursing staff consisting of one trained nurse and three probationers, or pupil midwives. There are however nine probationers undergoing training in the hospital. The period of training at this hospital is three years.

The Wanchai Hospital. In this hospital with 20 beds, 812 cases were attended during the year, two trained nurses only being in the hospital.

As I already explained, the work of these hospitals is superintended by Dr. Hickling, and all the nursing staff are Chinese. Dr. Hickling is also responsible for the training of the pupil midwives.

The Government Civil Hospital. In the maternity Bungalow of the Government Civil Hospital approximately 500 Chinese cases are attended every year, and perhaps 50-100 Europeans. The building is officially the maternity teaching centre of the University, but it is hoped that in the future more accommodation will be available; for the building as it now exists does not provide adequate space for a growing maternity clinic. The Government Hospital undertakes the general training of nurses, and on completion of three years the nurse is eligible to take out midwifery training in addition. As far as I understand the object of the government training in this hospital is not so much to train girls for outside work, as for work in Government hospitals.

My department in this hospital runs a general women's dispensary twice weekly. I am also endeavouring to make some provision for the treatment of syphilis in women. Unfortunately venereal disease is extremely common, and a large venereal disease centre is a matter of urgent necessity, which I hope will be met in the future.

The Government Midwives operating in the New Territory (i.e. the part of the mainland leased to Great Britain) delivered 730 women last year.

The policy in the Colony has been to train as many midwives as possible, since it is felt that they can do much to lower the maternal and infantile mortality; and I hope that it is evident from what I have said that the training of the pupil midwife is thorough and essentially practical. A girl who has lived in a hospital for three years, under a system such as exists here, must have personally nursed some hundreds of patients.

The Alice Memorial Hospital. I am indebted to Dr. Gibson for the following account of the work done in the Alice Memorial Maternity Hospital.

The Hospital was opened in 1904, and although there were only 20 beds some of those interested were doubtful if the Chinese would come in sufficient numbers to justify this new building.

In 1905 only 55 cases were admitted while in 1917 the number had risen to 662, which affords a good illustration of how Chinese prejudice may be overcome.

The hospital is the maternity block attached to the Alice Memorial and Affiliated Hospitals; Chinese probationer nurses

do three years training in general nursing, before taking out their midwifery course, which lasts a year.

Midwifery is taught in the Chinese language by the lady Doctor in charge and the sister, assisted by Chinese Doctors. All nurses take the course.

Only 6 nurses are in maternity training at the same time, and each attends at least 75 confinements (often a larger number), and makes a complete record of the cases (measurements, etc.) In the earlier years when women were unwilling to come to hospital the midwives also attended extern cases, but that part of the work has been difficult latterly owing to shortage of staff.

After training, all nurses go in for the certificate of the Midwives Board (Hongkong); the examination is both written and oral, and requires a good education in Chinese.

Seventy-seven women qualified as midwives and their services have proved useful; some are in Government service in Hongkong, others hold responsible positions in Hospitals under Chinese Management, a few are in the Straits Settlements, but the majority are in private practice in Hongkong.

By the training of Chinese women a large proportion of the confinements in the Colony are attended by properly qualified midwives, and thus the work has been of considerable value to the community.

In the training of the midwife the importance of obtaining help of a Doctor in all serious cases is emphasised, and as a result abnormal cases are seen at an earlier stage than heretofore; this is especially noticeable in such conditions as placenta praevia.

As Hongkong is a long way away from the U.S.A. a little local information may be of interest.

An estimate of the population of the Colony for the middle of the year 1924 was as follows:—

Non-Chinese Civil population	16,000
Chinese Population	
City of Victoria	420,000
Villages of Hongkong	29,800
Kowloon	180,000
New Territories	85,000
Population afloat (i.e. sampans)	68,750

Total Chinese	783,550
Total Population	799,550

The number of deaths of children under one year old was 4,735

Non-Chinese	37
Chinese	4,698

Of these 1,131 Chinese were under 1 month old, and 7 non-Chinese.

The ratio of infant deaths to total deaths was 30.4 per cent. There were 8 registered deaths from puerperal fever in 1924, and 19 in 1923.

There appear to have been in all 33 deaths from causes directly attributable to pregnancy.

Acknowledgment

Report of the Sanitary Dept. } 1924.
Report of the Medical Dept. }

THE ORIGIN OF CANCER.

C. Y. WANG, M.D., B.Sc., F.R.C.P.Ed., D.P.H., D.T.M.&H.

Cancer is a neoplasm composed of cells which have acquired the power to grow in an aimless, lawless manner. In their growth they are not governed by any physiological needs of the body, and retain throughout their specific biological characters. That is, if the cells making up the tumour are derived from the skin they continue to keratinize and this feature is retained by the metastatic deposits and even through years of propagation. At no time do they show deviation from the parent cells, either in their morphological appearances or mode of reproduction.

The complex nature of the cancer growth has thus given rise to the formulation of various theories to explain the causation of the tumour. These can generally be divided into two categories —the biological and the parasitic theory.

Of the biological hypothesis one may mention Cohnheim's view that cancer has its origin in the embryonic "rests" which are cells capable under favourable conditions of unlimited proliferation leading to tumour formations, and Ribbert's theory that disturbance of the tissue-tension, normally maintained among the various tissue-elements may, through injury, irritation or other causes, result in isolation of groups of cells which now free from the restraining influences of their neighbouring cells will multiply to form new-growths. Such theories do not, however, explain all the known facts of cancer, and in view of the successful transplantation of cancer in a number of cases between animals of the same species are no longer tenable.

The germ theory assigning the cause of cancer to a specific micro-organism is not a new one. Various organisms including yeasts, protozoa and bacteria have been described as having definite relation to the etiology of the disease, but none has been shown to withstand the critical examination of experimentation. It would appear that the wide distribution of the disease among vertebrates, as first shown by Bashford and Murray, and the non-transmissibility of the growth from one species of animal to another has to be interpreted as arguments against the supposition that an organism by itself can, when introduced into the body, produce all the fundamental features of cancer, in the same way as the tubercle bacillus produces tuberculosis. For applying the parasitic theory to explain all the known facts which have been demonstrated, experimentally, regarding the neoplasm one

has to assume not only one specific organism for each species of animals but even one for each individual case of cancer. Such assumption is impossible.

As first shown by Ribbert cancer at its inception is a local condition and if removed at the very early stage of its growth is a curable disease. Only at a latter period of its course will it become generalised by direct transportation of the primary tumour cells through the lymphatic and blood vessels.

The first successful transplantation of the tumour between animals of the same species was performed by Hanan in 1888, followed by that recorded in 1902 by Jensen. These observations would have passed unnoticed but for the subsequent work of Bashford and Murray which showed that cancer has a wide zoological distribution, being found to develop spontaneously in fishes, amphibians, reptiles, birds and mammals. What is more, the tumour bears essential similarity in the different classes of animals and the transplanted growth consists of the descendants of the original tumour cells, and is not the result of a transformation of the cells of the new host which merely supply the stroma necessary for the growth of the transplanted cells.

Such was the extent of our conception of the etiology of cancer until 1911 when Rous working on fowl sarcomata discovered that some of the growths can be transmitted not only by inoculation of living tumour cells but also by a saline extract which had been rendered cell-free by a bacterial filter. Furthermore that the tumour formed by the filtrate shows a distinctive biological individuality in that the filtrate from an osteochondrosarcoma reproduces the structure of an osteochondrosarcoma and that from a spindle-celled sarcoma forms a spindle-celled sarcoma. Such observations can only be satisfactorily explained by assigning as cause of these sarcomatous tumours to a filterable agent which by reason of its being able to propagate through successive generations of artificial cultivation is in all probability a virus. Assuming this is so it would still have to explain why the virus reproduces the biological individuality of the growth. No answer was forthcoming to this question until the appearance of Gye's work which shows that two distinctive factors are concerned in the etiology of cancer—an extrinsic and an intrinsic factor. The extrinsic factor is a virus common to all tumours of different species and classes of animals and is therefore non-specific. Its presence alone is unable to bring about the malignant transformation of a cell. For it to produce a neoplasm it requires the presence of the intrinsic factor which is a substance—probably chemical in nature—produced by the

cells and which acts as an adjuvant rendering the cells susceptible to the infection by the virus. This intrinsic agent is moreover specific in character as it varies from tissue to tissue and from tumour to tumour.

The following is a summary of certain tentative conclusions which may be drawn from the observations recorded by Gye **(Lancet, July 18, 1925).**

1. Cancer is a specific disease caused by a virus or group of viruses.

2. The virus can be cultivated and probably lives and multiplies in the cells of the tumour.

3. The virus alone is ineffective. In order that it may produce a tumour a second (specific) factor obtained from tumour extracts is necessary rendering the cell susceptible to infection with the virus.

4. The virus is non-specific in character, for it has been demonstrated that a tumour can be produced in one species of animal with the virus derived from the tumour of another species.

5. The species specificity is shown alone by the specific factor which if obtained from a mouse tumour can only produce, experimentally, a new growth in another mouse, but not in an animal of other species.

A BRIEF REVIEW OF DIATHERMY.

C. W. McKENNY, B.A., M.D., D.M.R.E.

It is but fair to readers of this contribution to explain that it has been written at the request of Dr. Phoon who, while giving great latitude in subject matter, was very firm in demanding a popular article.

It will therefore be appreciated that a purely elementary description of diathermy and its uses is being given. I propose to divide my subject into three headings.

(1). What is Diathermy?

If one applies the electrodes of the ordinary "Buzzer" coil to ones hands a shock or stimulus is felt.

In a good coil it is usually so arranged that only the current induced in the secondary winding at break in the primary, winding is felt.

The time during which this stimulus acts is about 1/1000 part of a second.

If now by suitable arrangements (e.g. as in a condenser testing set) the amount of current transmitted be increased and the time during which it passes be also increased (say, to 1/50 second) the shock to the observer becomes at first painful and finally unbearable.

In fact if a current of one ampère be passed through a human being a fatal result will ordinarily follow.

It can therefore be well imagined with what surprise was received the statement of D'Arsonval, that he could pass as much as two ampères of current through his body, not only without unpleasant result, but actually with little if any sensory phenomena whatever.

The basal principle on which this astonishing result depends is that the *time* during which the current flows should be very brief.

It may appear that the period of 1/1000 second during which the current flows in the ordinary coil is short, but in the modern

diathermy outfit a period of 1/100,000 of a second is considered as the longest duration permissible and in fact the average period is from 1/200,000 to 1/1,000,000 of a second. The majority of machines now in use in America, work at frequencies of 1,000,000 to 3,000,000 per second.

The passage of the current is not uni-directional, but alternating, i.e., a current passes in one direction for 1/1,000,000 part of a second and then passes in the opposite direction.

It is possible to suggest a reasonable explanation of these phenomena and in so doing one may adumbrate the nature of almost any form of treatment in which electricity is passed through the tissues.

It is of first importance to realise that there is no proof whatever that electrotherapy acts in some mysterious manner.

The considerable (financial) success of "magnetic" rings and other devices depending on variants of the formula that "Electricity is Life" and suggesting that one can take a dose of electricity to supply deficiencies much as one absorbs beef-steak for protein shortage is an excellent example of human credulity but not of scientific fact.

If one attaches the poles of an electric battery to electrodes immersed in (e.g.) copper sulphate solution it will be found that the positive ions (i.e. the copper ion) tend to pass to the negative pole whereas the negative ions (sulphate ion) pass towards the positive pole.

There is ionic movement.

All treatment by galvanic currents (i.e.: direct and continuous current) depends on this fact.

In the case of the comparatively short but repeated passages of the faradic current (i.e., that from the coil) we may assume ionic movement but of a very brief duration—one may say ionic jolting—and this is registered in the brain as pain and the nervous reaction may be further estimated by muscular contractions.

As already stated the stimulation of a diathermy machine lasts for—say, 1/500,000 of a second, and it is easy to realise that ionic movement which requires time does not take place.

If we accept the view that within broad limits ionic movement is the cause of the majority of the occurrences which we associated with the passage of electrical currents it is not difficult to visualize (if the word be permitted) the negative result in so far as ionic movements is concerned of the passage of a current persisting for 1/500,000 part of a second and then passing for a similar period in the reverse direction.

It would appear, therefore, that a diathermy machine passes current through the tissues but causes no alteration in them.

If one passes a current from an accumulator through a high resistance wire it is easy to demonstrate another manifestation of electrical energy—namely the production of heat.

If one holds the electrodes of a diathermy apparatus no stimulating effect will be felt as with a coil but a marked sensation of heat will be found at the wrists and, if one bends the arms, at the elbows anteriorly.

We may therefore assume that heat is produced and further more that localisation of this heat can be varied by postural changes. It is hardly necessary to say that these fundamental phenomena of diathermy, i.e. the creation of heat at a given part, have been proved by much more intricate experiments than the above.

In fact we know that the heat evolved can be varied from a gentle glow to a temperature which will rapidly reduce to a charred mass any of the body tissues and also that the place of maximum concentration of heat can be exactly determined and may be on the surface of the body or in the deepest tissues.

(11) What will Diathermy do?

It has already been stated that it will cause an increase of temperature, which can if required be localised.

It is almost certain that diathermy of itself can do no more, but it is of interest to consider some of the results which this thermal change brings about.

Our ground is not now so firm and in some instances we can merely give clinical results and trust that the physiologist may give exact reasons for them.

(1). Local destruction of tissue.

If the two electrodes of the diathermy machine be applied to the body and one be, say, 10" x 10" in size and the other be

a disc of, say, ¼" diameter it will be found that under the latter electrode an area of considerably greater extent than that of the disc has been coagulated. The current is now switched off and the part is protected by a dressing. In some 10 days the slough will come cleanly away and a clean raw area which is rarely septic will be found. This will heal with a flexible scar and cicatrization rarely, if ever, follows.

This with many modifications is surgical diathermy. Why sepsis and cicatrization rarely take place is merely a clinical fact. Its explanation is still to come.

(2). Vasodilation and removal of inflammatory products.—

If the two electrodes of equal size be placed at opposite sides of a joint which is stiff and painful as a result of trauma or bacterial invasion it is common to find rapid relief of symptoms. There is good reason to resume that vasodilation takes place and that the products of inflammation are removed but it is not at all certain that increased metabolism of the tissues in the area involved does not also play a part.

(3). Increase of function of secretory glands.

If a suitable electrode be placed in the vagina and the other electrode be in the form of a belt worn around the patient's waist relief and frequently cure will be found in cases in which the ovarian secretions have been thought to be insufficient. For example many cases of amenorrhoea, dysmemorrhoea and menorrhagia have appeared to be completely cured after 4 to 10 sittings.

It may well be said that the effect was rather on the uterus or possible pelvic adhesions and that this may be true cannot be denied, but it is worthy of note that a certain number of cases of arthritis which were considered by highly skilled endocrinologists to be due to ovarian dysfunction have rapidly cleared up by this method of treatment.

(4). Lowered blood pressure or the syndrome known as "misere physiologique."

A course of diathermy treatment applied alternately from arm to arm and leg to leg almost always results in cure in this class of disorder.

In fact cures result and in fact a small rise in body temperature takes place at the time of the treatment but it needs some further reason to explain the results obtained.

The common experience of life would show that increased temperature (up to an optimum point) increases metabolism and diathermy will do this at the time of application but that this should persist is difficult of explanation unless one assume that some changes also take place in the regulating centres for metabolism.

(5). Pneumonia.

If one applies suitable electrodes a thermal concentration can be obtained at a given lung area but owing to the extreme vascularity of the parts traversed much general warming of the blood and therefore of the body as a whole must also take place.

In England but little of this work has been done but many cases of this nature have been treated with happy results in America.

The duration of the disease has been curtailed and recovery with lysis frequently noted.

It is absurd to think that the affected lung area is sterilised. The temperature attained can only at most inhibit the pneumococci actually present in the area of lung treated and so we must assume that the admittedly good results are due to vasodilation and possibly increased activity of the defensive mechanism of the body and decrease of the resistance of the invading organism.

(6). Arithritic lesions treated by application to the cervix uteri or prostate gland.

