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37, Nanking Road.
FIRST MEETING OF THE UNION COMMITTEE ON MEDICAL TERMINOLOGY.
ON THE EVILS OF CHINESE FOOT-BINDING.*

J. PRESTON MAXWELL, M.D., F.R.C.S., Yungchun, Fukien.

It seems strange that in the fifth year of the Republic of China one should have to report that in many regions, such as South Fukien, the anti-footbinding movement has made but little progress. And it is still worse to have to report that the principal obstacle is the attitude of the women themselves. Again and again has the writer secured the consent of the male members of a family to the unbinding of a child's feet only to be thwarted by the older female members of the same family. It is true that in the coast ports the movement has made considerable progress, but in inland cities such as Yungchun there is scarcely any progress to be noticed.

Of the general evils following on this senseless and cruel practice much has been said and written, yet the subject is not exhausted and the purpose of this paper is to deal with some of the severer physical evils which may affect its victims. These may be divided into two classes:—(a) Due to septic infection and strangulation of the tissues. (b) Due to weakening and displacement of bones and ligaments.

(a) Due to septic infection and strangulation of the tissues.

In greater or lesser degrees almost every bound-footed woman suffers from these conditions, and ulceration during the process of foot-binding is very common.

The severer forms are the following:—
1. Acute ulceration of the skin on the dorsum of the foot.
2. Gangrene of the toes.
3. Gangrene of the foot and leg.
4. Pyaemia.
5. Granulomata of the instep or in the fold of the toes.

*A paper read at a meeting of the Fukien Branch, C. M. M. A., August, 1916.
The first three forms may be taken together, as they are progressive stages of the same process. Owing to septic infection of a rub, wound, or bite, on an area the circulation in which has been impaired, swelling takes place beneath the bandages, this leads to further obstruction of the circulation and intense pain. Should the complaint of pain be attended to at once, only the skin on the dorsum of the foot will die; a little later, this and some of the toes will be lost; but should no attention be given, the pain may diminish, and when the matter receives attention, usually on account of the smell, the whole foot and lower part of the leg may be beyond repair, and one gets the condition illustrated in the first photograph.

The history of this case, which may be taken as a typical one, is as follows: A girl of 9 years of age was admitted into the Yungchun Hospital on February 20, 1916. Both feet had separated owing to gangrene, and the bones of both legs were sticking out at the end of the stumps.

Eighteen months previously the feet had been bound (and it may be noted that this was late to bind, and that the worst cases of septic infection occur in these late cases), and three months after when they were undone after a very severe attack of pain, the dorsum of the foot was already black.

The feet and lower part of the legs finally dropped off after nine months' serious illness. With a view to leaving as long a stump as possible, after disinfecting the stumps incisions were made down on to all four bones, and these were resected, the periosteum being destroyed as far as possible. She left hospital in May with the stumps nearly healed, and with sufficient length to permit of fitting artificial legs allowing the use of the knee joint.

Shortly after she left another similar case came in, but the patient was a couple of years older, both feet were the seat of moist gangrene, the infection having extended above the ankle. She was already beginning to suffer from septic pneumonia, and it was clear that she was doomed. She was carried home and died next day.

4. Pyæmia.

At the same time as the first case, there was admitted to hospital another girl of much the same age, with what appeared to be a psoas abscess pointing in the thigh. She had been ill some four months, and complained also of pain in the back where there was evidently a deep lumbar abscess. There was no clear evidence of tubercular disease of the spine. The abscesses in the thigh and lumbar region were opened, and the girl kept as far as possible on her back.
After a few days as the case was not progressing, she was again placed under chloroform, and the lumbar abscess opened up freely and explored. It ran up and down the spine on the edge of the erector spinae but no tubercular focus could be found.

After this free opening she improved, but as soon as she was got on to her feet it was evident that there was something wrong with them, and she confessed that one of them hurt her. It was unbound after a great deal of resistance on her part, and a suppurating sore was found over some of the deformed toes. Then the history came out, that this was the primary trouble, and evidently the thigh and lumbar abscesses were pyæmic in nature. She went out strong and well, but not at all pleased that her feet had been unbound as she was afraid of being despised.

5. Granuloma of the instep or in the fold of the toes.

In some of these bound feet a small ulcer develops into a granuloma which may be very difficult to heal, especially if it develops somewhat late in life, and occasionally these granulomata form the starting point for malignant disease.

A woman, aged 54, was admitted into the Yungchun Hospital with a large granuloma exactly in the centre of the instep. It had been present for six years and developed on the site of a bruise with abrasion of the skin. There was no evidence pointing to its being of a malignant nature, and microscopically it only showed granulation tissue. Treatment greatly improved it but the woman did not stay long enough in hospital to get the whole healed.

A year later we were summoned to her house to find her suffering from an epithelioma starting in this place, and an inoperable mass of glands in the groin which had begun a month before we were called.

§) Evils due to weakening displacement of bones and ligaments.

Of course the process of foot-binding so spoils the feet that walking powers are always impaired, but quite apart from the question of the smallness of the foot damaging the capacity for standing and walking, in some cases the alteration of the weight-bearing surfaces causes a gradual displacement backwards at the ankle joint, making walking very difficult.

The accompanying skiagram is that of the ankle joint of a woman who was an inpatient of the Yungchun Hospital. She was 45 years of age and the condition had gradually developed till walking had become difficult. It will be noticed that the bones of the leg are displaced backwards at the ankle joint, and there is a great deal of movement permitted by the loosened ligaments, the foot being able to be moved
in all directions. A slight amount of this displacement is not at all uncommon.

The cases which have been quoted in this paper are not by any means so rare as might be supposed, and it is not at all unlikely that the ill health of many of the young Chinese girls is due, to a not inconsiderable extent, to septic absorption from small patches of ulceration on their deformed feet.

**ACUTE COMPLETE INVERSION OF THE UTERUS.**

MABEL L. HANINGTON, M.B., M.D., C.M., Ningteh, Fukien.

This paper can claim to be little more than a brief résumé of the available literature on the subject combined with data obtainable from the recent experiences of others in China. My own experience of a solitary case last year having raised my interest in the subject, at last year’s meeting of the Fukien branch of the C. M. M. A., I was asked to prepare such a paper. Of thirty-one women physicians practising in China, who replied to my enquiries concerning their experience of such cases, and whose average experience covered about fourteen years, twenty-three reported no such cases seen. Seven (including myself) had seen cases, ten in all. One report I excluded, as probably based on misunderstanding of the questions asked, four cases in nine years being mentioned, with no details. Of the ten cases seen all are reported as complete, acute, and as occurring during child-birth. Of these, one refused treatment.

At an arbitrary estimate of twenty maternity cases seen per annum, which the numbers given and other experience would suggest as a fair average for all the time of service, this works out at something more than one case in ten thousand maternity cases. Text-books report one in 190,000 cases at Rotunda, Dublin; none in 150,000 at German clinics, and none in 250,000 in St. Petersburg. Thus, even allowing for considerable error in computation, it is evident that the incidence of this complication is much more frequent in Chinese practice than in that of those great centres from which statistics are quoted. At first thought one will be apt to attribute this to the crude and interfering methods of the ignorant women who almost invariably have attended confinement cases in China before the doctor is called, more especially to traction on the cord, but of the nine cases reported

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*A paper read at a meeting of the Fukien Branch, C. M. M. A., August, 1915.*
Fig 1.

Foot-binding. — Loss of Feet from Gangrene (Maxwell).

Fig 2.

Foot-binding. — Displacement of Bones and Stretching of Ligaments (Maxwell).
Acute Complete Inversion of the Uterus.

only two are quoted as having this possible cause. In the case I saw there had been no such history, nor in most of the others.