A diathermic treatment of the cervix or prostate (i.e. the active or small electrode being placed in the vagina or cervix uteri or in the case of the prostate in the rectum) will within a period of 2 to 4 weeks in many suitable cases either cure or vastly improve the condition.

No diathermy treatment whatever is given to the actual joint which is involved.

A very great number of the cases treated have been sufferers from chronic gonorrhoea, but in a considerable number the gonococcus was not discoverable and there was no reason for believing that it had been present.

It is, however, probable that the wide group of Septic Arthritis should alone be seriously considered in this category and that hypertrophic, tubercular or syphilitic forms of arthritis should be excluded.

The presumable reason for the good results obtained is that the local (i.e. joint) infection is maintained from the central (i.e. prostate or cervix) focus and the treatment, by the means already indicated, destroys this focus.

If one suspected an apical abscess as the causal factor in arthritis one would extract the tooth and in a like fashion one attempts by thermal methods to overcome prostatic or cervical infection.

It is hardly necessary to say that in these 6 instances only broad paths of therapy have been entered upon and it may fairly be stated that good, even excellent, results have been obtained but it would be foolish to deny that the causes of these results are in part vague. It may, however, be suggested that causes in other successful forms of medical or surgical treatment are not so clear and in-disputable that the pure surgeon or physician can stigmatise as empirical this branch of physiotherapy.

(III.) How Diathermy is applied.

Like a motor-car one can drive a diathermy machine with extraordinarily little knowledge of what is inside it.

It would be out of place to attempt a technical description of a diathermy apparatus and it will suffice to say that alternating current is lead in from the mains and is transformed so as to give a fairly high voltage (about 5,000).

The current is now made to give alternating discharges at very high frequencies by means of a condenser or condensers, a spark gap or gaps and an inductance which is usually known as the oscillator. It is common to couple with the oscillator a resonator and from this leads are taken to the patient.

Ordinarily all the operator has to consider is the connections and controls which are very simple.

They consists essentially of:—

(1). Connections to the Main.
(2). Connections to the Patient.

(3). A rheostat which controls the intake from the mains.

(4). A handle or disc which controls the coupling of the oscillator and resonator and so allows the quantity of current (ampèrage) to be varied which is indicted by the readings of an ampèrmeter.

The nature and shape of the electrode is of first class importance. Any malleable metal will do (e.g. copper or lead) but it is essential that the electrode should fit the part very accurately and closely for else sparking and burns may result.

The electrode may be applied directly to the skin and if this be done the electrode or skin may well be moistened with something of the nature of good shaving soap or else several layers of lint soaked in 10% saline may very happily be utilised.

The size and position of the electrodes is of fundamental importance and a few general principles will probably be more useful than detailed description.

In figure A we imagine two equal sized electrodes placed at opposite sides of a limb. In a general way there will be an equal distribution of heat between the parts although as it is true that bone does not conduct so well as the more moist tissues, parts of the limb may in fact obtain more heating than others.

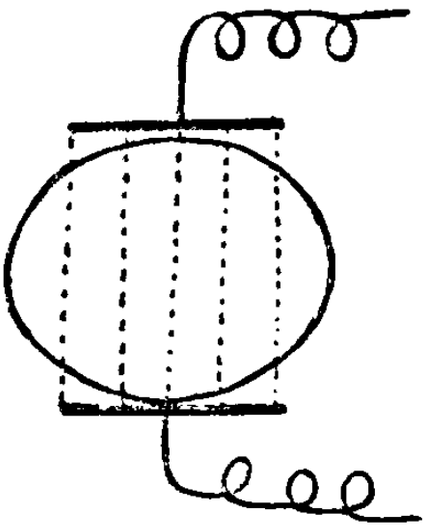
In figure B. the same electrodes are used but differently placed and it will be noted that concentration of current is now quite unequal and it is probable that pain or injury to the skin might result.

In C. unequal electrodes are used and it will be seen that little concentration is obtained under the large electrode but much under and in the neighbourhood of the smaller one.

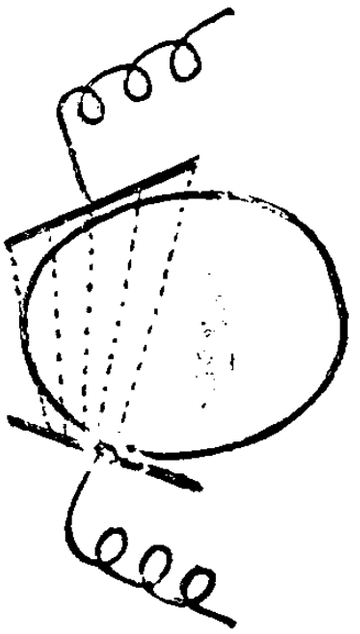
An excellent example of this in practice is the use of a small electrode placed in the cervix uteri and a large electrode (i.e. a leaden belt) placed round the patients waist.

The maximum effect is in the cervix and much concentration is obtained in the immediate neighbourhood but this decreases till at the skin no effect is appreciable. Should the "active" electrode be sufficiently small coagulation of tissue takes place and in fact this is surgical diathermy.

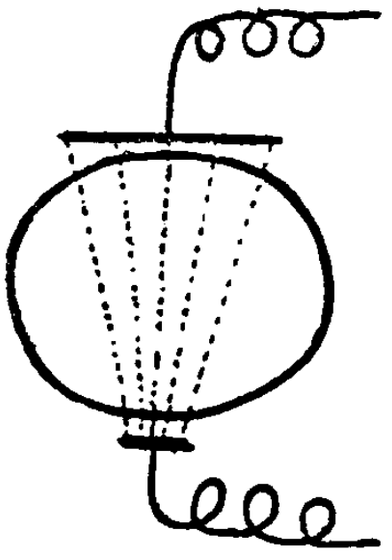
A



B



C



The technique of the actual treatment is as follows.—

The selected electrodes are affixed to the parts to be treated according to the general principles already enunciated.

The greatest care in ascertaining that the electrodes and their connections to the leads are securely fastened and cannot become disconnected accidentally one from the other or from the patient will be amply repaid by the knowledge that the painful, though not dangerous, spark which follows such disconnection will not occur.

The patient should be told that he will feel nothing but warmth at a given point and that should he feel this heat to be excessive it can at once be reduced at his desire. Should he feel any painful or tingling sensations he should at once inform the operator as such sensation indicate usually faulty application of electrodes or improbably some defect in the diathermy machine.

The current from the main is now turned on but as the coupling of the resonator and oscillator should be loose at this time no reading will be obtained on the ampèremeter. The coupling is gradually tightened and the ampèremeter shows the passage of an increasing current.

A reading of two ampères in the ordinary treatment is probably as high as it is ever necessary to go but it is quite impossible to give any general rule on this subject.

The size of the electrodes, the part to be treated and the lesion present must all be considered.

It is of interest to note that many operators, especially in pneumonia cases or with patients in whom endocrine glandular activation is desired, have reduced the ampèrage from 2 or more ampères to a fraction of an ampère (200-400 milliampères).

The thermal sensation must be held of as great value as the ampèremeter and reduction of ampèrage should always follow the complaint of feeling too hot by the patient.

The time of application varies, but from 15 to 25 minutes is a fair average and daily treatments may be given.

It must be made a rigid rule that a patient undergoing diathermic treatment should never be left alone.

There are many reasons for this but two are of special importance:—

(1). The ampèrage may and often does increase considerably during a treatment. Should this not be rapidly reduced severe burning might result.

(2). The electrodes may become disconnected either accidentally or as is common by the act of an unwise patient.

Quite painful and very terrifying sparking will take place and although the patient will not lose his life, the practitioner may lose a part of his livelihood.

During a treatment should anything of a disturbing nature occur it is but the work of a second to stop the current completely without any risks of pain to the patient by either of the two main controls.

In conclusion, let me say that if I have conveyed a general idea of what Diathermy is and the main fields of therapy in which it now is of use, quite apart from the expectation of its vastly increased use which is the diathermist's hope, then I have accomplished my task.

Should any reader desire to follow up this matter he will find much literature on the subject but for basal knowledge explained in an easily understood manner I would refer him to "Essentials of Medical Electricity" by Cumberbatch (Henry Kimpton, London) and "Diathermy with special reference to pneumonia" by Stewart (Paul B. Hoeber, New York).

CRIMINAL POISONING IN HONGKONG.

E. ROADLEY DOVEY, A.R.C.Sc., F.I.C., F.C.S.

Among the more serious criminal acts there are perhaps none which excite more interest in the community than cases of criminal poisoning. This subject may be considered under the two heads, suicidal and homicidal poisoning.

In most places the substances used for suicidal poisoning are much more numerous than those used for wilful murder. For the former purpose any easily-obtainable substance possessing well-known toxic properties may be employed. In the latter only those having little or no pronounced odour or taste, the presence of which may be disguised or concealed from the intended victim are usually employed. In spite of this, however, in this Colony there is only one poison commonly used for suicidal purposes, namely opium.

The general features of opium poisoning are of course well-known, but one or two points of interest may be mentioned. Though drowsiness and stupor are common symptoms, convulsions may occur. Again although the pupils are strongly contracted in the earlier stages there is often a noticeable dilation before death in fatal cases.

One peculiarity about such cases has been observed, namely the fact that opium may be absent from the vomit and the stomach washings although a considerable quantity may be found later in the contents of the stomach after the post mortem examination. Two such cases may be mentioned.

In April, 1925, a bottle was received containing 18 fluid ounces of liquid described as the stomach washings from a case of suspected opium poisoning. The liquid which was practically water-white, gave a very doubtful reaction for meconic acid and negative tests for alkaloids. Later on the stomach and contents were received. The stomach was distended with food eaten before admission to hospital, the liquid portion was deep-brown in colour and had a pronounced odour of opium. A large quantity of opium was found on analysis and particles of solid opium were picked out from the stomach contents.

Later on in the same year a bottle containing stomach washings was received. This was from a Chinese female aged 40 who was suspected to have taken opium. The liquid was deep reddish-brown in colour, had a pronounced odour of opium and a considerable amount was found on analysis. Later the stomach and contents were received and again a considerable quantity of opium was found. The following day, a specimen of vomit from the deceased's room was sent in by the Police. This was white in colour and contained only a slight trace of opium.

Where the potassium permanganate treatment has been effectively given to a victim of opium poisoning, no morphine will be found in the stomach, the whole having been converted into dioxy-morphine. Detection then depends on ascertaining the presence or absence of meconic acid. Attempts are now being made to find a method of reducing the dioxy-morphine back to morphine in the comminuted viscera, so that it may be isolated as such.

The following Table gives the results of 327 cases of poisoning investigated in the Government Laboratory during the ten years 1915-1924 inclusive.

Summary of Results of Examinations in the Investigation of 327 Poison Cases, Carried out in the Hongkong Government Laboratory During the Ten Years, 1915-1924.

No Poison Found	129	Cases	39.4%
Opium found	109	„	33.3%
Morphine found	17	„	5.2%
Arsenic found	8	„	2.4%
Animal toxins. (Ptomains)	8	„	2.4%
Gelsemium elegans found	7	„	2.1%
Datura alba. found	5	„	1.5%
Illiciuum religiosum found	5	„	1.5%
Alcohol found	5	„	1.5%
Caustic Soda found	3	„	0.9%
Cocaine found	3	„	0.9%
Unidentified alkaloids found	3	„	0.9%
Oxalic acid found	2	„	0.6%
Norium oleander found	2	„	0.6%
Strychnine found	2	„	0.6%
Sulphuric acid found	1	„	0.3%
Antimony found	1	„	0.3%
Mercury found	1	„	0.3%
Mercury and arsenic	1	„	0.3%

Chlorodyne	1	„	0.3%
Tetradonin (Tetradon fish)	1	„	0.3%
Veronal	1	„	0.3%
Cantharidin	1	„	0.3%
Sapotoxin	1	„	0.3%
Potassium permanganate	1	„	0.3%
Lead	1	„	0.3%
Carbolic acid (and homologues)	1	„	0.3%
Atropine	1	„	0.3%
Anise Oil	1	„	0.3%
Carbon Monoxide	1	„	0.3%
Hydrocyanic acid	1	„	0.3%
Hydrochloric acid	1	„	0.3%
Oil of Cloves	1	„	0.3%
Mercury	1	„	0.3%
Total	327 Cases		

As will be seen, in many cases no poison was found. In most of these there were no definite grounds for believing that poison had been given or taken, but as the cause of death was obscure the possibility of poison had to be eliminated.

It will be seen that among the cases where poisons were isolated, eight poisons accounted for 82% of the whole. These were:—

Opium.	Gelsemium elegans.
Morphine.	Datura alba.
Arsenic	Illicium religiosum.
Animal toxins.	Alcohol.

Among the above are two about which little will be found in manuals on Toxicology and about which therefore something should be said.

Gelsemium elegans is a plant which occurs sparsely on the Island of Hongkong but more plentifully on the neighbouring islands and mainland. It is known by many Chinese names, the most common being Ho Ming Ting 胡滿藤 Others are:—

Tun-cheung-cho	冬蟲草
Kou-wen.	鈎吻
Hu-wan ch'iang.	胡蔓强
Tuan-ch'ang-tsao.	斷腸草
Ta-ch'a-yeh-t'ieng.	大茶葉藤
Tu-wen (Poison root).	毒根

The plant is used among the Chinese for killing birds and animals. It is supposed to be innocuous to goats and goats' blood is sometimes given as an antidote to the poison. Decotions of the root are used in China medicinally for the external treatment of wounds and skin eruptions. When a decotion of the root is taken the victim usually experiences giddiness, dimness of sight and violent pain in the stomach, being very often found rolling about on the floor. Later they become semi-unconscious, the pupils are dilated and do not react to light, the person is unable to walk or sit up, muscular spasms especially of the arm muscles are seen, the breathing becomes irregular and death may occur in from one to six hours. No characteristic appearances are observed on post-mortem examination.

The plant has been found to contain an alkaloid of the Strychnine or Tetanus group. It is similar but not identical with the alkaloid gelsemine found in the Gelsemium sempervirens or yellow jasmine, and the name gelsemidine has been proposed for it. An infusion of the root containing the equivalent of 1/30th of a grain of the alkaloid, when injected intraperitonially into a guinea pig killed the animal in 25 minutes, and a portion of the infusion containing the equivalent of 1/60th grain, when injected subcutaneously killed a guinea pig in the same period.

The poison can be readily separated from viscera by a modified Stas-Otto process and gives clear and characteristic reactions.

The plant Illicium Religiosum. Sieb. or Japanese Star Anise contains in its roots, seeds and leaves a poison the chemical nature of which is not fully known. The poisonous nature of the plant is well-known to the Chinese and it is sold freely in this Colony and in the coast ports under the name of Yat-pun-hui heung 日本茴香 or Mang-ts'ao 莽草

It is used for both homicidal and suicidal purposes the fruit or seeds being the part usually used, but all parts of the plant is

poisonous. The dried fruit are crushed and steeped in warm water and the decotion thus prepared is taken or administered. A decotion of 30 fruit has killed an adult woman in eight hours. It is said that the leaves are used among the Chinese for the purpose of destroying rats and also that the native medical practioners use them as an antidote to other poisons, as an anthelmintic, parasiticide and an anodyne.

According to Blyth *, the poison when taken internally produces excitation of the central apparatus of the medulla oblongata, and clonic convulsions analogous to those produced by picrotoxin, and cicutoxin. Small doses cause slowing of the pulse through stimulation of the vagus and of the peripheral terminations of the vagus; in the heart the functional activity is later diminished. Small doses kill by paralysing the respiratory centre, large doses by causing heart paralysis. Death usually results in from 6 to 12 hours.

The best antidote known appears to be chloral hydrate and when administered to animals which have been given a small lethal dose, it appears to save life.

The active principal is a non-alkaloidal, non-glucosidal nitrogen-free substance which crystallizes in stellate prisms. It is soluble in hot water, alcohol, ether, choroform and acetic acid, but in cold water only with difficulty. The hydrochloride melts at 175°C. The poison has been given the name "shikimine" after the Japanese name "Shikimi." In toxicological investigations the poison is recognised by the microscopical characters of the plant fragments.