Traction on the cord, moreover, though mentioned as a possible contributing cause in earlier text-books, has been shown conclusively by some authors to be at most but a minor factor in any case and to be entirely absent as a cause in most. They point out that in any such pull, where there is sufficient attachment of the placenta to the uterus to excite marked effect, it is rather to cause a contraction of the uterus as a whole,—an expulsive effort of the entire walls which directly counteracts any localized effect of the pull. The uterus that is still strong muscularly cannot be effected to the point of cupping. The inference is that in such a case, where the relaxed vaginal outlet of a multipara allows the tendency, the organ would tend to prolapse rather than to become inverted, granted there is sufficient strength of pull. I have seen this tendency in one case, where the passages being very relaxed, the placenta adherent, and pus in vagina, made avoidance of entering the uterus advisable; slight traction on the cord tended to bring the uterus down into the vagina each time.

Then what is the cause? The accident is accredited to a condition of partial inertia or atony of the muscular fibres of a certain section of the uterus, while forceful contractile power still remains in the rest, and it has apparently been proved that this local atony occurs most frequently in the vicinity of the fundus. During the later stage of labour or soon after its completion, in a uterus where inertia has supervened, spasmodic contraction is liable to cause a cupping of the flaccid section, which condition tends to be aggravated in proportion to the strength of the main muscular body, the atonic portion gradually protruding into the cavity, and tending to be treated as a foreign body increasingly pushed down and out, and finally pushed through the relaxed cervix, more and more of the uterine wall of course following.

Only in cases where there is already such an incipient tendency is it likely that traction on the cord acts as a causative force. In all cases, probably, the agent is the uterine muscle itself. More recently one case of occurrence after manual removal of the placenta, and two cases after Credé's method of expulsion, have been reported from the Johns Hopkins Hospital lists. In such cases one must pre-suppose a marked inertia of the uterine tissue; but as it is to just such cases we are oftenest called it suggests a note of warning. With all such patients, where considerable force is necessary, the greatest care should be exercised in its application to avoid any localized or indenting force at the fundus. In a recent case of retained placenta, where I was
obliged to leave an inexperienced native nurse to carry on Credé's method for a few minutes, I noticed a quite definite dip in the contour of the fundus on my return.

**Diagnosis.** In a case of partial inversion where the cupped portion of fundus is extruded through the os and contraction of latter with constriction of the inverted portion occurs, there may be the utmost difficulty in distinguishing from a uterine polyp on examination; but sensitiveness and lack of the polyp's normal mobility, detection of muscular contraction in the protrusion, as well as abdominal palpation, will usually serve to differentiate.

When called to a case of complete inversion, however, one cannot see how the careful examiner could make a mistake in diagnosis, though when the placenta is separated, confusion with acute prolapse is mentioned as possible. But as in the one case the aperture of the os makes the lowest point of the descending mass, and as in the other there is no such opening whatever, apart from any other question of wall connection, etc., a mistake ordinarily could only be said to be due to carelessness. Very recently I saw a case of acute prolapse after delivery, and a glance in poor light was sufficient to discriminate.

**Symptoms.** These are necessarily those of shock, sometimes increased by haemorrhage. Of the nine cases reported, haemorrhage was only known to have been extensive in three. A very suggestive query is, Why does it not always occur? If the cervix and os are sufficiently relaxed as to allow the passage of the whole uterine body, their constrictive power is scarcely likely to be sufficient to shut off circulation, and there are the venous sinuses of the placental site spread open, as it were, by the inverted position. In cases seen out here the haemorrhage will usually have ceased before the doctor is called, and one is not required to deal with it directly. The one great indication for treatment is to get the organ returned to its normal relations as soon as possible. One finds the uterus inside out, lying on the filthy mattress upon heaps of dirty cloths, blood-clot, dirt and sometimes faeces. It has been exposed for some hours, for twelve hours in the case I saw.

Cleanse the cervix as thoroughly as may be with weak disinfectant, and then push steadily up in axis of the pelvis. Some authors take it for granted that the pressure will be exerted directly at the fundus, the lower portion of the bulged mass. But Leishman recommends more lateral pressure in the vicinity of the Fallopian tubes, especially where the condition has existed for some days, the last descending portion thus being returned first through the os, and so in sequence.
I may say that in my case, not having the literature on the subject before me in a hut on the hillside, this was what occurred to me as the most rational course; not from any question of mechanics, but because the placenta having evidently been attached centrally, the fundus presented such an alarmingly boggy-looking surface with its great sinuses apparently but lately occluded with clot, that one naturally refrained from using forceful pressure locally upon it. The return in this case took twenty minutes; where tissue is very relaxed and pressure made directly on fundus it may be done more quickly. The hand should be kept in the uterus for some moments to assist contraction. The cavity may be packed with gauze if thought advisable. In the seven cases of the nine discussed, where attempt was made to return the uterus the attempt was successful. In two cases for various reasons the attempt was not made.

If the placenta is still attached, as occurred in two cases of those numbered, it should not be separated until return of the organ has been effected, if this can be accomplished with the placenta in situ. In a very few cases this may be impossible from constriction of the os, and no severe force should be exerted nor lengthened delay allowed, but short of this every effort should be made to do so, as thereby the risk of hæmorrhage and various other complications is lessened. When the placenta is separated authors agree that all cases can be returned; in cases tending to become chronic (they count as "acute" all coming within the puerperium), an occasional case may be met with requiring slight incision of the os, but even in cases that have gone on for months or years it is found that steady elastic pressure has in time reduced all. Only where marked inflammatory adhesions have occurred does it become really impossible.

What is the result? All the cases in which the uterus was returned to pelvis recovered: in no case did sepsis supervene. One case already septic recovered; in another, where the patient had already a temperature of 103°F, the temperature immediately dropped and remained normal. Except in cases where hæmorrhage has tremendously increased the shock, the patients are usually sitting up and eating rice within the next day or two. The only complaint I heard of my patient making was that for a few days she had a lump in her abdomen and that it hurt! Unlike prolapse the condition does not tend to recur at the time. In a few cases it has recurred at subsequent delivery, as in a case reported by Dr. Hatsfield of Foochow, where she attended the patient for this condition in two consecutive years.
Conclusions: We are all liable to meet such cases at any time. The condition is a dangerous, and may be a rapidly fatal one. Avoid any chance of inducing a tendency in cases of inertia.

Diagnosis is easy.

Treatment is very simple; give as much cleansing as possible with speed; leave placenta attached if still in situ; push up the organ and return to fully normal relations with itself and with the pelvis; be assured of this by hand within and without; detach placenta.

Prognosis is good except in cases already succumbing to the anaemia of haemorrhage.

The following questions deserve careful consideration: Why do not all these patients die of haemorrhage? In those that survive, why do not all become septic? Are our ideas of the susceptibility of the uterine mucosa during the puerperium to septic infection in need of modification? Or have we something still to learn of its self-protective powers?

OVARIAN TUMOURS AND OVARIOTOMY.


The following cases are recorded as they present some very interesting points both as regards the operation and the after-treatment. It is hoped that the report may encourage others to undertake the removal of ovarian tumours, even though the patient may be in a serious condition, as the operation itself is often not so formidable as it seems at first sight.

CASE I.—A young woman, aged 20, unmarried, was admitted to hospital on March 2, 1915.

Complaint.—Difficulty in breathing and walking, owing to a gradually increasing abdominal swelling.

History.—Menstruation began at the age of fifteen, was always small in amount and irregular, sometimes only a small show every three or four months. A year and a half previous to admission a swelling was noticed on the left side of the abdomen a little below the umbilicus. This swelling gradually increased till it filled the whole abdomen. At first there was some pain, slight, and it soon disappeared. For six months there had been marked dyspnoea, and for a month a cough, and she had great difficulty in breathing in the recumbent position. Bowels were constipated, a hard motion every third day being the rule.

Examination.—The patient was a thin, delicate, very emaciated-looking subject, weighing only 83 lbs, and could not walk without assistance.

Cardiac system.—Apex beat was in the third interspace, external to the nipple line; heart sounds feeble; no bruit noticed; pulse was weak and rapid, 104 per minute, and irregular in time.
Ovarian Tumours and Ovariotomy.

Chest.—Dulness and oedema at bases of both lungs.

Genito-Urinary.—Catheter specimen of urine showed nothing abnormal. Nothing abnormal felt per vaginam but the examination was difficult owing to the smallness of the parts.

Abdomen.—At the umbilicus the measurement was 36" and above the umbilicus 37", showing the chief enlargement was in the upper part of the abdomen and pressing on the diaphragm. The abdomen was unevenly enlarged and at places tense, in other places softer. Percussion note dull all over, and no alteration noted with change of position. A fluid wave was readily felt on tapping with the fingers, and a delayed thrill was always felt in the upper part of the abdomen very like the hydatid thrill. The skin seemed to move freely over the growth.

Diagnosis.—Multilocular ovarian cyst of the left ovary was diagnosed, the delayed thrill being put down to the tapping of the fingers being more slowly transmitted through smaller cysts and finally to the examining hand.

Treatment.—Operation was advised and consent given.

Operation.—After careful preparation with castor oil, santonin and a cardiac tonic, on March 6, 1915, the patient was operated on. We expected difficulty with adhesions, as she had complained of pain, which usually means inflammatory peritonitis and adhesions. A large incision from the umbilicus almost to the pubis was made, and no difficulty was met on entering the abdominal cavity. A hand was passed over the tumour, and a few adhesions felt. The upper part of the tumour could not be reached. A Spencer Wells trocar was thrust into the cyst and the fluid evacuated. Unfortunately, the instrument leaked and a good deal of fluid entered the abdomen. As the fluid was evacuated the tumour was withdrawn and delivered, with mesentery attached at two places. The mesentery was ligatured and divided and the pedicle inspected. The pedicle was large and broad. Linen thread was used to tie the pedicle, three interlocking ligatures being necessary to secure the whole pedicle. The linen thread, though strong, was too thin and looked as if it would cut through the peritoneal covering, and so a stout silk ligature was also applied to make certain there would be no haemorrhage. A continuous suture covered the stump with peritoneum, and the abdominal cavity was irrigated with saline and four pints of saline were left in. The wound was closed with through-and-through interrupted silk worm gut sutures, and no drainage employed.

The cyst and fluid weighed 26 lbs. 2 ozs., or nearly $\frac{1}{3}$ of the total body weight, and a good deal of fluid was lost.

After-treatment.—For two days the patient gave us considerable anxiety. On the evening of the operation the pulse was 170 and very poor, and the temperature was 101° F. The next day at noon the pulse was 150 and the temperature, 103.2° F. Hypodermics of digitalin and strychnine, $\frac{1}{100}$ gr. of each were given, and by the evening the pulse
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was better and only 136. The temperature had fallen to 100.8° F. and the general condition was improved. We feared this was the onset of general peritonitis, but there was no pain, the abdomen moved freely, and we now think it was the escape of the cyst fluid into the abdomen that caused this reaction. For the next six days things went well, the temperature varying from 98° F. to 100° F. and the pulse from 90 to 110. The wound was dressed on the fifth day and was all right, but on the seventh day she began a swinging temperature night and morning, with a good deal of pain over the stump of the pedicle. As the abdominal wall was so thin this could be easily palpated, and it was swollen, hard and tender. The surface was painted with glycerine belladonna and after a week the swelling contracted and disappeared. The patient picked up slowly but on the 20th April, or six weeks after the operation, was quite well.

Lessons from this case. (1) If possible, avoid any contents of the cyst escaping into the abdominal cavity.

(2) Do not use ligatures that are too fine, in case they cut through.

(3) Do not make the pedicle too bulky with too many ligatures.

(4) Do not give up hope if the pulse and temperature go beyond what the books say is safe.

(5) Do not hesitate to operate even if the patient is very emaciated and in poor condition.

CASE II.—The next case was that of a girl, aged 17, married. Admitted 22nd May, 1915.

Complaint.—Abdominal distension, severe cough and dyspnoea.

History.—The patient had never menstruated properly. About four years previously, i.e., when she was thirteen or fourteen years old, she noticed a hard swelling below and to the left side of the umbilicus, and this had gradually increased to its present size, filling the whole abdomen. No pain had been felt, and no sign of menstruation since the growth appeared. Six months before admission was troubled with palpitation and difficulty in breathing and of late these symptoms were more marked. A week before admission had contracted a severe cough, with copious, frothy expectoration, which made her vomit at times.

On Examination.—Patient looked seriously ill, breathing rapidly (36 per minute) and apparently with great difficulty. Weight, 117½ lbs. Catheter specimen of urine showed nothing abnormal; and nothing observed per vaginam.

Lungs.—Very marked bronchitis, sputum white, frothy, sticky, and abundant. Normal resonance. Breath sounds vesicular and accompanied by sibilant rhonchi, showing the involvement of the smaller tubes.

Heart.—No valvular lesion. Pulse 80.

Abdomen.—Measurement at umbilicus, 43½ inches. Below the umbilicus one could feel by deep palpation a solid growth as big as a foetal head, and, apparently surrounding that, a large cyst with fluid extending up to the diaphragm. Percussion note dull all over and not altered by position of patient. The skin of the abdomen was extremely dirty, and had slight dirt eczema.
Diagnosis.—Probably an ovarian dermoid of the left ovary with a large fluid cyst.

Treatment.—Operation was advised and consent given, but it was decided to wait a week till the bronchitis improved and the skin of the abdomen was a little cleaner.

Operation.—The usual incision being made, the hand was passed around the tumour, and the diagnosis confirmed, viz., a solid tumour surrounded by a large cyst full of fluid. The part of the tumour that was chiefly solid presented at the incision and the trocar was thrust in, upwards and backwards, in the hope of missing the solid part. Unfortunately the trocar cut into the solid growth, but was pushed on till the fluid was reached. The fluid was thick, dark brown in colour, and did not run freely. Some of the contents of the dermoid escaped first into the surrounding cyst, and later into the abdomen as the cyst wall gave way. Adhesions were felt between the abdominal wall and the cyst, and between the diaphragm and the cyst, but gave way before the finger. Considerable difficulty was encountered delivering the tumour, but finally this was done. Heavy clamps were applied to the pedicle and the tumour was cut away because of its weight and dragging on the pedicle. The pedicle was secured with two interlocking sutures of medium sized silk. A good deal of hair was found in the abdomen, which had escaped when the cyst ruptured. This was sponged away, the abdomen well washed with saline, and four pints of saline were left in the abdomen. The wound was sutured in one layer with silk-worm gut sutures, and no drainage employed. The tumour weighed 31 lbs.

After-Treatment.—The night of the operation, temperature was 103° F. pulse 124, and the patient was restless and suffering badly from dyspnoea. The expectoration which was copious and viscid almost choked the patient. She was propped in an upright position and given a stimulating expectorant with a hypodermic injection of strychnine. She seemed to grow worse, however, and next day the temperature was 104° F. the pulse 150, the urine scanty and her condition was grave in the extreme. Cold sponging was ordered, and two pints saline were given per rectum, along with rcc. of infundin hypodermically. After the infundin she rallied a good deal, the urine was more abundant, the catheter was no longer needed, and the temperature fell next day to 102-103° F., and the pulse between 120-130. On the third day, the sponging was repeated, and a stimulant expectorant given more frequently. On the fourth day the temperature varied between 99-101° F., and pulse 80-100. From the fifth day she steadily improved, though the temperature was a little irregular and the cough most persistent.
She gradually picked up and was discharged cured on June 28, just over a month after the operation.

Lessons from the above case. (1) Do not operate on one of these cases if there are severe pulmonary complications—or at least delay till they are somewhat better.

(2) If the diaphragm is interfered with because of adhesions it is likely to be followed by severe bronchitis. Compare this with one of the most serious complications of splenectomy, viz., acute bronchitis or pneumonia, due probably to interference with the diaphragm and the alteration of pressure on the under surface of the diaphragm when a large spleen is removed.

(3) Do not give up hope, but use every possible means for the betterment of the patient.

Case III.—The next case was a woman, aged 26, married 8 years, admitted June 12, 1915.

Complaint.—Gradual enlargement of abdomen.

History.—Patient was childless, and had menstruated regularly from the age of 17 till two years ago when a small swelling, the size of an egg, was noticed to the left of and below the umbilicus and from that time menstruation was at first irregular and later suppressed. The swelling at times was very painful and caused sickness, and had gradually grown to its present size. There was no leucorrhoea, no frequency of micturition; and the swelling she said had never been tapped.