The Datura Alba. Nees, is the Solanaceous plant which furnishes the drug known among the Chinese as Nau Yeung Fa 閙羊花. This plant was formerly used extensively in this Colony and elsewhere for drugging victims especially returned emigrants for the purposes of robbery. The stupor was in many cases mistaken for alcoholic drunkenness. In a case reported by McCallum, a Chinese female child was brought up to the Civil Hospital by the police in a narcotised condition. The girl had been stolen and was found by the police in a junk. When roused the child was most vicious, and the temper displayed by her pointed to madness. The pupils of both eyes were widely dilated. Left alone the child fell asleep and next morning beyond displaying great stupidity, was quite well. The pupils were still dilated.

The symptoms usually displayed are firstly dizziness, difficulty in walking, dryness of the throat and thirst. The victim suffers from hallucinations and delirium, he chatters away in an unintelligible manner and laughingly grasps at imaginary objects, and making picking movements with the figures. The symptoms may commence in 15 minutes from taking the drug and when fatal, death usually occurs in from 7 to 15 hours.

* Blyth "Poisons, their effects and detection."

Death when it occurs results from failure of the heart and respiration but recovery after weakness and headache usually takes place. Apart from finding fragments of the plant in the alimentary canal there are no characteristic post-mortem appearances.

Considering the reputation which arsenic possesses as a poison it is perhaps strange that only 2.4% of the cases tabulated are due to it. Arsenic has throughout history held the premier position among the known poisons, this being largely due to the fact that it possesses no taste or odour and may therefore be easily administered. The discovery of the Marsh test in 1836 put such a potent weapon into the hands of the toxicologists that arsenic as a poison declined in popularity. The Marsh test in all its modern refinements, is an exceedingly delicate and reliable test for both qualitative and quantitative work, but some other modern tests exceed even the Marsh test as regards sensitiveness.

Although arsenic trioxide or common white arsenic is devoid of taste or odour, yet its presence has been frequently revealed by the gritty nature of its particles. Any food which is suspected to have been poisoned with arsenic should be searched for such. An example of this occurred in September 1921 in what was known at the time as the "Diet of Worms" case. A number of Chinese wishing to celebrate an event arranged a feast at which the principal dish was to be stewed paddy worms. A former cook in retaliation for dismissal, it is alleged, put arsenic in the dish. On commencing to eat the stew, it was found to contain a gritty substance and some of those eating were speedily taken ill and removed to the Civil Hospital suffering from irritant poisoning. Arsenic was found in the vomit and urine from these patients, but all recovered under treatment.

It has been observed that advanced putrifaction and the presence of maggots in post-mortem material are rarely found in cases of poisoning by arsenic or mercury.

The arsenic usually employed in criminal poisoning in this Colony is native white arsenic or arsenolite. This is found in South China in crystalline or vitreous masses frequently showing a banded colouration from salmon-pink through yellow, and grey to greenish black. Though appearing thus coloured, when powdered the powder is almost white and may contain as much as 95% of pure arsenious trioxide, As_2O_3. It is known as Pak-Sun-Shek 白信石, and Hsin-shih 信石 and also by other names.

Realgar, the red disulphide, As_2S_2 and Orpiment, the yellow trisulphide, As_2S_3 are also known locally by the names of Hung-wong 雄黃 and Tsz-wong 雌黃 respectively and are sometimes used criminally.

This short resumé of some of the more frequently used poisons has been given in the hope that it may prove both of interest and of use. The Table will give the names of others which have been found more rarely.

It is impossible in the space available to give even the names of the many toxic substances which are known to be used in the East for both homicidal and suicidal poisoning, and which may have to be searched for in a toxicological investigation. In most cases, however, they fall into a small number of typical groups and even in those cases where the chemical constitution is not fully worked out, enough data is available to make detection usually possible.

THE CHINESE HEALING ART.*

T. Z. BAU, M.B., B.S.

I choose this as my subject mainly for two reasons. Firstly, Chinese medicine is a subject which is very little talked about in this University, and as many members of the Society are Chinese, it is of some general interest to hear a few of its main aspects. Secondly, many of the patients coming to our hospital have been treated by Chinese doctors, and later on in our private practice, we shall come into constant contact with them. It is therefore well worth our while to know some of their ideas.

Although Chinese civilisation is undoubtedly extremely ancient, we are unable to study it as we do that of some of the other old nations on account of the absence of monuments or a literature older than a few centuries before Christ which would give us a reliable history. Some authorities declared that Chinese culture is of Accadian origin, i.e. from Babylon, and that the Chinese entered North-western China from Susiana about the twenty-third century before Christ. The stories which the Chinese tell of their ancients are rather untrustworthy. The history of medicine dated back as far as 2699 B.C. when the Emperor Chin-nung (神農) first compiled a catalogue of medicinal herbs. The next Emperor Huang-ti (黃帝), 2637 B.C., is now generally regarded as the founder of medicine. To him is attributed a work on medicine entitled Nuy-kin (內經) which is still extant. From this time onwards up to the Chow and Dzing Dynasties, various information regarding healing can be obtained from the classics and we find that the physicians at this period were more or less a kind of conjurors or wizards, who prescribed or performed a variety of mysterious rites which they gave out to be of such efficacy as to remove the most dangerous and inveterate malady. Thus Confucius referred to a sorceror and physician as being one and the same person. From the Chow up to the Sung Dynasty more trustworthy accounts were recorded in the annals. Noted physicians such as Ts'ang Kung (倉公), Chang Chun Ching (張仲景), Hua Tu (華陀), Wang Shu Ho (王叔和), Sung Su Miau (孫思邈) all lived during this period. They investigated into the causes of various diseases and the uses of drugs, and studied the nature of pulse which is a very important factor in diagnosis and to which I

* Paper read before H.K.U. Medical Society on March 31, 1925.

shall refer presently. Many of their works are still with us and form a valuable part of Chinese medical literature. After the Sung Dynasty, medical science in China made practically no advancement. All that the physicians require is the ability to copy out prescriptions handed down to them in the medical books. The writers, too, always quote largely from the preceding authors; hence one mistake has followed another, and Chinese medicine has remained as imperfect as ever.

The sciences of anatomy and physiology are entirely neglected by the Chinese doctors. There has never been any dissection of the human body and their ideas on the subject are rather fanciful. Briefly stated, they are as follows:—In the human body there are six chief organs in which "moisture" is located—the heart, liver, two kidneys, spleen, and lungs. There are five others in which "warmth" abides—the small and large intestine, the gall-bladder, the stomach, and the urinary apparatus. They term bile the seat of courage; the heart the seat of reason; the liver the granary of the soul, and the stomach the resting place of the mind. The circulation of the blood stream is said to start from the foot and travel upwards to the kidneys, the heart, the lungs, the liver, the spleen, in the order named, and from the spleen back again to the kidneys, thus making a complete circuit.

The Chinese have too profound a respect for the dead to employ corpses for anatomical studies, and to touch a dead body or in any way molest it is an abominable sin. It was not until the Ching Dynasty that Wang Shing Ch'en (王勳臣), of the province of Chihli, who was confronted with many of the contradictions met with in the medical books, began to doubt the correctness of the various statements. He realised the great mistake in discussing these things out of one's own imagination and he emphasised seeing the internal organs with his own eyes. During his period of investigation which lasted 42 years he was able to examine more than 30 dead bodies of which two were hanged criminals. Great difficulties were met with to which I shall not refer. At any rate he managed to examine roughly the structures in the abdomen and thorax, and he wrote a book of two volumes entitled "I Ling Kai Ts'o" (醫林改錯) on what he saw. His statements are not scientifically accurate, but it must be remembered that it was at a time when western medicine had not been introduced into China and his works must therefore be regarded as a great contribution towards Chinese medicine.

Surgery had hardly developed among the Chinese beyond the merest rudiments owing to their great reluctance, to draw blood or perform any kind of operation on

the living. The surgical practice has consisted almost entirely of external applications. Tumours and boils are treated by scarification or incisions. Asepsis is absolutely unknown among the Chinese doctors. Most of us who have seen the application of Chinese plasters will realise how septic they are. These plasters vary greatly in composition. They are applied in cases of skin diseases, sprains, abscesses, swellings of all kinds, ulcers and so on. The only Chinese surgeon worthy of any note was Hua Tu (華陀) who lived at the time of the "Three Kingdoms." He treated fractures and performed minor operations, and as far as we know he was practically the only Chinese doctor who had often recourse to his knife. The distinctive Chinese surgical invention, as the Encyclopædia Britannica gives it, is acupuncture, or the insertion of fine needles of hardened silver or gold for an inch or more, (with a twisting motion) into the seats of pain or inflammation, and 367 points are specified where needles may be inserted without injury to great vessels or vital organs. Headaches, lethargies, convulsions, and colics are thus treated. In some cases, the needle is allowed to remain in the part for several minutes, or in some cases of neuralgia for days. Rheumatism and chronic gout are among the localised pains so treated. Sometimes while the needle is left inserted in the part, moxa is burnt at the other end, with great advantage.

Chinese medicine, as I have just related, made little progress during the last few centuries. "The Chinese physicians are supposed to be able to find out by their touch not only that the body is diseased but also from what cause or what part the sickness proceeds. To make themselves masters of this skill, they must explore men's pulses till they become as well known and as familiar to them as a violin or fiddle is to the players thereon; it not being enough for them to know that there is something amiss which spoils the tune, but that they must also know what string it is which causes that fault." The Chinese physicians claim that there is a different and distinctive pulse for every part of the body which is felt on both wrists. They divide the superficial part of the radial artery into three parts. The distal third is called **ts'un,** (寸) the proximal third **ch'ih,** (尺) and the part in between the two **kwan,** (關) They consider that the left **ts'un** has its pulse influenced by the heart, the left **kwan** by the liver, and the left **ch'ih** by the small intestine, the kidney and the bladder. The right hand, on the other hand, is different; the **ts'un** has its pulse influenced by the lungs, the **kwan** by the spleen and stomach, and the **ch'ih** by the kidney and large intestine. The technique for feeling the pulse, as is given in the medical books, is as follows:—The patient, if possible, should be asked to sit up. He or she should not be allowed to move or speak too much as this will disturb the pulse. The doctor then

puts his middle finger just proximal to the styloid process of the radius to locate **kwan**, beginning always with the left hand in the case of males and the right hand in the case of females. He then proceeds to locate **ts'un** and **ch'ih.** First he should touch the artery but lightly to find what they call the "superficial pulse" and then somewhat harder to find the "middle pulse," and then he should press the artery hard against the bone and then release very slightly to find the "deep pulse." He will then release two of the fingers to find what is wrong with the third, and this he repeats until he has determined which part of the body or which organ is diseased. The nature of the pulse varies according to the sex, age, and condition of the patient and to the season of the year, and it is classified into 28 different kinds according to whether they are slow, rapid, weak, hidden, diffuse, tight, long, short, fine, thready, overflowing, irregular and so on. Diagnosis depends more or less on the determination of these different kinds of pulse.

It will thus be seen that a Chinese doctor has got very few things to trouble about for his information with regard to the condition of the patient. Having felt the sick man's pulse, looked at his tongue, and otherwise observed him, he has finished his diagnosis, and must prescribe accordingly. The doctor, if he is a good one, or at least, if he professes to be a good one, should ask the patient very few questions. So important is the pulse in Chinese medicine that the diagnosis, prognosis, and treatment of every disease rest entirely on it. The man's body is said to be composed of the five viscera which partake of the nature of the Five Elements, i.e. metal, wood, water, fire and earth, and these they connect with the Five Tastes, Five Colours, and the Seven Passions: diseases are produced by a disturbance in the balancing of all these elements. The disturbance may be due to dampness, exposure to the sun's rays or wind or to too much internal heat. There are many elaborate theories as to the behaviour of the pulse and breath, mostly based on the Yin-yang doctrine, but these I do not propose to touch.

The materia medica of the Chinese embraces a vast collection of drugs belonging to the animal, mineral and vegetable kingdoms, into which they are classified. Of all drugs, ginseng (人參) is the most celebrated. It is employed in cases where virile power fails as in the aged and debilitated. The Chinese attribute many virtues to this drug and its use as a tonic is known all over China. In all cases of severe disease and debility the Chinese fly to this remedy, hence its enormous consumption every year. Pan-hsia (半夏) is said to be antifebrile and tussic and is administered in fevers, jaundice, and bronchial

catarrh. The prepared drug, according to Dr. Stuart, has been used to substitute sulphate of potash in some mission hospitals in the preparation of Dover's powder. Huang lien (黃連) is a bitter and is often used in dysentery, gastro-intestinal disorders and in diabetes. When mixed with borax and given to newly-born infant, it is said to prevent aphthae. The tincture of the drug is of use where bitters are wanted. Rhubarb (大黃) is very much used in fever, diarrhoea, colics and constipation. In addition to its purgative properties, the Chinese regard it as a general tonic to the digestive tract. Menthol is found in Chinese markets under the name Lung-tan (龍膽). It is recommended in fevers, rheumatism, and general debility. Locally it is used in skin diseases, ulcers, and in affections of the throat. Aconite, of which several species are met with in China, is used in fevers, ague, rheumatism, neuralgias and all sorts of painful conditions. Chaulmoogra oil (大風子) has been used in China in the treatment of leprosy as far back as the twelfth century and **Pents'ao** (本草) gives a description of the method of preparing the oil. It is also recommended for impetigo, psoriasis, syphilis, and scabies. **Pents'ao,** a voluminous work, has pictures and descriptions of each of the drugs which amount to 1882 in number. Generally speaking, these drugs fall under three headings:—

(1) Quite a number of these drugs are standard western drugs. These include senna, camphor, aloes, cinnamon, cloves, rhubarb, aconite, benzoin, menthol, croton oil, nux vomica, stramonium, cardamon, linseed, castor oil, ginger root, myrrh, musk, mustard, and many others.

(2) This class constitutes those which have proved to be satisfactory substitutes for western products.

(3) This class comprises those which are of no or doubtful therapeutic properties.

I have dealt with the question of drugs and I feel that this is the most hopeful part of Chinese medicine. It is my belief that some of the remedies at least, which have been used by the Chinese for many centuries, may, when scientifically approached, be found invaluable and help to meet the world-wide needs of the sick. The subject will no doubt prove to be a big and fascinating field for research. Tang-kuei (當歸), long used by the Chinese as a remedy in menstrual, chlorotic and puerperal diseases of women has been found valuable in the treatment of menstrual disorders. Kaolin (高陵), an old Chinese remedy, is still used in western medicine for diarrhoea; while chaulmoogra oil is now universally recognised as the specific for leprosy. Modern research will no doubt add many more to the list. In this connec-

tion it is worth noting that medicine in Japan, according to most authorities, was first introduced from China, and as you know, the Japanese have analysed many of the drugs and tested them chemically and physiologically. It is not until we, the Chinese, begin to treat the subject in a scientific way, like the Japanese, can we ever hope to contribute something to the medical world.

It is perhaps not within the scope of this paper to describe many of the medical superstitions of China, but they are so closely connected with the healing art that it would not be out of place to mention just a few. The ignorant class, which unfortunately still form a great majority of the populace, hold that disease is caused by the anger of an offended demon or of offended dead persons. They believe that all bodily and mental disorders spring either from the air or spirits. In association with this belief is the wearing of amulets and charms as an imagined protection against disease, accidents, or other evils. When sick, the Chinese often have recourse to some deity, who is supposed to have caused the illness. Among the literary men one practice used to be very popular. The physicians said that some diseases were incurable save by a broth made from human flesh cut from the arm or thigh of a living son or daughter of the patient. In the Ching Dynasty, we find several instances of boys and girls multilating themselves in this way in their endeavour to save their parents' lives. It was believed that filial piety, in its sincerest form, as is the case of cutting one's own flesh, could move the will of God. It was essential in all such cases that the recipient should be kept in profound ignorance of the nature of the potion thus prepared, and in no case was the operation to be performed for an inferior. The doctrine of signatures also comes in very largely in Chinese medicine. **Pents'ao,** the only authoritative work of materia medica in the Chinese language, describes the virtues of many of the drugs as resembling the external appearance and source of the substance. Thus ginseng, owing to the peculiar shape of the root, like the body of a man, is supposed to give power and strength to the aged and sick. Examples of this are many.