Examination.—Patient looked strong and healthy and weighed 129½ lbs. Heart and lungs apparently normal. Catheter specimen of urine showed nothing abnormal.

The abdomen measured at umbilicus 40 inches and was unevenly distended. Percussion note dull all over and no alteration with change of position. A fluid wave was easily felt and no delayed thrill.

P. V.—Uterine cavity measured 2¼". The uterus was lying almost horizontal, with the body to the right and cervix to the left, and felt fixed by adhesions or increased pressure.

Diagnosis.—Unilocular cyst of left ovary and probably adhesions.

Treatment.—Operation advised and consent given.

Operation.—The usual incision having been made, it was found that the cyst wall was adherent to the abdominal wall at the site of incision, but with careful dissection the cyst wall was freed without rupturing the cyst. Later it was found there were adhesions to the abdominal wall above, to the mesentery, to the uterus, and slightly to the descending colon. These were dealt with by gauze dissection, as far as possible, before emptying the cyst. The cyst was then tapped and the rest of the adhesions dealt with. This of course prolonged the operation, and there was fairly free oozing, but nothing alarming, and a few bleeding points were ligatured. The pedicle was ligatured with two interlocking silk sutures, and the cyst cut away. Three pints of saline with adrenaline chloride were left in the abdomen, and the
Ovarian Tumours and Ovariotomy.

wound closed with through-and-through sutures of silk-worm gut. No drainage was employed.

The cyst and fluid weighed 39 lbs.

AFTER-TREATMENT.—On the evening of the operation the temperature was 101.6° F. and the pulse 108, and during the first week after the operation the temperature varied between 99° and 101° F., and the pulse between 90 and 110. No pain was complained of and no complications occurred, the wound being soundly healed on the 10th day.

On the 11th day the temperature rose suddenly to 103° F. but this came down gradually and on the 14th day the patient was quite better, pulse and temperature being practically normal. She was discharged on 1st July, or about 3 weeks after the operation, looking strong and well.

Lessons from this case. (1). That where you have extensive adhesions take time over the separation of these, and use the finger covered with gauze as much as possible, as the more tearing the more bleeding, and consequently more shock. (2.) The advantage of having a patient in good condition before the operation. This cannot always be the case, but when it is so, it helps to a rapid recovery.

The specimens from the above three cases were presented to the Foochow Medical College.

CASE IV.—A married woman, aged 26, was admitted to hospital on June 12, 1915.

Complaint.—Gradually increasing abdominal swelling.

History.—Patient had been married seven years and had no children. Four years previously noticed a swelling about the middle line, a little below the umbilicus. This swelling was painful, at times extremely so, and the pain was general all over the abdomen. Menstruation was regular but small in amount. Constipation severe.

Examination.—Patient looked a healthy woman, and weighed 132 lbs. Lungs.—nothing abnormal noted. Heart.—A mitral systolic murmur was present, and the left side of the heart somewhat enlarged. Kidneys.—A catheter specimen of urine showed nothing abnormal.

Abdomen.—At the umbilicus the measurement was 37½ inches and 3° higher up, 39 inches. The swelling of the abdomen was irregular in outline, at places hard, in other places softer, the percussion note was dull all over and no alteration noted on change of posture. In the middle line were two old scars as if she had been tapped, but this she stoutly denied. There were also white lines radiating out from the middle line as if she had been pregnant, but this was due probably to over distension caused by the tumour. Per vaginam.—The uterus was found slightly enlarged, the cervix being towards the left, the body being pushed to the right; there was also some leucorrhoea.

Diagnosis.—Ovarian cyst, probably with adhesions, and most likely arising from the left ovary.

Treatment.—Operation advised and consent given.
OPERATION—When the usual incision was made, it was found that the cyst and abdominal wall were firmly adherent to one another and could not be separated. The incision was then prolonged upward well above the umbilicus, where the adhesions were still more dense, and a further extension of the incision failed to gain an entrance above the tumour. As the adhesions near the umbilicus seemed less dense a beginning was made there to separate the cyst from the abdominal wall. After an hour's work the left side was freed enough to pass the hand in to feel around part of the cyst. It was found, when this was done, that the cyst was firmly united to bowel and absolutely fixed; whilst passing upwards unyielding adhesions to the abdominal wall were encountered. The cyst was then tapped when it was found to be a multilocular cyst, containing dark-coloured, very thick, gelatinous fluid. A hand was put into the cyst to break down smaller cysts, and the fluid all evacuated as far as possible. It was now found absolutely impossible to remove the cyst, and the question arose,—what was to be done? The cyst wall, which was very thick, was pulled up as far as possible out of the wound to make the cavity as small as we could get it, then where the cyst emerged from the wound it was firmly stitched to the abdominal wall on each side, and the projecting portion of the cyst wall cut off evenly all round, about 6 inches of the cyst wall being thus cut away. The cyst cavity was now washed out with hot saline, and the inside of the cyst rubbed vigorously with gauze in the hope of forming adhesions afterwards. A large rubber tube was inserted into the cyst, and iodoform gauze plugged lightly around and over the joined edge of the cyst and abdominal wall. The contents of the cyst weighed 25 lbs.

AFTER-TREATMENT.—This operation was a very long one, lasting about 2½ hours, but there was very little shock, as all bleeding points had been carefully ligatured. The tube from the cyst was clamped and led into a receptacle with weak carbolic solution, in which tube and clamp were immersed. There was no sickness and the pulse never rose above 104, being as a rule 80 to 90 in the morning, and 90 to 100 in the evening. The temperature was irregular during the first week, varying from 100° to 102° F. and during the 2nd week from 99°-101° F. The wound was dressed daily. The dressings were fairly dry, as some of the fluid escaped through the tube, but the tube was not a very satisfactory drain. On the 4th day the hand was put inside the cyst, and it was thought the cavity was only half the original size. The abdomen was flat and moved freely, and there was no complaint of pain. At the end of three weeks only two fingers could be inserted into the cyst cavity.
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At this time, unfortunately, both doctors had to leave Chinchow and the case was left to Dr. Bryson's assistant.

Towards the middle of July she reported herself. Wound practically healed, no packing used, only covered with a piece of boric lint and this practically dry each day. Still a little temperature, pulse 80-84, patient doing well.

After History.—When the patient left the hospital on July 16, everything was going well, but at her own home the wound, though small, evidently became infected and discharged some pus. A former hospital student was consulted, and under treatment the wound granulated and practically healed.

Towards the end of September the patient came to report herself. She looked strong and well, the abdomen was flat and the wound was healed except for a tiny point of granulation not covered by skin, and she said she felt perfectly well and fit for her work. Late in this month (November) she was again seen and was still quite well.

We specially report this case in the hope that it may be of some guidance if irremovable ovarian cysts are met with. The text-books do not give much help in such cases. We were not certain at the time whether to simply close the cyst and abdomen, or try the certainly more risky plan of allowing the cyst to granulate up after irritating the lining membrane, but the result has justified the risk taken, and we have hopes there may be no recurrence. We would be grateful to anyone who could advise us what else could be done, or to hear from anyone who has had a similar experience.

PLASTIC CLOSURE OF BUCCAL CAVITY FOLLOWING GUN-SHOT INJURY.

CARL A. HEDBLON, M.D., Hospital of Harvard Medical School, Shanghai.

A farmer, aged thirty, referred by Dr. Samuel Cochran, of Hwayuan, admitted March 18, 1915. Wife and four children living and well. Past history unimportant. He was poorly nourished and anaemic, otherwise normal except for the injury received about six months ago when he was shot by a robber. The charge blew away part of the horizontal ramus of the jaw together with the soft parts on the right, and splintered the ramus on the left. Loose fragments of bone were removed and the wound dressed. The soft parts gradually healed leaving a gap in the buccal cavity made more extensive by scar tissue contraction.
On examination, the left ramus was found dislocated inwards, the only remaining tooth, the second molar, resting by lateral contact against the inner side of the upper molars. There was a flail joint in the anterior part of the left horizontal ramus, the distal fragment being thin and surrounded by dense scar tissue. There was extensive scar tissue contraction. The point of the chin together with the lower lip was retracted against the larynx and moved with it when the patient swallowed. The tongue, having lost its muscular attachments anteriorly, protruded laterally, dog fashion. There was a constant drool of saliva. The patient could utter only inarticulate gutteral grunts. He could take liquids only and these with difficulty. He had lost much weight and was weak from lack of food. He was wretchedly miserable and was anxious for any treatment that might make his existence more endurable. The task of repair seemed a formidable one from the fact that there was no bony framework on which to build, the soft parts were largely scar tissue, and the constant drool of saliva precluded any hope of keeping the parts even relatively aseptic.