I cannot allow myself to talk too much on the question of medical superstition, but it is really a shame to think that so many of the Chinese are still holding these primitive ideas as if they were still living in the dark ages. There are few sights in the world more pathetic to the intelligent on-looker than one that can be often seen in this Colony. It is that of a frenzied Chinese mother, beating, with sticks, the garment of a sick child, and repeating incantations to drive away the evil spirits from the garment. It would be easy to multiply examples of the way in

which such superstitions cause suffering. Suffice it to say, that in China, there is a great opportunity for the spread of scientific methods in medicine. China is looking towards the younger generation for her salvation, and it is our bounden duty to her to open up the minds of her ignorant, and to alleviate their suffering by bringing to them the Gospel of health.

There are two very striking facts in the Chinese medical profession:—(1) There are no medical schools, the profession being hereditary, receiving very few recruits from outside. (2) There are no hospitals. The Chinese consider it would be a neglect of the duty to send any of their people when sick to such institutions. Chinese doctors are not held in high esteem in the eyes of the public. In China, too, it is perfectly free for anybody to practise medicine and there is practically nothing to check quackery. The physiological and pathological speculations are very franciful and complicated, hence it is very difficult to read the medical books. The scientific investigation is almost wholly restricted to the study of the writings of the ancient exponents of the art. Independent inquiry, the direct appeal to nature are, however, discouraged, and indeed looked upon with the utmost distrust. This spell of ancient authority is not broken even now, and people are still hunting for what they call the "ancient prescriptions."

I have endeavoured, as far as I can, to give you a rough idea of what Chinese medicine is, and I have to leave you to yourselves as to the criticism with regard to its present state. To sum up, there are several reasons why Chinese medicine has not been able to make any improvement. (1) The ignorance of the structure of the human body leads to imperfect speculations. (2) An unreasoned reverence for authority prevented any real progress. Kept back by these fixed ideas, its freedom is restricted on every side. (3) Students of western medicine who have been thoroughly trained in the sciences of anatomy and physiology never care to read over their own medical literature, and many of them are entirely ignorant of the ideas of their brother practitioners in Chinese medicine. These two classes of people will therefore never meet, and Chinese medicine has remained and will remain the same as it was five or six hundred years ago.

The fact that much of Chinese medicine at present is mere superstition cannot be denied. The most judicious remark we can make is found in the following statement made by M. Huc. He said, "Notwithstanding all this quackery, there is no doubt that the Chinese doctors possess an infinite number of valuable recipes, the result of long xperience. It is perhaps too rash to imagine that medical science has nothing to learn from the

Chinese doctors on the pretext that they are not acquainted with the structure and mechanism of the human body. They may, nevertheless, be in possession of very important secrets, which science alone, no doubt, is capable of explaining, but which very possibly science itself may not discover. Without being scientific, a man may very well light upon extremely scientific results. The fact that the Chinese can make gun-powder while none of the makers can chemically explain its composition and action is a proof of this fact."

I quote this, in order that you may not go away, after hearing my paper, with the idea that Chinese medicine is absolute nonsense. There is no doubt that the Chinese doctors possess a certain number of remedies which have worked wonderful cures. Moreover, when we are talking about Chinese medicine, we must remember that we are talking about Chinese medicine as it was six or seven hundred years ago, for during all this period, medical science in China had degenerated into dogmatic formalism and no progress whatever had been made. People who laugh at Chinese medical literature will make the same mistake as when they laugh at the works of Aristotle, Ptolemy and Galen. Imagine what western medicine would be without the works of Versalius, the epoch-making discovery of Harvey, and the subsequent achievements by the other workers. People who compare Chinese medicine with western medicine before the 13th or 14th century will find that Chinese medicine is in no way inferior to western medicine. It is a matter of great regret that for a period of several hundred years the Chinese have been doing nothing. The duty is now devolved upon us to bring the Chinese medical profession on to the track of modern science, to wipe away from the minds of the people the superstitious ideas and fanciful theories which have hampered the nation's progress for centuries, and to investigate and retain what may be of real scientific value.

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AN OUTLINE OF THE HISTORY OF PLAGUE IN HONGKONG.*

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This paper deals briefly with the history of Plague in Hongkong, the research undertaken locally in its etiology and pathology, and the successive measures adopted by the Sanitary Department of this Colony towards the control and prevention of Plague.

In the first place I will review a few facts concerning Plague which are now generally accepted.

Primarily it is a disease affecting a group of rodents, and human plague is but one of its aspects. It is not essentially a tropical disease, but it is one of those diseases closely associated with primitive communal life, where there exists a lack of appreciation or knowledge of elementary laws of sanitation, the application of which becomes of vital importance in gregarious as opposed to nomadic tribes. Such defective sanitary conditions prevail more largely in tropical and semi-tropical countries than in temperate zones, thus plague has become a disease typical of India, China and the East generally.

Plague has been known for about two thousand years, and is one of the earliest diseases to be described accurately from the clinical standpoint, thought doubtless other diseases which are liable to assume pandemic proportions, such as typhus, influenza and relapsing fever, have been confused with it in the past.

Western literature of the Middle Ages contains frequent references to the scourge of plague, and during this period it spread over the known world in successive waves of death and desolation claiming an enormous toll of lives.

Plague became endemic in England over a period of more than three hundred years, and the notorious London visitation of the "Black Death," with its hundred thousand victims, was but the dramatic culmination of a large number of minor outbreaks. Its decline in England after 1665 was rapid.

* Reprinted from the Journal of the Royal Sanitary Institute, Vol. XLVI., No. 2.

At the close of the seventeenth century in Europe, many factors, combined with some improvement in sanitation and a rise in the standard of living, caused plague to recede to the more congenial soil of the East. It appears to have lain dormant in Central China, Persia, Afghanistan and other remote areas in Asia, far from the beaten track of regular trade-routes, rarely assuming epidemic proportions, until the close of the nineteenth century.

It is likely that its virulence may have declined during this period. The occurrence of plague in epidemic waves, with long periods of intermission, is characteristic, and due to causes which are now at least partially understood.

The revival of plague is one of the most important and striking facts in epidemiology. In May 1894 the world was alarmed by its severe outbreak in Hongkong, in which year probably more than five thousand persons died here of this disease, amongst a far smaller population than we have at the present day.

In the early days of the epidemic in this Colony, the etiology of plague being unknown, little was done in the way of quarantine. Hongkong's unrivalled position as a centre of shipping in the Far East, enabled plague to spread along maritime trade routes, in the course of three or four years, to a vast number of ports in many countries throughout the world, including Japan, the Philippines, the Pacific Islands, South America, Madagascar and Mauritius. Land-borne plague travels slowly, but it is rapidly disseminated by marine traffic.

India became infected, almost undoubtedly from Hongkong, in 1896; the first cases occurring in Bombay. The Indian Empire offered a fertile soil, and plague caused the loss of more than ten million liyes in the subsequent twenty years.

Plague apparently came to Hongkong from the province of Yun-nan, about nine hundred miles distant, where it was known for many years to be endemic. Interesting confirmation of the antiquity of plague in this part of China, is contained in the information given me by a Chinese medical man, himself a native of this province. He says that a time-honoured curse, one of the worst in the wide range of Yun-nanese maledictions, is to call upon the gods to afflict one's enemy with Yang-tzu, the name by which plague is known in the local dialect. In 1893, plague, known as Luen-tzu, was present in Pak-hoi: later it made its appearance in Canton, where it prevailed in the form of a severe outbreak. The first cases are known to have occurred

several months before the commencement of the Hongkong epidemic, and an enormous number of deaths, probably not less than one hundred thousand, were attributed to Plague, in that year, before the epidemic subsided.

There must have been a good deal of confusion as to the true nature of this disease at that time. Bubonic Plague was present in Macao, an early Portuguese settlement on the estuary of the Canton river, 1895. It is curious to note that it was undiagnosed as such, and was known as "foul-gas fever."

The Sanitary Board of Hongkong was instituted in 1883, its activities being chiefly directed towards the scavenging of the City and the improvement of housing conditions. On the outbreak of plague in 1894 the Board was enlarged, and its scope extended to include anti-plague measures. The Sanitary Board has retained these functions, with little modification, to the present day. It is worthy of note that there was no law to enforce the notification of deaths at this time, and a Medical Officer of Health was not appointed until the year 1895.

In spite of the existence of a Sanitary Board, it was generally conceded that the housing conditions, and general sanitation of the City of Victoria in the early nineties were deplorably bad, and that the Colony was inviting pestilence.

The outbreak of plague threw a tremendous strain upon the small Government medical staff available, and members of the Army, Navy and Police force were enrolled to cope with the various aspects of the epidemic. It is gratifying to read of the splendid conduct of these medical and lay volunteers, English and Chinese, who, almost without exception, showed the utmost courage under difficult and trying circumstances.

The united efforts of this improvised staff were directed almost entirely to treatment, and the provision of temporary hospitals on land and in the harbour; in addition to the inspection and disinfection of infected premises, together with other anti-plague measures as were evolved from time to time.

Meanwhile the attention of the scientific world became focussed on Hongkong, and research work was commenced, notably by Japanese medical men, who were quickly on the scene. The efforts of the Japanese bacteriologist, Professor Kitasato, were early rewarded by the discovery of the bacillus pestis on June 14th, 1894, at the Kennedy Town Police Barracks Hospital, Hongkong.

The Government medical officers regretted that they were too busy after the sick to devote much time to research, and consequently the honour of the discovery of the plague organism fell to a visitor.

Bubonic Plague has always been by far the most common type in South China. Primary Pneumonic Plague, together with its different mode of transmission, was early recognised in Hongkong. Considerable public sympathy was aroused by the death of two of the nursing Sisters of the Government Civil Hospital in the year 1898 from pneumonic plague. Twenty years ago the incidence of primary pneumonic plague was stated to be as high as four or five per cent. of the total cases, doubtless many of these were secondary pneumonic plague; it is certain that authentic cases of the primary pneumonic type have been of rare occurrence during recent years. This may be considered remarkable in view of the ill-ventilated houses, and over-crowding which prevail.

A good deal of research was done in the Colony by medical men of several nationalities, who were given every encouragement by the Government. Many of their methods and deductions have, however, been subjected to criticism.

A number of interesting and voluminous special reports on various aspects of plague, were published here at intervals between the years 1895 and 1915. A list of these publications which I have consulted is given at the end of this paper.

The term "Bubonic Fever" was employed in several of the special reports, mainly on the grounds of its supposed resemblance to Typhus.

A peculiar Chinese document of "precious instruction to rescue the world," was circulated in 1894, purporting to be written by KWAN TAI, the god of war, through the medium of "planchette," a Chinese method of divination. This curious publication gives, amongst other "revelations," a liturgy to be recited by those who would escape the disease, and prescribes some elaborate native medicines for its cure.

As previously stated, the plague bacillus was discovered in Hongkong, and a mass of evidence collected and tabulated, but the majority of these early investigators seem to have been obsessed with the idea that bubonic plague was primarily a gastro-intestinal infection. They were never able to discard this view, and it was left to the Indian Plague Commissions to

determine the rôle of the rat and the rat-flea in the etiology of bubonic Plague.

In the first plague report issued here in 1895, Dr. Lowson, then in charge of the epidemic hospital, says:—

> "The question of the infection of rats previous to the epidemic being noticed in human beings has been made too much of."

Dr. Hunter, the Government bacteriologist, also criticised and discredited the conclusions of Simond, published in 1898, that rat-fleas conveyed the infection from rat to man. These, and similar statements, were indeed unfortunate,—though it is proverbially easy to be "wise after the event."

Research was conducted here in 1894 to determine whether the beaten earth floors of infected houses contained the bacillus pestis. This kind of ground-surface was then very common in the poorer Chinese houses, where the bulk of the cases occurred, and was usually soaked with excrement and filth. However, as far as plague was concerned the results were negative.

A curious belief in the immunity of opium smokers was prevalent at this time, so much so, that people crowded into the opium divans for refuge; living and sleeping therein. This was shown to be a false notion, and probably spread by those interested in the opium traffic. Statistics showed that opium smokers and eaters were no more immune than the rest of the community The authorities, however, put much faith in tobacco as a prophylactic, and all the plague staff were allowed to smoke freely.

Contaminated water was blamed for a long while, this led to the closure of a large number of domestic wells, which were then very common in the City of Victoria. Even the water of the harbour was under suspicion, and was examined for the bacillus pestis.

The view of infection via the alimentary tract, due to specificially contaminated food, was widely accepted for several years, though there were those who considered "emanations from the breath and skin" as being the most important etiological factor.

Large numbers of animal feeding experiments with plague material were undertaken, and colour was lent to the gastro-intestinal hypothesis, as many of the animals and birds died of

septicaemic disease resembling plague. However, the results were inconclusive, and were eventually disputed in Hongkong in 1904 by the present M.O.H., who expressed his entire disagreement with this view.

It was reported at one time that the bacillus pestis was found in low grades of Chinese rice. In connection with this view of the specific contamination of food, it was thought that possibly the plague bacillus might exist outside the body, in symbiotic union with certain of the vegetable moulds.

The sanitary state of Hongkong in the plague year was wretchedly bad, particularly in the central districts of Victoria. The habits and surroundings of the Chinese were admittedly filthy in the extreme. Back-to-back houses were common, and these houses were of a very bad type, built like tunnels, often dilapidated, and obstructed with cubicles and cocklofts, i.e., intermediate floors. The houses were damp, overcrowded, and almost completely deprived of ventilation and light. Latrine accommodation was inadequate, and drainage was bad or absent.

The first efforts at plague prevention were directed towards improving this state of affairs. The Sanitary Board acquired wide powers of dealing with insanitary areas, and at a later date attempted to improve the type of Chinese house, and compelled the provision of open-space at the rear of buildings.

About ten acres of the most densely populated part of the City was resumed by the Government at the height of the epidemic. All the inhabitants were evicted and housed elsewhere. The streets were walled up, and guards were stationed to prevent ingress.

Plague was made compulsorily notifiable, but this law was widely evaded. Inspection and registration of Common Lodging Houses and Coolie Houses were enforced.

It was considered that the public latrines were possibly one of the most potent factors in the spread of the disease, and chlorinated lime was freely used in these buildings.

House-to-house visitation was instituted to discover those dead or infected with plague: obvious cases were removed to the improvised hospitals or to the "Hygeia," a hospital hulk which was moored in the harbour near West Point. Suspects were sent to the Tung Wah, a large Chinese hospital, for observation.

Contacts in these infected houses were provided with clean clothes, their own clothing was removed, together with bedding and similar material, and sent to the Steam Disinfecting Station, the clothing being tied up in sheets dipped in a solution of Jeyes' fluid, and conveyed through the streets in closed baskets.

There were matshed shelters available for the use of those whose houses were undergoing disinfection: the contacts were not detained, but were allowed to go about their business.

Houses in which cases had occurred were disinfected by spraying the walls with a solution of perchloride of mercury, one in a thousand: or by fumigation with free chlorine, generated by mixing common salt, manganese dioxide and dilute sulphuric acid in requisite proportions, producing a continuous liberation of the gas for some hours. Floors and furniture were scrubbed with a solution of Jeyes' fluid, five per cent., and the walls were then limewashed, chlorinated lime being added in the proportion of one pound to the gallon of limewash.

Extraordinary precautions were taken in the disposal of the dead: special plague cemeteries situated at a considerable distance were allocated for their burial, and it was for a time the rule that graves should be covered with six inches of cement-mortar or similar material.

Inoculation with what is described as "Haffkine's prophylactic fluid" was introduced in 1902, and in that year 587 persons, mostly employees of the Board, were inoculated. Inoculation was made a condition of employment in the case of disinfecting-coolies, rat-catchers and case-removing coolies. As far as was known, plague did not occur in any of these persons, though the vaccine frequently produced a violent reaction and some disability. In spite of generally favourable reports, the public took little or no advantage of preventive inoculation.