Operative procedure: In collaboration with Dr. F. B. Hudson, a dental surgeon, an attempt was first made to reduce the dislocation and to wire the molars. It was found impossible, however, to effect a complete reduction so that, with the molars in apposition, the jaws anteriorly were held apart. The lower molar was then extracted and the wire passed through the alveolar process of the lower jaw. Dense bands of scar tissue retracting the chin were cut, and the chin was held in place by wiring the bony fragment to the upper incisors. A tongue-shaped flap from the neck was then slid into the gap left by pulling forward the chin. The wires, however, during the course of ten days cut out, and, although the ramus remained in alignment, the chin gradually retracted towards its former position.

At the next step the chin was again freed and a generous flap of skin from the neck, loosened as far down as the clavicles, was slid up to fill the gap. The result was a considerable improvement in the position of the chin but there still remained the void at the side from loss of the ramus and soft cheek.

At the next operation a flap was prepared from the right arm and was stitched, skin side inwards, to the freshened edges of chin and lower edge of cheek. The arm was held in place by a plaster cast. On the fifteenth day the flap, which was well united to the chin, was cut from the arm and sutured to the freshened remaining edges. It became septic, however, and a large part of it sloughed away, leaving an opening still to be bridged over. The chin was also again retracting.
Plastic Closure of Buccal Cavity in Gun-shot Injury.

At the final step the chin was again well freed up and this time sutured to a correspondingly denuded area on the under surface of the tongue. The gap in the cheek was closed by a flap prepared from over the bony cheek. The lower lip was sutured to the upper and all edges approximated in such a way as to obtain complete closure of the buccal cavity, the mucous membrane being sutured so as to overlap the suture lines as far as possible. There was prompt and complete closure of the mouth with the lips in good approximation and with the oral aperture only a little reduced.

Photograph No. 1 was taken before operation. No. 2 was taken in July 1915, shortly before the patient was discharged. No 3 was kindly taken by Dr. Cochran about May 1, 1916, who at this time reports as follows: "(1). There is no dribbling of saliva. (2). Rating is comparatively satisfactory; from his point of view, as compared with the pre-operative condition, it is very satisfactory. (3). Speech is fair. (4). The patient is, and has reason to be, very well satisfied."

The writer acknowledges with thanks his indebtedness to Dr. Cochran for getting into touch with the patient and securing the report.

Chinese manikin, showing where native doctors consider "needling" may be safely performed. (By courtesy of Dr. MacWillie).
"NEEDLING" PAINFUL SPOTS, AS PRACTISED BY THE CHINESE.*

JAMES CANTLIE, M.A., M.B., F.R.C.S.

From time immemorial the Chinese have practised "needling" the body for the relief of pain, of swellings, of stiffness, and the treatment of many ailments. The practice has become with them an art—an exact science, in fact, if the term science can be applied to such a proceeding.

The model of the human body in brass, with its many indicated puncture points, is a well-known feature of wonder to the northern Chinese, and the pictures of the model are met with throughout the Empire.

To each one of the hundreds of puncture points indicated in the model a curative effect is attached, and the modern student of surface anatomy may well stand aghast when asked to interpret the several structures any particular puncture might traverse when pushed deeply; and the clinician will be puzzled to explain the possible effect likely to be produced thereby. We may and do say: "There is something in it"; but we seldom if ever venture to practise it, except occasionally in an experimental and tentative fashion, as, for instance, by placing an electric needle in the sciatic nerve.

Is the idea one of counter-irritation merely, or is it practised with the idea of puncturing circumscribed effusions which, owing to their presence, distend the tissues and thereby engender localized pains? It is scarcely possible to suggest any other reason for the employment of "needling," but either the one or the other is sufficient to justify its use if it can be proved that good results obtain.

The Chinese have other and less severe methods of counter-irritation. Nothing is more common than to see the skin of persons in China suffering from fever and many other ailments covered with circumscribed contusions produced by "nipping" the skin between coins (cash). This procedure is more easy of accomplishment and less technical than needling, and as a counter-irritation more potent. It would appear, therefore, that the puncturing of fasciae is the reason for the practice, and the only possible way in which "needling" can claim to be a rational treatment. It may be asked, Is the puncturing of fasciae to relieve tension so frequently required as a means of treat-

ment? The fact is, we know little of such a pathological condition; for instance, what do we know of the real pathological state in lumbago? Our treatment is empirical because our knowledge of the ailment is limited—it might be said non-existent. Is it an effusion into the mass of lumbar muscles? If so, then is the mystery explainable and the puncture of the thick fascia covering the muscles justified as a rational therapeutic agent. This is evidently the reason for the Chinese practice of "needling," which undoubtedly relieves pain and shortens the duration of the ailment. Relieving tension when an organ is inflamed is a sound and long-practised method of treatment in scientific medicine. It is chiefly confined, however, to a few organs only; at one time free incisions for orchitis were in vogue, but beyond that and subcutaneous inflammation the procedure is seldom carried. Were it extended to inflammations of the liver, the lung, glands, and other organs, good might and, theoretically, should ensue.

Anyone acquainted with puncturing the liver by a needle in search of liver pus knows well that, after, say, half a dozen to a dozen unsuccessful punctures, the temperature often falls, the enlarged liver diminishes, and a rapid cure of the hepatitis occurs. By this procedure the severe tension of the liver capsule is relieved, blood escapes into the cavity of the peritoneum from the punctured points, and the condition is ameliorated or the ailment cured. Were lobar pneumonia treated similarly, equally good results might be anticipated, but the procedure is not included amongst the methods of treatment to-day; yet during search for liver pus we often traverse the lower part of the right lung, which in all cases of hepatitis is deeply congested, with great benefit to the lung itself. That this frequently occurs has been brought home to the writer, as the patient coughs up some blood as the result of the lung puncture, a result which acts beneficially in every instance this has occurred.

So impressed has the writer become that he has adopted "needling" for many ailments, amongst which are the following:

(1) So-called rheumatic pains in the gluteal region and in the neighbourhood of the hip-joint when pain is not relieved in any other way.

(2) For pains passing down the back of the thigh, frequently associated with neuralgic pains over or in the sciatic nerve, and forming part and parcel of a general tenderness in hip, hip-joint, and thigh.

(3) To dispel swelling and pain around the shoulder-joint in which a "rheumatic" type of pains and conditions following an injury to the shoulder has set in.
(4) For "lumbago" due to (a) injury, or to (b) "rheumatism" ascribed to chill, when either is of long standing and other remedies fail.

(5) To dispel the stiffness and swelling so apt to follow a sprained ankle.

(6) When after a fracture of the leg or other parts the tissues become so bound together that the muscles are hampered in their action and ordinary massage fails to improve matters.

(7) Over the sacrum and adjacent area of the pelvis, in which pains in women, ascribable to pelvic trouble, are so frequently complained of.

The most frequent necessity for treatment arises, however, in the region of the hip, where one has to deal with those indefinite pains in both men and women usually styled sciatica.

Dr. Wm. Bruce, of Strathpeffer, taught us that much of the sciatica diagnosis so frequently made is not due, at any rate primarily, to the sciatic nerve at all, but to changes in and around the hip-joint, and that the chief tender spot in connection with these changes is in the post-gluteal region, just above or behind the sciatic notch.

The writer has followed Dr. Bruce's teaching, and is so convinced of the truth of his statements that, not content with mere massage, he has "needled" the surroundings of the hip-joint above and behind, and punctured at times even the capsule of the joint itself.

In another type of hip ailment the writer has used "needling" with benefit. To give an example. A man playing tennis "did something" to his hip which "lamed" him for a time. Rest, fomentations, electricity, massage, etc., were applied, and still the trouble remained for many months. In the course of some two years he never was rid of a "crippling" pain, especially after he had sat still for some time. Thinking to hasten matters, he tried exercise again, and when playing tennis was again seized by "sciatic" pains, which necessitated resting for a time. The trouble continued and rather increased in severity. On examining him when he came home on leave from abroad, a definitely tender area was found in the gluteal region, above and behind the great trochanter, leading up to the crest of the ilium, just about the spot where the last dorsal nerve crosses the ilium. Defying all known treatment, the writer, using an anaesthetic, on two occasions punctured the area of the hip deeply, most of the punctures reaching down to the bone. The punctures were made down the thigh along the tract of the sciatic nerve, down to the back of the knee. The needles were also made to puncture the capsule of the hip-joint at three
places. The method of manipulation consisted of holding a hare-lip pin in either hand and rapidly thrusting each deeply into the tissues, over a hundred punctures being made in the space of two or three minutes.

The benefit of this treatment was apparent, and its repetition still further continued to do good.

This short account of “needling” may serve to bring up for discussion a practice which has tradition—that is, experience—for its justification; and there can be no doubt that as a rational treatment it has much to recommend it.

Clinical Notes.

Notes on a Case of Haemoglobinuric Fever in Swatow.

Dr. H. G. Hobson, Customs Service, Swatow.

Haemoglobinuric fever in China appears to be extremely rare. Maxwell and Jefferys in Diseases of China, state that only two cases are recorded. Such rareness justifies the recording of the following case which occurred in Kak-chihoh, Swatow, in the early part of this year.

The patient, a Chinese woman of 60 years, had been suffering from prolonged fever rising in the afternoons to about 100° F. daily but during the last week rising to 101° F. and 101.5° F.

She was extremely anaemic and had evidently lost considerable flesh; the spleen was much enlarged. A blood slide gave a negative result and showed no particular mononuclear increase but I could not be sure of this fact as the slide was a poor one, being taken in a semi-dark room.

In spite of the negative result malaria seemed strongly indicated and the patient was ordered to take 5 grs. of quinine every four hours.

On the third day of doing so the temperature suddenly rose to 105.2° F., and pigment appeared in the urine, which become black and quite opaque. No spectroscope was available at the time but a microscopical examination of the urine showed a complete absence of blood corpuscles. She was given 20 grs. of tannic acid every 4 hours and an intramuscular injection of quinine, grs. 10. The following morning the temperature had fallen to 98.6° F. and the urine was much clearer, but the temperature again rose that evening to 102.8° F. and more pigment appeared in the urine. Two further sharp rises of temperature took place at intervals of six days, the first of them being accompanied by increase of pigment. On the ninth day, as the fever still persisted, an intramuscular injection of .3 gms. of neo-salvarsan was given and within two days the urine was clear. As quinine seemed to exert no effect on the fever its use was discontinued. The fever persisted for about two months and then slowly subsided and the patient completely recovered.

In commenting on this case I would first like to mention the extraordinary divergence of opinion on the treatment of this disease expressed in the various books and papers on tropical medicine. One authority advises the administration of quinine, another prohibits it, another advises that its use should be governed by presence or absence of parasites. This case was treated with injections of quinine
and though it may be claimed that quinine precipitated the attack yet in spite of, or as a result of, the quinine the patient did recover. Tannic acid certainly had a beneficial action in helping to clear the urine as more pigment appeared when its use was discontinued. The salvarsan was given on Ehrlich's quinine fast theory but did not seem to make much difference though the urine certainly appeared to clear very quickly after its use. A second case of the same disease has occurred lately in a European on the same side of the harbour. In this case the attack was again precipitated by an injection of quinine and was treated with small doses of quinine, grs. 2, with excellent results.

A Visit to the Mayo Clinic.*

LUCIUS C. BULKLEY, M.D., Trang, Siam.

A recent two weeks spent at the Mayo Clinic in Rochester, Minnesota, have been of such profit and interest to me that I should like to share some of my observations and experiences with those who have not recently had a similar privilege.

The surgical clinic is held daily, except Sunday, from 8 a.m., until about 1 p.m. Visiting physicians are welcome, and no charge is made. There are six operating rooms nearly adjacent in which the four or five of the staff operate without intermission, passing from room to room and leaving the assistants to close the wound. There is no objection to the spectators following the operators, thus there is a minimum loss of time, and the printed lists enable one to choose what he most wants. The first morning I saw and made notes on a Thyroid Resection, a Cholecystectomy, Gastroenterostomy, Kraske, Ectopic Gestation, Colostomy, Carcinoma Vulvae, and Suprapubic Lithotomy. The total number of operations that morning was 34, and another morning there were over 50, though 6 were only tonsil dissections. The average was over thirty.

There is a Surgeons' Club, of which visitors are invited to become members with nominal dues. This meets every afternoon for formal reports on and discussions of the morning clinic, and has a distinct value.

The operations in the main clinic for the 12 operating days (2 weeks) that I attended were as follows:

- Gastro-intestinal, 131; Goitre, 90; Unclassified, 85; Pelvic, 44; Tonsils, 28;
- Breast, 14; Bladder, 10; Rectal, 9; Kidney, 5; Total 416.

Elsewhere other minor work was done, as well as innumerable tonsilar operations under local anaesthesia. The item "unclassified," in the above list, includes all operations outside the classes named, i.e., those on the eye, lip, extremities, bones, brain, tubercular glands, plastic operations, etc. Pelvic operations furnish the next largest number, then the tonsils, after this the figures diminish rapidly. This gives one an indication of the kinds of work for which the clinic is of chiefest value, but even in their less frequent cases their method and technique were generally admirable and well worth watching. In the two brain cases they seemed to me just a trifle rough after seeing more delicate work in New York, where cases are probably more plentiful; also in the two cases I saw of lithotomy the operations did not seem especially clever.

At the meeting place of the Surgeons' Club the operators have generously placed reprints of all their articles for distribution. These make an interesting and valuable souvenir of the visit and have supplemented the 100 pages of my note-book to give the material for this account.

Goitre, both the simple and exophthalmic varieties, seems to be unusually prevalent in this region. A friend in Cleveland, Ohio, corroborated this by a chance remark that six out of ten girls there seemed to have large necks. It is

*The other part of this article appeared in the JOURNAL, January, 1916.
not surprising then that many cases come to Rochester; over a fifth (20%) of their total number of operations (416) listed on the twelve consecutive days were for this trouble. Resection is what they aim at in every case. Often a ligation is done, or more rarely a hot water injection, but these are considered only as temporary or palliative measures, leading only to the more radical operation. To resect, a transverse incision is made through skin and platysma in the natural crease, low in the neck, below the collar line. This proves very inconspicuous afterwards. The fascia is cut vertically, the muscles separated, and if necessary the right sternohyoid is divided, high up. Clamps are used very freely in the dissection; in one case sixty were counted hanging in the wound after the gland was removed, no ligating being done until this point. The gland in the exophthalmic cases is dissected down to its base on the right side and all the lobe removed, their explanation being that on this side it is apt to be the larger. Of the left lobe, if this is touched, a small piece is left of the base. The vessels, nerves, parathyroids and left recurrent laryngeal are thus not disturbed, and tetany is therefore very rarely seen, perhaps once in a thousand cases, and is easily controlled with calcium lactate. "We need not be afraid of taking out too much gland," said C. Mayo, "for it is sufficient to leave very little." The final ligating for hemostasis is done rather rapidly, with sometimes several clamps on one ligature, sometimes with a continuous running suture folding in the bed, the clamps being quickly removed as they are included in the stitch. At the end absolute hemostasis is insisted on, with vigorous sponging and a careful examination before the muscle is sutured and the wound is closed. All thyroid cases they drain at first for serum.