Yersin's serum was brought here at an earlier date. In 1896 Dr. Yersin came to Hongkong with a supply of his serum for the treatment of plague, but there were no suitable cases in the hospitals at that time, and he went on to Amoy to carry out his tests.

Various modifications in prophylaxis were adopted from time to time, as a result of experience. Many of the early methods were expensive and comparatively futile in the light of later knowledge.

The fumigation of houses with chlorine gas, produced by the action of dilute acid on chlorinated lime, was tried on a large scale. The difficulty of effective fumigation of Chinese houses by this means, was, however, recognised, as was also the possibility of vermin escaping destruction in the joints and crevices of the woodwork and furniture.

A recommendation was later made to the Government to introduce a portable Clayton gas apparatus, which could be conveyed on a lorry to houses requiring disinfection, but the hilly nature of the City and district rendered this suggestion impracticable.

The systematic disinfection of the town was attempted, but proved a very costly undertaking, and was abandoned in favour of a scheme of "general house-cleansing," in which a staff of European Sanitary Inspectors and coolies was constantly employed.

Districts were treated in rotation, so that each tenement house was cleansed at least three times a year. This important measure is still being carried out with great success and with but slight modification. It has all the advantages of simplicity, efficacy and economy.

Each Inspector is allocated a certain number of floors daily: the occupants turn out their household possessions, the floors and cubicles are washed out, and the bed-boards are cleansed in portable iron tanks.

An inspection is made for minor structural illegalities, rat-runs and similar holes are filled in with cement at once, and all rubbish is carted away.

When first instituted soft-soap and hot water were used, later a solution of carbolic acid, and now an insecticidal mixture, one per cent. kerosine emulsion is employed.

Defects in premises, or breaches of regulations or bye-laws, are recorded for the service of legal notices on owner or tenant for their remedy.

As soon as the importance of rats in the etiology of plague became appreciated, comprehensive measures were put into force for the abolition of hollow walls, ceilings and stair-linings. Concrete ground-surfaces, and efficient iron gratings guarding openings into houses were required: lath and plaster walls were prohibited. Nightly collections of household rubbish and garbage were instituted, and attention was paid to proper drainage.

Rats were caught in large numbers, and subjected to routine mascroscopic and microscopic examination. It had been a matter of observation for a long while that the mortality from plague amongst the rat-catchers was exceptionally high.

The laying down of a Rat Virus (Danysz), for the purpose of spreading fatal disease amongst rats, was advised, but the results were disappointing, and did not justify its general use.

Wholesale rat-trapping and poisoning was not a great success, and met with a good deal of passive resistance on the part of the Chinese. The rat-traps distributed in the Chinese houses, were usually found, on inspection, to have the springs of the traps released. The net result was that few rats were caught by this means.

Another unsatisfactory aspect was that the rat-catching coolies were often known to threaten to report plague infected rats as coming from a certain house, if "squeeze" were not paid them. Householders were often willing to pay this form of blackmail, rather than submit to the inconvenience of disinfection, the uprooting of floor-boards, removal of ceilings, and similar measures which were enforced by the authorities in the case of premises in which infected rats were reported to have been found.

On the whole, it was considered a better policy to reduce the accessibility of rats to dwellings, workshops and warehouses: and, as far as possible, make such premises unattractive to them.

Apparently no special protective measures, such as have been employed in India, for food and grain stores and godowns, were devised or enforced locally.

General rat poisoning takes place throughout the Colony twice a year, by means of pellets of barium carbonate and molasses: about 250,000 of these pellets, together with instructions in English and Chinese, are distributed to householders on each occasion.

Rat-boards coated with a mucilaginous mixture are also supplied on demand by the Sanitary Department.

The present system of "rat-bins" has encouraged the destruction of rats, and has eliminated some of the disadvantages which have been mentioned. Small iron bins containing kerosine and disinfectant are bolted on to lamp-posts and other

prominent places, and an inscription in Chinese characters requests the public to deposit any dead rats therein. These bins are emptied twice daily: the rats, which are labelled with the number of the bin in which they have been found, are sent to the Mortuary for examination by the Government Bacteriologist. All rats are examined macroscopically for signs of plague infection, and blood-smears and smears from the splenic pulp of ten per cent. of the rats, are examined microscopically for the bacillus pestis at the Bacteriological Institute.

The mus rattus and the mus decumanus are both common in the Colony: they occur roughly in the proportion of two of the former to three of the latter; both are liable to infection.

Seven to eight hundred of these rat-bins are in use throughout Victoria and Kowloon.

Two or three thousand rats, probably only a small proportion of the rat population, are collected weekly in this manner, and examined for evidence of plague.

An infected animal cannot always be traced to the actual house wherein it died, but a valuable indication is obtained as to the district in which plague may be expected to occur. Houses in the close vicinity are subjected to individual inspection, the cleansing gangs may be diverted to the suspected district, and other suitable preventive measures speedily put into force.

Certain of the local anti-plague measures, with slight modifications, have been employed in the Philippine Islands for some years with marked success.

Two models are exhibited, one a typical Chinese tenement house, illustrating measures applied to prevent infestation by rats: the other a suggested improved type of Chinese tenement house, especially designed to assist in solving the problem of the hygienic housing of the poorer-class Chinese.

Though there is still a great deal to be done before Hongkong may be regarded as a health resort,—nevertheless, the results of the efforts, during the past thirty years, of the Medical and Sanitary Departments, in the case of this one disease, are very striking. Other natural causes, well-known in epidemiology, have doubtless contributed to this end,—yet Canton, South China and the Straits Settlements had many cases of plague last year. It is noteworthy that amongst our closely-herded population, approaching a million, the incidence of plague has been gradually reduced, until at the present day we can claim that there has been no notification of either rat or human plague in the Colony of Hongkong from September 1923, until the present date.

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Editorial.

Medical Ethics.

In Europe and America, where the practice of Medicine has existed for many centuries, certain customs and practices are established which by general acceptance, have become a sort of unwritten laws. Here in China, the whole country is in the throes of a change. Customs and thoughts alike with the background of history and national and individual experiences are for weal or for woe undergoing a metamorphosis, synchronous with the changing times. The practice of scientific medicine itself is comparatively recent; public opinion concerning the profession, which should be one of its guides is either non-existent or conflicting. The need for the establishment of a system of Medical Ethics is therefore apparent and no time is more auspicious than now, if we would win for the profession the esteem and trust accorded to it in other countries. A code of honour, a system of ethics, which shall ensure uniformity of outlook, and consistency in practice is what we should aim at. To delay in this work is to render the task infinitely more difficult subsequently.

It may well be asked, why the medical profession of all professions, should be so scrupulous about its ethics and why particularly so in China?

In all countries, among all peoples, primitive or otherwise, the doctor occupies a position of trust and honour. The practice of his profession, brings him into intimate contact with various people of either sex, at any age, and in any stratum of society. No secret so delicate, no family history so intimate will they not pour into his ears, as they come for treatment or advice. Because of his power to heal the sick, give sight to the blind, enable the halt and the maimed to walk and the deaf to hear, "his earthly power doth then show likest god's"—(as Shakespeare would say) and the common people thus sometimes attribute to him the gifts divine. Among certain races doctors are even regarded as a people set apart forming a priesthood, and the medicine man or witch doctor of primitive peoples also occupies a similar position for similar reasons. Hippocrates, the Father of Medicine, himself came from a family of priest-doctors, and was regarded by the ignorant a son of a god. Almost from time immemorial therefore, the profession has held an honoured position among all races and this in itself is a valid reason why it must live up to its reputation.

Among Eastern peoples in general, and China in particular, the relationship between the sexes is very austere. Mencius, the

great Chinese moralist, has laid down the doctrine that between the sexes a rigid code of morality should exist to the extent that in the handling of an article the hand of the one should on no account touch that of the other. Such teaching as this has been deeply impressed into the Chinese mind, until precept upon precept, line upon line, this view has engrained itself into the Chinese character.

With the introduction of scientific medicine in the practice of which a patient is a patient regardless of age or sex, it has come about that from a scarcity of female doctors, male doctors are entrusted with the treatment of members of the opposite sex.

To be given such confidence, by a people with such ascetic views regarding the relationship of the sexes, is to be entrusted with a great responsibility. If we show them, that like Caesar's wife, we of the profession are above suspicion, they will trust and honour us always. But let there be some who have abused this confidence or given occasion for reproach, and "soft buzzing slander" will drag the dignity of the profession in the dust.

Considering therefore, the traditions of the profession we have to maintain, the honour and trust accorded it by the state and the public, and the possibilities of misunderstanding by words or deeds among a people who have not as yet taken wholeheartedly to scientific medicine, it is certainly not too much to be scrupulous about our ethics.

Inasmuch as ethics vary to a certain extent in different countries and at different times, and are in a large measure a reflection of the prevailing state of morality, and influenced by the history and experiences of the race, and the stage of its civilisation, it is obvious that it would be unsatisfactory for us here in China merely to copy the ethics of other nations and adopt them. When we remember that on certain points the ethical opinion of England and France differs, despite their geographical propinquity, their long historical associations, their reciprocal influences on each other's literature and customs, we need not be surprised if on certain subjects there be a divergence of views between our people and the European or American peoples. Such methods of slavishly copying ideas and not adapting or evolving them to suit our people's mentality and outlook on life are bound to end in failure. Because they are not indigenous they are puny and frail and unlikely to thrive. Such is the explanation of the failure of many foreign imported ideas, ideals and schemes.

Medical ethics then, like any other ethics, can claim no solid basis for their establishment. We can indicate certain broad

principles which long experience by various peoples has found to be sound and helpful.

In studying this subject, three aspects present themselves for consideration. First, there is the relationship between members of the same profession; second, there is the relationship between the profession and the patient; and third, the relationship between the profession and the state.

In regard to the first, it should be summed up as one of mutual respect and assistance;—in practice, it frequently is not. It is regrettable that professional jealousy should exist to such an extent and that some medical men both Europeans and Chinese should spend their time in picking out motes and beams from one another's eyes. We are told that the condition is even worse in some neighbouring islands. It is a lamentable line of conduct which can bring no permanent credit to the man who practises it or to the profession as a whole. In non-European countries this problem is complicatel with the eternal question of colour—but tempting though this question is, we will not enter into it here.

Advertising in any form is another common and reprehensible practice which cannot seriously be said to benefit the patient and is certainly a method unfair to others of the profession. As a science and an art Medicine must be judged on merit and not on advertisement.

Any amount of problems will arise in our dealings with one another, but the chances of friction will be reduced to a minimum if we remember that the underlying principle in our attitude towards one another should be the Golden Rule—in its positive or Christian aspect—

> "Therefore all things whatsoever ye would that men should do to you, do ye even so to them."

and in its negative or Confuscian aspect—

> "Do not do to others, what ye would not like when done to yourself."

We advocate this line of conduct, not in any spirit of goodiness, but because experience and our own observations have convinced us that like honesty, it is the best policy. Outside this rule of reciprocity any good obtained can only be shortlived. If there is one lesson that the Twentieth Century teaches in no

uncertain voice it is the lesson of co-operation,—of unity in action, the lesson that union is strength. Whatever tends to disrupt or to weaken the strength or lower the dignity of the profession as a whole will sooner or later react on the individual and the converse is equally true.

In our relationship with our patients, two thoughts should be constantly borne in mind. The first is that the profession is primarily humane in its purpose and no one in suffering, however poor can be refused attention. The majority of medical men as a rule, of their own accord do not spare themselves in the interest of their patients, however poor these may be. It is a very commendable practice, and one that is easily lost sight of in the keen struggle for existence. The medical man may, if he like, take up the attitude of bold Robin Hood of yore, of whom ancient bards sang that "he robbed the rich to pay for the poor." But for those who deem the profession a form of heartless commercialism, no condemnation can be too strong.

The second thought in our relation with our patients is that of a trust imposed. For obviously, a patient who sees a doctor comes with the faith in his power to heal him. What he confides, as necessary information for the diagnosis and treatment of his case, bears the sacredness of a confessional, and should not be discussed with a third party. We should remember at all times that the interest of our patients must come uppermost in our minds. Arising out of this altruistic attitude, many awkward problems may occur to the doctor. An interesting one is that referred to in Saundby's book on Medical Ethics.

A police circular is sent round stating that at a certain place and at a certain time an infant is found strangled. Medical attendants of that particular district who may have recently attended a woman in confinement under suspicious circumstances are requested to communicate with the police.

A medical man who may have attended such a case and to whom the poor woman may very likely have unburdened her woes, may well ask himself if he is justified in betraying to the police what he had found out in his professional capacity. He may even be questioned about it in court. It may be the greater virtue to let blind Justice exact her "pound of flesh" from the poor woman with an unwanted infant, but we venture to think it is the better part of virtue for the doctor to be faithful to his trust.

Such problems as these are bound to arise at one time or another in the life of every medical man, but we have neither the courage of a David nor the wisdom of a Solomon to take upon

ourselves the attitude of a general adviser. For those who are interested, there are books on the subject. We feel our purpose has been answered, if we can stimulate the interest of students and others to study more into this entrancing subject of Medical Ethics—a wider knowledge and familiarity with which cannot but conduce to the good of the profession and the public.

And lastly, we come to the discussion of the relationship between the profession and the state. To promote the hygiene, public health, and social welfare of a community, it is increasingly apparent that the state and the profession must co-operate more closely. Such co-operation may take the form of helping in the education of the public, in the prevention and suppression of disease. The assistance thus given, is usually crystallised in the signing of a certificate—whether a simple vaccination or a death certificate.

Too often in the hurry and worries of practice such certificates are perfunctorily signed with consequences discreditable to the profession and disastrous to the individual.

In dealing with the state the guiding principle should be that of a public trust,—where transparent honesty pays in the long run. It is an invariable rule to which there is no exception, that the signing of a certificate of however trivial a nature, is a direct dealing with the state, and in dealing with the state with its ponderous legal machinery—(like the wheels of the gods, which though they may grind slowly, they grind exceedingly small)—one cannot be too careful. The man who is as ready with his signature as he may be with his advices, is asking for trouble.

This aspect of Medical Ethics—the relation between the profession and the state—is of immense practical value and its study will amply repay the time and trouble spent.

It is fitting that Hippocrates, the man who first set medicine on a scientific basis, and to whom the world rightly honoured by giving the title of the Father of Medicine, should be the first to conceive and enunciate as a principle the high ideals and noble purpose of the profession and its obligations. The Hippocratic Oath, a translation of which is here given shows how sound are his general concepts of Medical Ethics, which on the whole have changed little since his day.

The Hippocratic Oath.

I swear by Appollo the healer, and Asclepius, and Hygieia and Panacea, and all the gods and goddesses—and I make them my witnesses—that according to my ability and judgment, I will keep this oath and this

covenant: to reckon him who taught me this art even as dear to me as those who bore me, to share with him my substance and supply his necessities, if need be; to regard his offsprings as my own brethren, and to teach them this art, if they should wish to learn it without fee or stipulation, and that by precept, lecture, and every other mode of instruction, I will impart a knowledge of the art to my own sons, and the sons of him who taught me, and to disciples bound by covenant and oath according to the law of Medicine, but to none other. The treatment which I will follow shall be for the benefit of my patients, according to my ability and judgment, and not for their injury nor for any deleterious or evil purpose.

I will not give a deadly drug to any one though it is asked of me, nor suggest any such course, nor will I aid a woman to procure abortion.

With purity and with holiness I will pass my life and practise my art. I will not cut a person who is suffering with a stone but will leave this to be done by practitioners of this work.

Into whatever houses I enter, I will go into them for the benefit of the sick, and will abstain from every voluntary act of wrong-doing and corruption, and further from the seduction of females or males, bond or free. Whatever in my attendance on the sick or even apart therefrom I may see or hear concerning the life of men which ought not to be revealed, I will never divulge, deeming that on such matters we should be silent.

While I continue to keep this oath and break it not, may it be granted me to enjoy life and art alike, with good repute among all men for all time. But should I trespass and forsewear myself, may the reverse be my lot

With the exception of a few statements the main purport of the oath will receive the ready assent of every right-minded person.

In those days before a man was fully initiated into the mysteries of the healing art, he was made to take this oath with some ceremony. The thought occurs to one that it will not be without benefit if certain broad principles be enunciated in a manner similar to that of the Hipprocratic Oath and members of the profession be asked to sign a pledge of this nature. In Hongkong such a pledge might be made conditional for admission into one of the Medical Societies. The University might make it part of the Degree Ceremonies. To the young budding graduate the memory of such ceremonies will still be fresh in his mind when the last word of the best lecture he ever attended has long been forgotten. Degree Day would then have a meaning and not be an occasion for the mere exhibition of the exuberant spirit of youth or an excuse for reproducing a scene of pandemonium from Dante's Inferno.

We can imagine cynics smiling at the thought of ceremonies in an age when everything tends to simplicity. But we contend that this in itself is not an unmixed blessing. Here we may be permitted to say a word in defence of ceremonies and symbols.

Throughout the ages, from the most primitive to the most civilised races, ceremonies have played a great part in history. The coronation of kings, the laying of foundation stones are ceremonies, and so are the dances of primitive peoples. The elaborate ceremonials of churches and masonic lodges in every country clearly indicate that deep in the nature of man is the yearning for forms, ceremonies and symbols which are the outward and visible signs of something deeper and fuller than can be altogether expressed. To man alone, lord of all creation, is given the faculty to see things not only in their extrinsic value, but in their intrinsic worth; not only as they are but as they may signify. The spirit of the age tends, as Mr. Fosdick would say, to make us see things in their prosaic elements. A young girl sits by a window looking dreamily and smilingly at the diamond ring on the third finger of her left hand. To the cynic it is utter foolishness to smile at the diamond—a mere "crystallised carbon in which every carbon atom is symmetrically surrounded by four other carbon atoms, arranged at the corners of a tetrahedon in such a manner that the whole crystal is one continuous molecule." But the young girl saw more than that. It was said of a certain professor (and we fear it may be said of a great many less learned people to-day) that:—

A primrose by the water's brim,

Was but a di-cotyledon,

'Twas nothing more to him.

That is Twentieth Century simplicity—but how pathetically simple!

Before Treatment.

After Treatment.

Annotations.

A Case of Syphilitic Rupia.

K. C. YEO, M.B., B.S.

S.Y., Male, Chinese, aet. 40 years, printer, was admitted to the University Medical Clinic on the 9th. of May, 1926, for cutaneous eruption of head, face, trunk, upper and lower limbs of 35 days' duration.

Personal History:

He was married at 19 years of age. His wife who died 6 years later as a result of child birth, had two abortions and gave birth to three children, all of whom died between the ages of 2 and 8.

History of Past Illness:

He contracted gonorrhoea 21 years ago. 2 years ago, he had occasional attacks of malaria.

History of Present Illness:

Two months ago, patient contracted gonorrhoea and syphilis, the symptoms of the former being described by him as a "burning sensation during micturition and a urethral discharge which stained the linen." Eighteen days after exposure, a phagedenic type ulcer developed near the corona of the glans penis, accompanied by large buboes. He was treated by a friend, who was working in a local dispensary, and he said that his condition was "cured" after 16 days' treatment. Two months after exposure, dusky erythematous papulae, each about the size of a pea, appeared. Synchronous with the appearance of the eruption, his voice became hoarse. The eruption then spread down to the face, neck, trunk, upper and lower limbs, taking five days to become generalised. A week later, pustules were formed and on the day of admission, a rupioid eruption was observed all over the body.

Condition on Admission:

General Condition: Except for the generalised eruption, giving the patient a hideous appearance and pointing to some circulatory disturbance, there was nothing of note in the other systems. The Wassermann was strongly positive. There was no eruption on any mucous surface.

The Eruption: (see accompanying photographs). The individual pustule was covered with a dark-brownish-red scab, under which, owing to the peripheral extension of ulceration, successive layers of crust were formed, each wider than its predecessor until there was produced a somewhat conical, laminated, blackish crust, liken an oyster-shell.

Treatment:

Locally, Ungt. Calomel. was applied. A course of "914" was given starting with .3 gram. Patient reacted to the injections very well, having a slight rise of temperature and headache after every injection. Mercury and Potassium Iodide were given internally at the same time.

Condition on Discharge (see photographs):

The crusts had disappeared and the ulcers appeared as pinkish spots with pigmented borders.

Remarks:

(1) The pustular syphilides of the rupial type are usually a comparatively late manifestation, occurring six to twelve months after the chancre or even later. In the present case, the cutaneous manifestation occurred only two months after the chancre. The explanation is that it might be a particularly virulent form, or that the patient contracted syphilis earlier than the date given by him, as evidenced by the abortions his wife had and the early death of his children.

(2) Syphilitic rupia occurs most frequently in individuals debilitated by illness and is especially liable to follow a virulent chancre, which has become phagedenic, as in this case.

I am indebted to Prof. J. Anderson for his kind permission to record this case.

Before Treatment.

After Treatment.

A CASE OF PSORIASIS.

K. C. YEO, M.B., B.S.

L. S. Male, Chinese aet. 20 years, waiter, was admitted to the University Medical Clinic on the 7th. of June, 1926, for eruption of scalp, trunk, upper and lower limbs of a period of five months.

History of Past Illness:

As a child, patient often had boils on the scalp. Usually every summer he has some sort of skin condition. Last year, he had a crop of boils on the gluteal region, and a bad infection of scabies. He denied having venereal disease.

History of Present Illness:

Five months ago patient noticed a profuse desquamation of the epithelium of his scalp. On asking a friend to examine his head, he was told that he had a large patch, about the size of a dollar, of silvery white scales on the scalp. He cut his hairs short and applied some Chinese ointment but with little improvement. Five weeks later, he noticed that the same type of eruption appeared successively on the extensor surfaces of the upper limbs, lower limbs and the chest and back. The eruption became worse during the last 2½ months.

Condition of Admission:

General Condition: Except for his skin condition, patient was otherwise quite healthy. His Wassermann was negative.

The Eruption:

Scalp: The whole scalp was covered by white silvery scales, which, when scratched off, left a bright red shiny film, dotted over with minute red puncta. When the film was scratched through, bleeding from the injured capillaries occurred in the form of punctate haemorrhages. The growth of the hair was not interfered with.

Limbs and Trunk: The eruption here took the form of circular or oval patches with well-defined borders, and covered by fine whitish scales, which if not noticeable

could be made prominent by gently scratching the surfaces, when they assumed a distinctly silvery appearance. Many of the patches extended peripherally and coalesced.

Tongue: The anterior two-thirds of this organ was affected. The eruption consisted of circular patches, which coalesced, giving the appearance of parts of circles joined together. Each patch had a definitely raised periphery which was white and shiny in appearance. The eruption as a whole presented a white shiny appearance. The parts of the tongue not affected especially the edges were red.

Treatment:

Locally—Ungt. Chrysarobin was applied for 3 or 4 days until the patches had an erthematous look. It was then stopped and Ungt. Ac. Salicylici 10% was given for a few days. The course of Chrysarobin followed by Ungt. Ac. Salicylici was repeated on reappearance of the scales. Calamine Cream was sometimes used after the Chrysarobin, especially when there was too much inflammation of the patches.

Internally—Arsenic was prescribed. For the condition of the tongue a mouth wash of Liquor Hydrarg. Perchlor. was used.

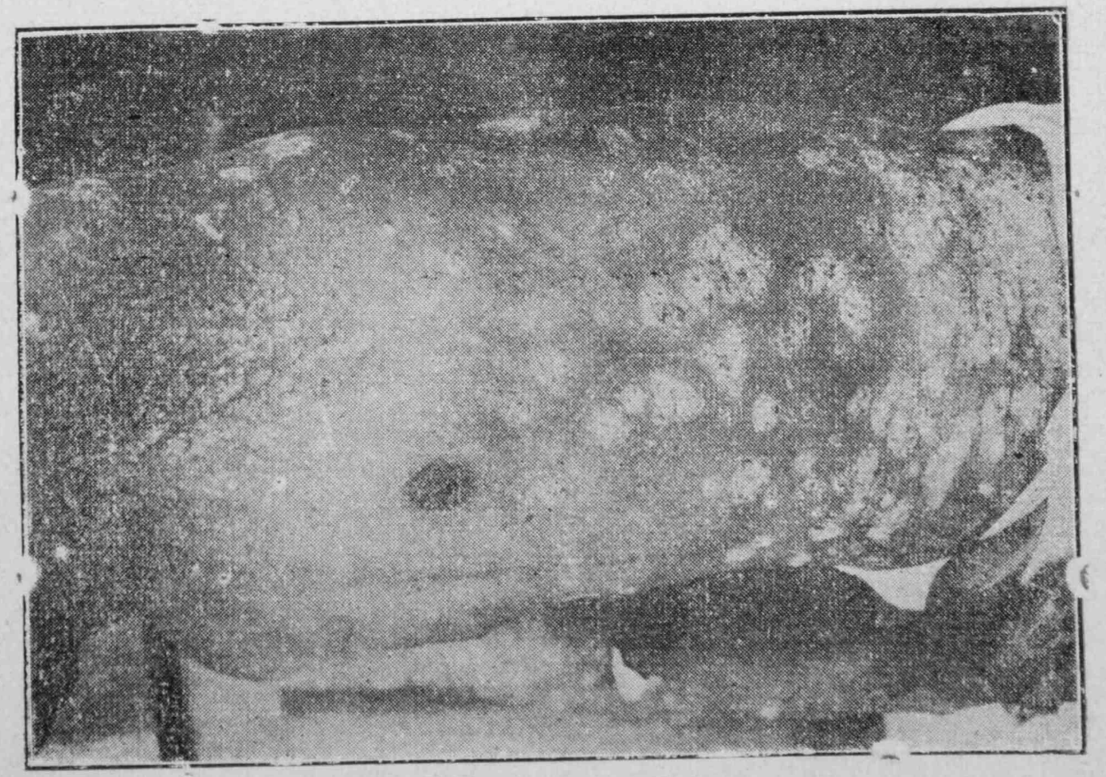
Condition of Discharge:

The silvery scales had failed to reappear over the patches which were dwindling in size. The condition of the tongue showed little improvement.

Remarks:

The lesion worthy of note is the tongue. In text-books, the condition is usually described as leucoplakia. The term lingual psoriasis is a fitting name because the patches on the tongue resemble closely those on other parts of the body.

Thanks are due to Professor J. Anderson, physician in charge, for his kind permission to record this case.



THE PREVENTION OF COMPLICATIONS IN THE PUERPERIUM.

D. K. SAMY, M.B., B.S., L.M.

It is to be noted that this paper which may be of general interest was prepared in accordance with the Public Health Act of the Canton Zurich for the prevention of complications in the puerperium. I propose to divide the paper under three headings.

(1) For the prevention of puerperal fever

(*a*) *Prophylaxis against external infections* (*Exogenous infections*).

The Midwives are forbidden to make vaginal examinations. It is proved by the statistics of the Country (Switzerland) that puerperal fever is still more prevalent in private than in hospital practice. We know that bacteria, which cause puerperal fever, are frequently conveyed during birth through the examination of the genital tract with the fingers (vaginal examination). In private houses most of the labours are conducted by midwives. Midwives are taught the signs of normal or abnormal progress of labour which can be recognised early by rectal and external examinations.

The Board of Directors of the Canton Zurich in their new orders for the education of midwives, substituted rectal for vaginal examination. Under the circumstances, the midwives are forbidden to make any vaginal examination.

(*b*) *Prevention of internal infection* (*Endogenous infection*).

Pregnant women are taught preventive measures against infection.

We know that microbes which cause puerperal fever, are implanted into the vagina during coitus and by bath water, douches, etc. Either the micro-organisms are eliminated by the anti-bacterial powers of the vaginal mucosa within six weeks after implantation or the body of the pregnant woman is capable of increasing her power of resistance against these introduced microbes so as to be harmless.

In order to prevent these internal infections, all women consulting the outpatient department are given the following instructions:—

Prevention of puerperal fever.

1. Coitus is prohibited during the last **eight** weeks of pregnancy.

2. Vaginal washing during the last eight weeks of pregnancy is forbidden, except with the doctor's permission.

3. **"Full bath"** is forbidden during the last eight weeks of pregnancy in **public baths,** and during that time all pregnant women should wash themselves at home with soap and water in the standing posture, but not allowed to plunge in the bath tub.

4. During the last eight weeks of pregnancy, the use of public water closets are as far as possible forbidden.

5. Douching of the genital parts are restricted, except when necessary, the hands being then washed previously with soap and water.

(2.) Prophylaxis against Embolism in the Puerperium.

The probationer nurses, midwives and puerperal nurses are instructed with exercises performed by patients during the puerperium.

We are quite sure that the cause of embolism is the formation of thrombi in the veins and that one of the essential factors of thrombus formation is the slowing of the venous flow.

On account of the mechanical and topographical causes in the horizontal position, slowing of the venous flow occurs mostly in the veins of the upper part of the thigh (femoral veins) and the deep veins of the pelvis (hypogastric veins). For this reason the formation of thrombi, causing embolism, may be found most frequently in the above mentioned veins.

Slowing of the flow in the puerperium can be accelerated by **exercises while lying in bed** and by this procedure the formation of thrombi in the pelvic and femoral veins is prevented.

Since the introduction of these exercises the Director of the Frauenklinik of the University of Zurich observed that in 20,000 puerperel cases of spontaneous and artificial delivery, there was only one death from embolism.

Puerperal exercises are composed of the following:—

1. Sitting: **Stretching of the arms upwards and sidewards** 5 times in each direction.

2. Lying flat in bed with a pillow under the head **and with the out-stretched hands gripping the bars of the top of the bed:** one limb is raised, flexed, stretched and brought down again, first the left then the right, then both limbs together, each movement 5 times.

3. Lying on the back with arms by the sides: **deep inspiration and expiration,** 5 times.

4. Lying on the back with hands on the waist and **raising the body to a sitting position,** 3 to 5 times.

5. Lying on the back with hands stretched over the head, gripping the bars to steady: **circumduction of the outstretched lower limbs,** first with the left, then with the right and then with both limbs, first inwards then outwards, care being taken to keep the limb stretched at the knee, 5 times each movement.

6. Lying on the back with the hands on the waist; marked flexion at the knee joint and hip joint, the feet resting on the bed, **and the body is slowly raised at the pelvis (bridge position),** 3 times, while in this position the **knees are spread out and closed** 3 times.

7. Sitting:—

Lifting the arms, upwards inspiring deeply and the arms brought down again in expiration, 5 times.

3. Frauenklinik of the Canton Zurich.

The Women's Clinic of the Canton which is attached to the University of Zurich consists of a department for obstetrics and gynæcology where students, midwives and puerperal nurses are taught.

The obstetrical department is entirely separated from the **gynæcological department,** the staff of the two departments being also separate. Instruments, sterilizing room, bandages and medicaments are separate for both departments. By this system it is impossible that microorganisms can be introduced from one department to the other, also every precaution is taken to prevent infection from outside coming into the hospital. Further, special care is taken in isolating septic cases. Women in labour with genital or extragenital diseases are delivered in a special ward of the gynæcological department, and puerperal women with genital or extragenital diseases are transferred to special wards in the gynæcological department. There is attached to

the Women's Hospital another department for pregnant girls and women who on account of the pregnancy are not able to continue their work or lost their position on account of their pregnancy. They are accepted free in the Clinic but have to do light work in return. In this manner such women are prevented from the dangers of infection from prostitution.

These pregnant women and girls, who have to earn their own living, are visited regularly by ladies attached to the Child Welfare Department of Zurich, who see that they are provided with suitable positions and a suitable place for the upbringing of the child.

The number of births in one year varies from 1,500 to 2,000 births, the numbers of beds of the Gynæcological Department is 79; the number of women and girls treated for gynæcological affections is 600 to 700 in a year.

In the Women's Clinic there is a daily Outpatient Department for ante-natal and gynæcological cases.