Their operation for preliminary ligation is as follows:—Generally the upper left pole is attacked, so that the scarring and adhesions will interfere less with the subsequent operation. A transverse incision is made opposite the cricoid at the edge of the sternothyroid, and the pole of the gland is retracted. Both artery and vein are ligated together, with silk for permanency. They lay no stress on dividing the vessel or not. If it is difficult to isolate the vessels they ligate the pole itself. Local anaesthesia is used, novocaine ½ % with adrenalin, six minims to the ounce.

In injecting boiling water they put it in on both sides, up to the point of bulging. Novocaine is used also for the skin in this operation. Adenomata of the thyroid they, of course, shell out, leaving the proper gland tissue entire.

They gave this rule for operating on exophthalmic goitres:—All are to be enucleated eventually if possible. Ligate first if the patients come in during an acute attack or have marked gastro-intestinal, cardiac, and other symptoms. Also in women under twenty ligate first (Judd seemed to use preliminary ligation in all his cases). In a week enucleate if possible, but if the reaction be severe, ligate the other pole in a week and wait four months. These severe cases show an average gain of 22 lbs in that time. It may be necessary in some cases to inject boiling water as well, and enucleate later. At any time in the course of enucleation if the patient does badly, they stop, and continue five days later. In other cases where there are no acute symptoms they enucleate at once. "Let the patient take a walk for a test. If she can go a mile it is a favorable case, if ½ mile, still a possible one." Again, thyrotoxic cases with symptoms of degeneration of the gland, they prefer to keep under observation for some time and treat for the toxemia, i.e., they attend especially to elimination. If ligation is performed they say the degeneration is worse and the symptoms increased.

Emphasis is laid on the importance of after care in these toxic cases,—saline injections, ice caps, sometimes morphine. But many are up on the third day, and on the fifth leave the hospital for their hotel, going home in about three weeks. These patients often receive iodine of iron after the operation.

I saw one case of excision of the cervical sympathetic by C. Mayo. Novocaine and adrenalin were used, both superficially and deeply, with very satisfactory
effect. The patient was apparently quite comfortable, and conversed during the operation. She had had her gland removed two years ago and all symptoms were relieved except the exophthalmos. "As the latter is due to the circular muscle surrounding the eyeball, controlled by the sympathetic, it is relieved by removing the ganglion. This operation has also some beneficial effect on the nervous symptoms, and hence has been advocated in place of thyroidectomy, but the effect is not so sure or permanent. It may, however, be done in the preliminary ligation. In this clinic it is done only for the cases with bad exophthalmos, not generally. This patient's eyes will now recede and be quite normal." It was done through the transverse incision in the crease, a small lymph node was removed, the ganglion found and removed expeditiously and without difficulty, and the wound closed without drainage.

Their breast amputations were done rapidly, both pectorals being removed. The many clamps left on the chest wall after removal of the mass were loosened without tying, the crushing of the vessels in the muscle being sufficient. The arm was bandaged in abduction with the forearm vertical.

Renal calculus they reached by pyelotomy, through an incision from the angle of the 12th rib. The kidney was freed, delivered, palpated and needled at some length. After suturing the pelvis a flap of fat was stitched over it. For tubercular kidney they removed the kidney and closed without drainage. The ureter, if patent, they inject with pure carbolic, or if they remove it, they take it clear to the bladder. They filled the wound with salt solution before suture, to dilute and assist in the rapid absorption of any possible tubercular infection, and claim very good results.

Tonsillectomy in the main clinic was done under general anaesthesia, the patient being supine and the head far back. The gland was dissected out with forceps and scissors in the usual way and there is nothing especial to note. But Justus Matthews' operation in his throat clinic deserves more mention. With no previous preparation of the patient, the throat is swabbed twice with 10% cocaine. Then around the tonsil is injected 1½% novocaine with adrenalin five minims to the ounce. A tongue depressor is used, the patient sitting nearly upright. The tonsil is loosened all around with a double-edged knife resembling a farrier's. A pair of volssellum forceps, straight-handled and without rings, take hold of the tonsil and the dissection is carried well down, scissors being used if necessary. In a moment the snare is slipped down over the forceps and tonsil, and the lower pole snared and the tonsil removed. There is no hemorrhage, the operation is thorough and very brief, and the patient is soon ready to go home. Matthews prefers to use this method only in patients over the age of 12 years or thereabouts, who are fairly reasonable, but younger children often ask for it in preference to operation under ether.

As to gall-bladder surgery, the teaching is more radical than five years ago. They say that the deer and dog get along without the gall-bladder, and we do not need it. It carries typhoid and may be a focus for asthma, eczema and other reflex conditions. A catarrhal gall-bladder should always be removed, never drained. Drainage for a week is often advocated, but it is like giving a man a spray for a week for nasal catarrh. Hence cholecystectomy is a favorite operation, and frequently done in Rochester, with great ease. Adequate incision is made from ribs to umbilicus, 1½ inches from the midline in the right rectus. The liver is lifted up and turned forward out of the wound, easily exposing the common duct. A clamp is put on the cystic duct and vessels, and these cut across. The dissection is begun at this point with very little trouble or hemorrhage, for the cystic artery is tied once and for all. A small end of the cystic duct is left on the common duct to avoid danger to the latter. The raw bed of the bladder is drawn together and
the abdominal wound closed with a cigarette drain to the stump but not sutured to it, and another drain alongside. Where simple drainage of the bladder was indicated, the cigarette drain was sewed in, the gall-bladder not being sutured to the skin.

Their thyroid work was a pleasure to watch, and their abdominal work no less. One cannot but judge favorably their careful preparation and their confident dexterity of touch and cleanliness of work, so that one sees the beginning of an operation with complete confidence and the conclusion with satisfaction. Contrast this with the men sometimes seen whose technique you can accept only in parts, whose decisions you must first weigh for yourself, and after the operation you "hope it was for the best"!

CUSTOMS MEDICAL REPORT: HEALTH OF CHINKIANG.

By Hermann Balean, M.D., B.Sc. (Lond.), F.R.C.S., Customs Medical Officer.

October, 1913, to March, 1914. During these six months the health of the Port has been fair. Owing probably to the unusually warm weather cases of malaria have occurred with great frequency during the winter. Dysentery was in evidence to the end of the year and the autumn was marked by the occurrence of several cases of mucous colitis of a most resistant type. Influenza and catarrhal conditions have also been prevalent. There has been no epidemic disease and the district has been remarkably free from small-pox this autumn. Cases were more frequent during February and March but were not sufficiently numerous to be described as an epidemic. Whooping cough has again visited the foreign children this spring. Four cases of scurvy occurring in Chinese children reacted readily to dietetic treatment; in none of them was any rickety change observed. One case of typhoid fever occurred in a Chinese in the employ of the Shanghai-Nanking Railway. One case of leprosy was met with in a Chinese resident of Yangchow who was on a visit to this Port. The type was interesting, being primarily of the nervous or anaesthetic form. There was, however, a certain amount of nodulation which made me regard the case as a "Mixed Leprosy" of the less frequent type.

There has been more than the average amount of sickness amongst the Staff of the Chinese Maritime Customs this winter, possibly owing to the unusual climatic conditions.

Sanitation and Public Health. The Chemical Purifier has now been attached to the water plant and the community is being supplied with a good water. The chemical used is iron alum and is delivered
to the main leading to the filter in quantity varying from one and a half to two grains-per gallon according to the condition of the river.

The sanitation of certain lots inhabited chiefly or exclusively by Chinese is still in the same deplorable condition, and is a menace to the foreign residents. It is to be hoped that the Council will make an effort to rectify this before the necessity for so doing is thrust upon them by the visitation of an epidemic.

April, 1914, to September, 1914. During the six months reported on the health of the Port has been poor and the incidence of disease amongst the foreigners has been greater than what has obtained in previous years. The unusual climatic conditions have been largely responsible for this increase, for following an extremely mild and dry autumn and spring there has been an excessively hot summer with a maximum temperature of 105° F. and many days varying between 100° F. and 103° F.