I am indebted to Professor Dr. M. Walthard, Director of the Gynæcological Clinic of Zurich, for his valuable suggestions.

Correspondence.

15th. August, 1926.

The Editor,

The Caduceus,

The University, Hongkong.

Dear Sir,

With reference to the annual subscription of the Caduceus, don't you think that it will be to the advantage of the Society and to the convenience of members if the latter are permitted to pay a life subscription once and for all. I like to get the Caduceus regularly but I cannot be bothered with annual subscriptions. I sent mine through the post some years ago but I was disappointed to find that they never reached their destination.

Yours,

H.S.,

Kuala Lumpur, F.M.S.

(Your suggestion will certainly be brought to the notice of its committee of management. But it seems to us that the suggestion is not advisable. The annual subscriptions are a source of income for the Committee of each year to run the Journal. With big sums in hand, some Committees may be tempted into fits of generosity, and this may result in financial difficulty for other Committees after them. Ed.)

Current Medical Literature.

The Conditions Influencing the Incidence and Spread of Cholera in India.

SIR LEONARD ROGERS, M.D., F.R.C.P., F.R.C.S., F.R.S., I.M.S. (*Ret.*)

Cholera Cycles.

The question whether the recurring epidemics of cholera appear at sufficiently regular intervals to allow of their being forseeen has been the theme of much discussion in the past. The most striking contribution on this subject is H. W. Bellew's closely-printed "History of Cholera in India from 1862 to 1881" (800 pages), published in 1885, and supplemented by twenty years' statistics, printed in 1887, the greater part of which is devoted to maintaining that in every province in India cholera occurs in three-yearly periods of a very high prevalence in the first year and steadily decreasing ones in the second and third years. All the exceptions, which in Assam greatly exceeded the years following the rule, were ingeniously, but not very conclusively, explained as due to abnormal rainfall, prices of foods and other such constantly varying factors. During the past six years a six-year cholera cycle has been propounded by Major J. H. Russell, Sanitary Commissioner of Madras, in ignorance of the views of his numerous predecessors. But from a study of the tables I have worked out during the last twelve months of the cholera rates per mile for over 200 districts and forty-five divisions of India, for a period of forty-five years, I am unable to trace anything like a three-year, up to a six-year cycle if a long period of time is studied. I therefore agree with Cornish in his statement that Indian cholera epidemics occur at irregular intervals, the main causative factors of which will appear later in this paper.

Seasonal Incidence of Cholera in India.

The author does not believe so much in a seasonal incidence as in a humidity incidence.

Climate and the Yearly Variations in the Incidence of Cholera.

The yearly variations in cholera incidence and the very important question as to how far they are related to variations in the rainfall, temperature and humidity, remain to be considered as far as time will permit. In a diagram showing the annual cholera rates per mile for India, 1874-1923, it will be apparent at once that the epidemic rises vary much in degree, and appear

at most irregular periods, lending no support to the three—or six-year cholera cycle theories, so some other less simple cause must be looked for.

Pilgrims and the Spread of Cholera.

The two greatest factors influencing the monthly and yearly incidence of cholera in India are therefore the following:—

(1) the variations in the monthly rainfall and absolute humidity in different areas in each year, and

(2) the dissemination of the infection by travellers, especially the many hundred thousand pilgrims who yearly undertake long journeys to attend various well-known sacred shrines.

The records and data in the voluminous annual sanitary reports of each of the provinces of India require careful study (on which I am now engaged) in the light of facts brought out in the general discussion on the subject in this paper, in order to determine the local conditions influencing the incidence and spread of cholera in relation to contiguous provinces, and to allow of the dangerous zones being recognised each year in time to take steps to minimize the risk of cholera being spread by pilgrims and other travellers against infection of themselves and, even more important, of bringing back the infection to their households and places of residence. It only requires the additional knowledge, now within sight, as to when such protection should be afforded to them, to enable the attainment of a very material diminution of the spread of cholera over India by pilgrims and others.

The epidemic areas, which are sometimes quite free from cholera, and in the case of the Punjab this is of international as well as of local importance, for by far the greatest danger of cholera spreading once more in a devastating epidemic from India to Eastern Europe is by the overland route to Afghanistan, as in the great epidemics of 1826-37, 1866-70 and 1892-94, all of which first passed through the Punjab.

Conclusions.

By watching the climatic conditions influencing the seasonal and annual incidence of cholera in any area to which attention is now drawn, increased or epidemic prevalence should usually be forseen in time to enable steps to be taken to lessen its spread by pilgrims and other travellers, by means of inoculating them against the disease before attending religious and other gatherings in cholera-infected districts. The Punjab, Sind, Gujerat

and Deccan divisions of Bombay and the Central Provinces, so liable to invasion by epidemics, have largely in their own hands this simple means of lessening their cholera mortality. The sanitation, and especially the provision of a pure water supply, in all important pilgrim centres, should be a first charge on imperial and provincial revenues under reliable sanitary administration.

In the discussion, Lieut.-Colonel C. A. Gill, I.M.S., said that it had always been recognised in India that cholera epidemics were in some obscure way correlated with meteorological conditions, but although the air-borne and wind-borne theory had long been discarded, no one had ever succeeded in giving an adequate explanation of the peculiar features presented by cholera epidemics that those shrewd observers, Bryden, Cunningham, and Bellew had relied upon in upholding, almost as an article of faith, the air-borne theory. On the contrary, he (the speaker) was of opinion that modern investigations of cholera epidemics had only served to deepen the obscurity surrounding certain aspects of the epidemiology of the disease. He thought, however, that the thesis put forward that evening by Sir Leonard Rogers, that an absolute humidity equal to an aqueous tension of not less than 0.400 in. of mercury was a controlling factor in cholera epidemics, might well prove to be the means of reconciling many apparently conflicting observations and of explaining much that was at present obscure.

The speaker recalled that the first scientific work upon the relationship of meteorological conditions to an epidemic disease was that carried out by the Plague Commission appointed by the Royal Society, of which Professor C. J. Martin, F.R.S., was President, and the late Mr. Bacot and Dr. St. John Brooks (amongst others) were members. The Commission showed that absolute humidity exercised an important controlling influence upon plague epidemics by reason of its effect on the rat-flea. Similarly, he had shown, in a study of the influence of meteorological conditions on the mechanism of malaria epidemics, that the important part played by humidity was due to its effect on the longevity of the mosquito, and, so far as could be seen, not to any direct effect upon the malaria parasite. In both cases, therefore, atmospheric humidity exercised an influence upon an epidemic disease by means of its effect upon the carrier-insect. Cholera, however, was a disease in which no insect-transmitter was involved and in which it would appear that atmospheric humidity must exercise a **direct** influence upon the cholera vibrio during its extra-corporeal phase. The validity of its inference could only be determined in the light of laboratory experiments, but,

if valid, it would carry implications of profound importance in connection with the influence of atmospheric states upon the conveyance of other directly transmitted parasites.

Sir Leonard Rogers (in reply) thanked Sir Havelock Charles and the other speakers for their kind remarks about his work. He fully agreed with Sir Havelock's precautions for avoiding cholera in Calcutta and he himself and never allowed uncooked vegetables, such as lettuce, in his house during cholera prevalence. Such factors as alcoholism might predispose to infection by inhibiting the secretion of the hydrochloric acid of the digestive juice, which had great powers of destroying the cholera vibrno and preventing it reaching the small bowel, where it multiplied. The frequency of infection of Mohammedans during the Ramadan fast, when infected water was likely to be taken on an empty stomach, pointed in the same direction. The suggestion that fly infection might be related to the absolute humidity was interesting, as flies had often been suspected to play an important part in carrying the cholera organism to food, etc. The low degrees of absolute humidity which he had found to reduce cholera so greatly might act by drying up the infected evacuation and killing the vibrios before they could reach food or water. When an epidemic occurreed among a large assemblage of pilgrims or others it was too late to begin prophylactic inoculation, as all Indian experience showed that the gathering should be broken up and dispersed as rapidly as possible. That was why he advocated the inoculation of pilgrims as far as possible in their own districts before they started on a journey to a pilgrimage in an area likely to be infected at the time. The probable date of this infection could usually be forseen with the knowledge of the climatic conditions favouring the disease which he had now pointed out. The familiarity of the people with the equally successful plague inoculation would facilitate carrying out his suggestion, whilst, if the important trials of oral cholera vaccine which had been arranged for by Colonel Graham were successful, the use of this oral vaccine would be thereby greatly simplified. During the last few days he had found data in the Punjab Sanitary Report for 1879 showing that no less than 20 per mile of some 45,000 Punjab pilgrims to Hardwar from certain districts died of cholera on the journey or shortly after their return, as well as spreading the disease widely. This mortality could have nearly all been avoided by inoculation beforehand, whilst the priests would be likely to favour its use as they feared cholera might result in closing the fairs.—**(Proc. Roy. Soc. Med. Vol. XIX, No. 9, July, 1926.**

INFANT FEEDING.

Clifford G. Grulee, M.D.

The author states in his introduction that there is no question but that the laity is demanding of the general practitioner a more definite and extended knowledge of infant feeding than he is able to supply at the present time. The object in this paper is to decide whether such bewilderment as at present exists in the minds of the profession is justifiable from the standpoint of facts.

In this summary he states that of 3,293 children under 1 year of age under the care of the Infant Welfare Society of Chicago, 26.55% were exclusively breast fed, and 71.5% were exclusively or partially breast fed. Of 1,531 children under 6 months of age, over half were exclusively, and seven-eighths were exclusively or partially breast fed. Only twelve babies have to be weaned for causes other than failure of milk supply before the 9 months' period. Cereals and vegetables were exclusively used, both as adjuvants to breast milk, and as part of the food given to those wholly artificially fed. Except for the substitution of some other sugar for sucrose, special formulas were used in only twenty three cases, and acid milks were employed in only twelve of these. In spite of a severe respiratory epidemic, only nine babies were in hospitals at the time of this survey.

In his conclusion he states that seven out of eight babies under 6 months of age can be fed in whole or in part on the breast. Cereals and vegetables can be used to advantage in feeding infants in the second six months of life. Acid milks are necessary in only one in 30 cases of infant feeding. It may be necessary to substitute for cane sugar some other form of sugar in less than 10% of artificially fed babies. There is probably no advantage whatever in the use of proprietary infant foods, and practically no indication for their use. **(Jour. Amer. Med. Assn. Vol. 87, No. 3.)**

Reviews of Books.

The Secretion of the Urine: by Arthur R. Cushny, M.A., M.D., LL.D., F.R.S., late Professor of Materia Medica and Pharmacology in the University of Edinburgh (formerly of the University of Michigan, U.S.A., and of the University of London, University College), Second Edition, with diagrams, 8vo. pp.XII 288 pages, 16/- net. Published by Longmans, Green and Co., Ltd., London, 1926.

Professor Cushny died suddenly in February, 1926, just after he had corrected the proofs of the second edition of his book on "The Secretion of the Urine." This attractive volume is one of the well-known series of "Monographs on Physiology" edited by Professor E. H. Starling. The first edition appeared about nine years ago and for the last decade it has been regarded as the most logical exposition of all that was known relative to kidney secretion.

The new edition gives a clear resumé of all the research work bearing on renal function which has been carried out in the interval, but although there has been a vast amount of investigation, it had led to no dramatic discovery, and Cushny considered that all recent results only tend to confirm his theory of kidney secretion as laid down in the first edition of his monograph.

In 1842, Bowman advanced his theory that the water in the urine was secreted through the glomeruli while the solids were secreted by the tubular epithelium. Two years later Ludwig published his rival theory that the capsule was a simple filter which allowed all the constituents of the blood plasma except proteins to pass from the glomerutus and that in the tubules much of the fluid returned to the blood while the remaining filtrate became elaborated into urine. These two theories gave rise to much investigation and debate, the results of which seemed rather to favour the views of Bowman and his disciple Heidenhain, until Cushny published the first edition of his monograph and his theory at once came to be known as the modern view.

Cushny's theory is that the capsule acts as a filter carrying off that fluid of the plasma with its non-colloidal constituents. In passing through the tubules those substances with a high threshold point are almost entirely re-absorbed into the blood while those with no threshold are entirely passed on in the urine. The substances lying between the two extreme in threshold value are re-absorbed into the blood or excreted in the urine in varying amounts.

This theory has stood the test of ten years of experimental work and is still the only theory which explains all the facts we know regarding kidney function.

J.A.

The House-Surgeon's Vade Mecum: by Russell Howard, C.B.E., M.S., F.R.C.S., Surgeon, London Hospital; and Alan C. Perry, M.B., M.S., F.R.C.S., First Assistant (Surgical), London Hospital. Second Edition. 8 vo. Published by Edward Arnold and Co., London, 1926.

"This book has been mainly written for the use of recently appointed House Surgeons and Dressers" and "Practitioners who have not had the advantage of holding the post of House Surgeon at a large hospital," says the preface. The lack of details in many of the larger text books of Surgery is the justification for a small handbook like this. It is of necessity rather a hotch potch. Beginning with chapters on aseptic surgery (a brief simple account), wounds (disappointing because of the meagre treatment of septic wounds) shock haemorrhage, acute infections, amputations, a valuable if short account of the treatment of complications and sequelae of abdominal operations; the book passes on to consider practical aspects of the general range of surgery.

There are also sections on bandaging, on massage and on anaesthetics; and a valuable chapter on medico-legal notes (all of which, however, would not apply in Hongkong) and notes on the preservation of specimens and on laboratory methods. We should like to have seen a very brief surgical pharmacopoeia as an appendix. We would recommend this book as the best of its kind. There is a surprising quantity of information compressed into a small space. It is up to date though a few antique methods are recorded, e.g.

p. 33 "Petit's tourniquet was invented in 1718" Why insert the date, and such a date! Any advantage of graduated action is possessed by the superior modern Godwin's aseptic tourniquet.

p. 182 "For empyema a general anaesthesia (the best being A.C.E. mixture) should be employed."

We are sorry to see the barbarous "skin the penis" method of circumcision still being advocated.

This book represents methods at the London Hospital. Each surgical clinic has its own methods, and each surgical clinic should have its practice codified in such a book. It is hoped that something of the sort for the Hongkong University Surgical Clinic will make its appearance one day.

K.H.D.

The Principles and Practice of Roentgen Therapy: By I. Seth Hirsch, M.D., D.M.R.E. (Camb.), Director of X-Ray Departments, Bellevue and Allied Hospitals, New York City. 360 pages, 300 illustrations and 57 tables. G.$15. Published by The American X-Ray Publishing Co., New York, 1925.

The commencement of the present century first attracted the attention of the medical world to the possibilities of Roentgenology. Since that time rapid advances in its development have been and are still being daily made, and there are special journals on the subject. The average medical man has not the time to read these journals and yet he cannot afford to be ignorant of a subject from which both the layman and the world of science expect so much. It is as an invaluable aid in the fight against cancer—that its study becomes so fascinating .

To the enquiring mind the questions naturally asked are:—What is Roentgenology? How is it produced by the average apparatus made by such firms as the Victor, Wappler and others? What are the actual effects produced by X-Rays on tumours in general and cancer in particular? How is the treatment given and how should one gauge the dose? The answers to these questions and more can be found within the pages of this book. For the average student, the book in parts soar beyond his ken—it deals with intricate technicalities, but no medical men—students or practitioners—can afford to miss reading the chapters as those on—the differences of construction of such apparatus as Wapplers, Victors and others; the various methods of filtration, and measurement of intensity, and last but not the least interesting is the chapter on X-Rays and cancer.

For the lordly specialist too it is not without use. Its formulae and diagrams and tables so generously scattered throughout the book appeals to the eyes of men who want details. Handsomely bound, profusely and clearly illustrated, the book is an invaluable addition in the shelf of any medical man.

The value of Dr. Hirsh's book is still further enhanced by the inclusion of the Treatment Tables and Dosage Formulae of the world-renowned Professor Guido Holzknecht of Vienna, (never before published in English).

S.W.P.

Acknowledgments.

We have much pleasure in acknowledging the receipt with thanks of the following contemporaries.—

Mededeelingen Van Den Dienst Der Volksgezondheid in Nederlandsch-Indie.

Acta Ophathalmologica, Copenhagen.

Reprint: "Ova of Paragonimus Westermanii Ensysted in the Abdominal Wall" by Choy and Ludlow, Research Department, Severance Union Medical College, Seoul, Korea.

Dr. Huang's Medical Journal, Shanghai.

St. Mary's Hospital Gazette, London.

Chinesische Zeitschrift Für Die Gesamte Medizin, Moukden.

Archives of Medical Hydrology, London.

Monthly Epidemiological Report, League of Nations, Geneva.

Index Universalis, Moukden.

Gann: Japanese Journal of Cancer Research, Tokyo.

International Health Year-book, 1924. League of Nations, Geneva.

The Taiwan Igakkai Zashi (Journal of the Medical Association of Formosa).

The Japan Medical World, Tokyo.

Reprint: "On the Carbon Tetrachloride Treatment of Ankylostomiasis, with a Note on the Hookworms of Penang," by A. N. Kingsbury, Pathologist, Institute for Medical Research, F.M.S.

The Post-Graduate Medical Journal, London.

"Unitas" (Journal of the University of Sta Thomas, Manila, P.I.)

Bulletin de la Societe des Sciences Medicales et Biologiques, Montpellier.

News and Comments.

Our Teaching Staff—Past and Present.

Professor H. G. Earle:—The whole undergraduate body of the Faculty of Medicine will be pleased to learn that Professor H. G. Earle will be back again about the middle of September. He is returning after fifteen months' leave, via Siberia, with a break at Peking for about two weeks attending the China Medical Association Conference. In September 1925, he left London for America for three months as the guest of the Rockefeller Foundation. While at London, Professor Earle was doing research work on Basal Metabolism. He also attended the British Medical Association Conference at Bath. It is interesting to note that at a meeting of the Association of University Teachers, held at Exeter, Professor Earle made an appeal to British University teachers for their interest in the British University of Hongkong and expressed the hope that that University would prove a factor of increasing importance in encouraging friendly relations with China. While at the University College of Wales, Aberystwyth, he gave an address on "The Universities in China" and "The University of Hongkong." Members of the Society, no doubt, are looking forward with keen interest, for a paper to be read by Professor Earle, on his return to the Colony.

The Honourable, Dr. W. V. M. Koch, J.P., M.D., C.M.—We congratulate Dr. Koch on his recent appointment as an Unofficial Member of the Legislative Council. It will be remembered that Dr. Koch was for many years a Lecturer in Surgery at this University and it was only in September 1924 that he relinquished his services owing to pressure of work. No doubt, some of the older graduates will remember him well and will be pleased to learn of his appointment.

Dr. Koch who is also a member of the Sanitary Board, has been responsible for many of the Colony's health problems and improvements in sanitary conditions.

With the appointment of Dr. Koch, we shall soon see further improvements in the medical aspects of the Colony.

Our Chairman.

Our Chairman has gone back to the Straits to collect subscriptions for the Society and Caduceus. He has been in touch with members in Singapore, Penang, Ipoh, Kuala Lumpur and other parts of the Straits Settlements. He has written to say that our members there are doing very well and they wish to be remembered to their friends in Hongkong.

Our Graduates.

Dr. T. Y. Li.—Since our last issue, from news to hand, we learn that Dr. Li will be in Glasgow till September studying Pediatrics under Professor Leonard Findlay. The Rockefeller Foundation has very kindly extended his travelling fellowship to another four months thereby enabling Dr. Li to return to Hongkong via America.

While in the United States, he will be studying Metabolism under Professor Longcope's Associate at the Johns Hopkins School of Medicine, Baltimore.

Dr. M. B. Osman.—We hear that Dr. Osman will be in Edinburgh until September, studying Bacteriology and Pathology under Professors Mackie and Lorrain Smith respectively. He will also get an extension of the Rockefeller Travelling Fellowship and will be returning to the Colony via America. Dr. Osman will be studying Morbid Anatomy under Professor McCallum at the Johns Hopkins School of Medicine.

Dr. W. S. C. Yuen.—From news to hand, we learn that Dr. Yuen is studying at the London School of Tropical Medicine. We wish him every success in his examinations.

Dr. I. D. Zia.—We learn that Dr. Zia has commenced practising on his own account at Shanghai and is doing quite well. He was for some time attached to the Health Department of the Shanghai Municipal Council.

Dr. S. A. M. Sepher.—After his graduation in May 1924, Dr. Sepher took up the appointments of Clinical Assistant to the Surgical Unit, House Obstetrician, House Physician and House Surgeon at the Civil Hospital. At the end of last month, he left for London and Glasgow for further studies, specialising in Dermatology and Pediatrics. He will probably be away for two years. We wish him every success in his work.

China Medical Association Conference.

The China Medical Association Conference will be held in Peking, from 31st. August to 8th. September. Judging from a tentative programme which appeared in the China Medical Journal, July, 1926, the conference should be very successful. We understand that Professor J. Anderson and Dr. Arthur Woo are attending as delegates from Hongkong. Papers and detailed reports of the conference will be published later in the China Medical Journal.

The Coombe Lying-in Hospital Centenary.

We understand that an International Congress of Obstetrics and Gynæcology will be held during the month of September, 14th. to 17th. in Dublin, in celebration of the Centenary of the Coombe Lying-in Hospital. Distinguished obstetricians and gynæcologists from the British Isles, the Continent and America, are presenting papers. Sir William Smyly will be the President of the Congress. In celebration of this Centenary, the Royal Academy of Medicine in Ireland will issue a special Centenary Number in its official organ, the Irish Medical Journal, containing in addition to articles of general interest, reports from the three Dublin Maternity Hospitals.

Our M.B., B.S. Examinations.

The results of the first, second and third medical examinations held last May are published below. It is interesting to note that in the final examination only 33.1/3% of the total number of candidates passed in part one, (Surgery, Obstetrics and Gynæcology), and 40% passed in part two (Medicine and Pathology). Only 33.1/3% passed both parts of the final at one sitting. The results on the whole were good. We congratulate them on their success.

1st M.B., Part 1, New Regulations, (Physics, Inorganic and Organic Chemistry).

Lam Shiu Chun
Wong Hok Nin

1st M.B., Part 1, Old Regulations, (Physics and Inorganic Chemistry).

Miss Bessie Chen
Enok, Victor
Lim Ek Quee
Lim Nget Siew
Tsan Wei Chean
Yip Yuet Fong

1st M.B., Part 2, (Biology).

Miss Bessie Chen
Miss Cheng Siu Yue
da Roza, Carlos Eugene
Lim Ek Quee
Lim Nget Siew
Ng Tin Fong
Wong Hok Nin
Yeoh Guan Eng

1st M.B., Part 3, (Organic Chemistry).

Jap Boon Koey
Kho Khong Kha
Khoo Keng Wah
Miss Parrin Ruttonjee
Scully, Gerald Sharpe
Wong Shun Fong
Yeoh Guan Eng

2nd M.B., Part 1, (Anatomy and Physiology).

Chan Wah
Cheah Cheng Poh
Cheah Khay Chuan
de Souza, Granville Francis
Gourdin, Allston
Ku Hsueh Chin
Ong Huck Leong
Ooi Phee Tuan
Sun, Edward Wickham Jueyow
Miss Tso Shuk Kei
Yang Lin
Yang Pao Chang
Yu Chiu Kwong

2nd M.B., Part 2, (General Pathology and Pharmacology).

Chua Boon Teck
Hua Feng Tsai
Laing, Douglas
Phoon Seck Quai
Sun, Edward Wickham Jueyow
Tio Swi Lam
Vephula Chumlong

3rd M.B., Part 1, (Surgery and Obstetrics and Gynaecology).

Bau Tsu Zung
Guzdar, Jamshed Sorab
Kwong Shuin Cheong
Teh Hui Seng

3rd M.B., Part 2, (Medicine and Pathology).

Bau Tsu Zung
Guzdar, Jamshed Sorab
Kwong Shuin Cheong
Tsang Fuk Cho

The following candidates are recommended for the degrees of M.B., B.S.

Bau Tsu Zung.
Guzdar, Jamshed Sorab.
Kwong Shuin Cheong.
Tsang Fuk Cho.

New Regulations of the Conjoint Board (M.R.C.S., L.R.C.P.)

Certain modification in the regulations for candidates who passed their Preliminary Examination in or after January, 1923, have now been adopted by the Conjoint Board, and will come into force at once and be retrospective.

They may be briefly summed up as follows:—

Present Regulations.

(1) The Course of study (5 terms) for the First Professional Examination must not be commenced until the Pre-medical or its equivalent has been completed.

Revised Regulations.

(1) The Course of study for the First Professional Examination may be commenced before the Pre-medical, or its equivalent, has been completed but not less than three terms of Anatomy and Physiology must be completed after such examination has been passed.

(2) Candidates who have passed both Sections of the First Professional Examination will be admissible to either Section, or any part of Section II of the Final Examination:—

At the expiration of two and a half years (30 months) from the date of passing Section 1 of the First Professional Examination on production of the certificates required.

The last part of the examination may not be completed before the expiration of five academic years of professional study (57 months), including 3 academic years of clinical work after passing Anatomy and Physiology.

On the production of the certificates required for the section or parts.

The last part of the examination may not be passed before the expiration of 57 months of professional study, including 33 months of clinical work after passing Anatomy and Physiology.

The results of the alternations may be put briefly as follows:—

1. A candidate who enters a Medical School immediately after passing the Preliminary Examination in Arts, might study Anatomy and Physiology for two terms during his preparation for the Pre-Medical, and would then be enabled to sit for Section I of the First Professional three terms after completing the Pre-Medical.

Similarly, a student who failed in one part of the Pre-Medical can begin the study of Anatomy and Physiology while revising and passing in that part, provided that the work be done at a Medical School.

As, however, the 57 months mentioned in 2 does not begin to count until the Pre-Medical is completed, the only advantage to be gained by this is that additional time can be spent in clinical work.

2. By the deletion of the interval of 30 months between the completion of the examination in Anatomy and Physiology and entry to the Final, a student will be able to begin to take his Final after 21 months of clinical work, though he will not be allowed to complete it until a further 11 months have expired.

This will be an advantage from the student's point of view, as the Final will in future be divided into four parts; Pathology and Bacteriology occupying a section to themselves.

It is noticeable also that under the new regulations it will not be necessary, as now, to obtain every signature before entering for Midwifery. As the average student takes this subject before either Medicine or Surgery, this alteration will be of great advantage to him when arranging his programme of work. **(St. Mary's Hosp. Gazette, June, 1926).**

K.M.A. Medical Service.

Attention is called to an advertisement appearing in this issue that there is a vacancy in the Kailan Mining Administration Medical Service for a Medical Officer for duty in the Tongshan Hospital or Mines Clinics. The Hospital is splendidly equipped in every way and has 150 beds—foreign and Chinese—and serves an outpatient clinique of about 5,000 per month. Although the work will be largely surgical there is abundant scope for any branch of medicine that may interest the candidate. Further particulars of the vacancy may be obtained from the Dean of the Faculty of Medicine.

Many of us will be pleased to learn that Dr. S. C. Chia is still attached to the Tongshan Hospital. It will be remembered that Dr. Chia after his graduation in December 1923, took up the appointments of House Physician and House Surgeon here. It was in the early part of 1925 that he joined the K.M.A. Medical Service and was for some time working under the late Mr. H. B. Kent, M.S., F.R.C.S.

Appointments.

Since our last issue, the following appointments have been made:—

POSTGRADUATE:

July to December, 1926.

House Physician	Dr. S. K. Lam
House Obstetrician	Dr. K. C. Yeo
House Surgeon	Dr. T. Z. Bau
Clinical Assistant to the Medical Unit	Dr. F. I. Tseung
Clinical Assistant to the Surgical Unit	Dr. F. C. Tsang
Clinical Assistant to the Outpatients Department	Dr. J. S. Guzdar

UNDERGRADUATE:

July to September.

Surgical Ward Clerks.

Chan, W.	**Khoo, K. T.**
Cheah, C. P.	**Ong, H. L.**

Cheah, K.C.
Chee, C. H.
Gourdin, A.
Ooi, P. T.
Yu, C. K.

Surgical Dressers.

Lee, S. P.
Ong, C. K.
Sudan, B. N.
Tu, T. P.

Junior Medical Ward Clerks.

Hsiu, S. T.
Kwan, P.C.
Lam, H. Y.
Sun, E. W. J.
Miss Tso, S. K.
Wu, T. P.

Senior Medical Ward Clerks.

Chua, B. T.
Kao, C. H.
Kwok, Y. K.
Laing, D.
Shi, M. W.
Teh, Y. C.

Obstetric Clerks.

Li, K. Y.
Rumjahn, A. A.
Tang, Y. Y.
Vephula, C.

Pathology Clerks.

Chow, T. C.
Ma, W. M.
Phoon, S. Q.
Teoh, B. L.

Anaesthetic Clerks.

Miss Lai, P. C.
Miss Ho Tung, E.
Phoon, S. Q.

Subscription Rates.

In view of enquiries from many quarters, members are requested to note that subscriptions are due at the commencement of each year. Subscriptions collected at whatsoever time this year hold good for this year only, and on no account can they be made to cover next year's subscription.

Dr. S. C. Ho, Member of the Sanitary Board.

The election of a Member of the Sanitary Board was very exciting this year. To the successful candidate, Dr. Ho, who is a member of our Society, we extend our congratulations and look forward to his work for the welfare of the public.

The other candidate was Dr. F. M. G. Ozorio, a popular and well-known member among us. It was unfortunate that both candidates who are members of our Society, should be contesting together but it was interesting to note that both had warm support from many of our members.

Announcements.

Marriage of Dr. K. T. Teo: The announcement is made that Dr. Teo Kah Toh (formerly House Obstetrician at Civil Hospital

here) who left us last January, will be married to Miss Ivy Tan in the early part of September. Dr. Teo is at present Visiting Physician to the Tan Kah Kee Rubber Estates. We wish Dr. Teo happiness in his greatest venture.

Marriage of Dr. K. S. Cheah: We note with pleasure the solemnisation of the wedding at the Roman Catholic Cathedral, Hongkong, between Dr. Cheah Keng Seng, formerly of Penang, and Miss Lily Tsan, a niece of Dr. K. C. Cheng. To Dr. and Mrs. Cheah we extend our best wishes for a long and happy life together.

Birth to Dr. and Mrs. Fok: Friends of Dr. W. K. Fok of the Tung Wah Hospital, will no doubt be glad to hear that he has been blessed with a baby girl. We offer to Dr. and Mrs. Fok our congratulations on the birth of their first born.

The Late Mr. Ho Fook.

It is with deep and sincere regret that we have to record the death of Mr. Ho Fook which occurred on Sunday, 29th. August, 1926.

Mr. Ho Fook, one of Hongkong's best known and most prominent member of the Chinese Community, who retired from active business life about ten years ago, will always be remembered by his many friends as a man of sterling worth and integrity—a true gentleman, whom to know was to love.

He was a Justice of the Peace since 1892 and in 1917 he succeeded the late Sir Boshan Wei Yuk as one of the two Chinese representatives on the Legislative Council. He retired, however, in 1921. He was also a life member of the Court of the University of Hongkong, and in fact the School of Physiology was erected and equipped at his cost. He also founded the Ho Fook Scholarship for post-graduate clinical work and was instrumental in founding together with his son, Mr. Ho Kwong (to whom the Society is greatly indebted for the founding of the Ho Kwong prizes to encourage undergraduates of the Medical Faculty to read papers and engage in discussions) and three other generous gentlemen, the Jordan Scholarship in Tropical Medicine.

He is the brother of two other leaders of the Chinese Community, Sir Robert Ho Tung and Mr. Ho Kom Tong, both of whom contributed largely to the University. He has five surviving sons, all of whom hold important commercial connections, with the exception of one who belongs to the medical profession (Dr. S. C. Ho, a well-known member of our Society).

In their heavy bereavement which they have been called upon to bear, the widow and family will have our sincerest sympathy.