There has been no epidemic disease and cholera has been practically unknown this year in the Port. On the other hand, typhus has occurred with some frequency, and one foreigner had a very acute attack, recovery eventually taking place. Tertian malaria, which had been present without remission throughout the mild winter, became very prevalent in spring and has continued above the average, but cases of malignant malaria have not been so numerous. Dysentery and bowel complaints have been more prevalent this summer and especially so amongst the foreigners. Whooping cough, measles, and chicken-pox have again affected the children, and influenza and catarrhs were prevalent in the early part of the year. Scarlet fever and diphtheria have again occurred freely amongst the Chinese but I have met with no foreign cases. Three cases of enteric fever have come under my notice during the period reported on, two being amongst foreigners. One case of sprue which was invalided home last October died in England, and this year a case of very early sprue was detected and his transfer to a more suitable climate obtained. A case of acute anterior polio-myelitis terminated fatally in the fifth week, from involvement of the diaphragm.

The unusually hot summer has been responsible for several attacks of thermic fever and heat syncope, but none fortunately has terminated fatally this year.

Sanitation and Public Health. In the Concession little has been done to improve the sanitary condition of the lots referred to in my last report, but there is evidence that the Chinese are beginning to make an effort to improve the sanitation of the city and its suburbs, for lately
large garbage boxes into which garbage is now deposited have been installed at frequent intervals along the main roads; it is, however, to be regretted that these boxes are of wood and have no metal lining, still it must be admitted that this is an improvement on the conditions which obtained hitherto as much of the filth is now deposited in them instead of being cast over the roads. There is also evidence that regular scavengering is being done and drains are being swept clean of accumulated filth at more frequent intervals.

The Municipal Water Installation has been proved to yield a very satisfactory water but constant supervision is required to see that the pumps are not run too fast and that the coagulant is continuously supplied to the pump in proper quantity for the varying conditions of the river.

Health of the Customs Staff. Although this summer has seen more bowel complaints in this Port than is usual, yet these have affected members of the Staff residing in the married quarters out of proportion to their incidence amongst the general public and this predominance has been observed on previous occasions. A thorough investigation of these quarters and their surroundings has therefore been made by me to ascertain if possible the cause, and the results of this investigation are embodied in a separate report.

As a final note I should like to commend to my colleagues for their consideration, the early administration of polyvalent antistreptococcic serum in the treatment of typhus fever. I have observed marked beneficial effects result from this treatment.

October, 1914, to March, 1915. During the period to be reported on the health of the Port has been fair. Dysentery was still affecting the foreign community in October but after that month there were no more cases. Influenza became prevalent in November and has affected almost every member of the community in one or other of its varied forms; there have been several cases of the gastric type. Malaria amongst foreigners has been infrequent, but in spite of the very cold winter, cases have occurred with regularity amongst the Chinese. There has been no epidemic disease in spite of the much greater influx of refugees this winter, many of whom were affected with typhus. Smallpox, although prevalent, has not occurred with much greater frequency than is usual; there have been no foreign cases. Diphtheria has been somewhat prevalent amongst the Chinese. Another case of sprue has come under my care, and the regularity with which this disease is occurring in this Port is to be noted. One case of neuritis, occurring
after repeated injections of emetine hydrochloride for the treatment of dysentery, was brought to me. Apparently this case had been given some eighteen grains of the preparation. One of my colleagues in another port has noted similar effects after the use of this drug in quantity, and recovery is protracted. My experience of the drug has been that there are cases of dysentery in which amoebae are found which are not relieved by emetine, and that if benefit is going to accrue from its use, good effects will be seen after the first two or three injections, and that if this effect is not seen, then it will be useless to push it to the extent that was done in the case cited above. With regard to the treatment of "common colds" I have observed marked benefit derived from vaccination with the poly-vaccines of Micrococcus catarrhalis and Bacillus septus, in some cases amounting to almost immunity. During the period reported on there were two births and one death amongst the foreign community and one foreign dead body was brought to the Port for inquest and burial.

It is with regret that I have to record the closing of the Chinkiang General Hospital in March, as far as the community is concerned, on account of the dilapidated state of the building. In consequence of this our trained nurse, who was also a qualified dispenser, has had to leave us, and I feel sure that this institution will be much missed by the community in time of need, especially so by the bachelors of the Port, who will now have to rely on their 'boy' for nursing or go to hospitals in another port.

Sanitation and Public Health. There is nothing to add to my previous report save that means are contemplated to meet the difficulties that have arisen owing to the much increased consumption of water necessitating the pumps being worked beyond their capacity, thereby delivering a water unfit for domestic purposes. It is to be hoped that any scheme adopted will be sufficiently expansive to meet all future demands.

The health of the Customs Staff during the period under discussion has been fair. There was one death from cirrhosis of the liver.

The Support of Mission Hospitals.—But if our new mission hospitals, those splendid instruments for mercy and truth, are not to fail in their purpose, and are to become a reality and not a semblance to the suffering multitudes who have waited with eager anticipation their erection, then the initial undertaking must be followed by a worthy measure of annual support. The old level of income will not suffice. The work has been lifted into a sphere of finer opportunity, higher efficiency, and richer potential results, and has therefore become more costly. Study economy however much we may, we cannot run the second grade on the same allowance as we ran the elementary. We have been advancing in the School of Medical Missions, and we must recognise that the wider the bounds of usefulness the larger the demands and the bigger the responsibility.

Baptist Missionary Magazine.
THE EDUCATIONAL STANDARDS, PRE-MEDICAL AND MEDICAL, OF MISSION MEDICAL SCHOOLS.*

Edward M. Merrins, M.D., Shanghai.

There has been very much discussion, at times quite animated, over the question whether the English language, or the Chinese, shall be the medium of instruction in our medical schools. Each side is so strongly entrenched in its own opinions, so convinced that its own course is the right one, that little progress has been made towards mutual agreement and a common line of action. But a far more fundamental problem is raised when we are asked to consider what ought to be the educational standards, pre-medical and medical, of our mission medical schools. If the Association deals with the language difficulty as an isolated question, it is doubtful if much good will be accomplished; but if it deals with it as involved in any general scheme of medical education, it will be on very firm ground indeed, and its recommendations will be more authoritative.

In the consideration of this larger question a wide and very sympathetic outlook on Chinese needs is necessary, not only those of the particular district in which our work happens to be located, but also the needs of the Chinese nation as a whole. It is a time of great change and, in spite of discouraging retrogressions here and there, the country is making progress, and is becoming more fully aware of its national shortcomings, and of its power to remedy them. We must therefore build for the future, for the time when the Chinese government, among its other proper functions, will assume full control of the education of its people. Who will venture to say how long it will be before this happens? In this connection, the official Memorandum presented last year to the Chinese Board of Education by Dr. Wu Lien Teh, is very significant. The Memorandum was printed in the China Medical Journal recently, but to refresh the memory, and for convenience of reference, the quotations from it in the course of this paper will be given in full.

*A paper read at the Biennial Conference of the C. M. M. A., held in Shanghai, February, 1915. Although its purpose was fulfilled when the Conference adopted the Report of its Committee on Medical Education, and the situation has changed greatly since the arrival of the China Medical Board on the field, even the language discussion having subsided, the paper is printed here as the information it contains concerning the matriculation requirements of medical schools in various lands may serve as a guide to institutions planning to prepare students for the schools of the China Medical Board and other medical schools in China.
To remedy the deficiencies of the present system of medical education in China, Dr. Wu states that the first essential is a central governing body (which may be called the Central Medical Council), into whose hands the Board of Education could delegate its power in regard to medical education. In his opinion, this council should consist of an official of the Board of Education, and also one representative appointed by each of the medical schools in China approved by the Board, and power might be given to the Council to add to its number by the inclusion of one or more medical men who have taken a leading part in promoting medical science in this country. This Central Medical Council should include among its duties:

1. The decision of the language, or languages, to be recognized in the teaching of the medical students throughout China.
2. The fixation of a minimum standard of general education required of students before entering upon medical studies.
3. The fixation of a minimum medical curriculum.
4. The supervision of examinations, including, if required, the functions of a Central Examining Board for the whole country.
5. The recognition of medical schools other than those which will have been recognized by the Board of Education.
6. The recognition of hospitals where medical students may obtain their clinical teaching.
7. The drawing up of laws and regulations affecting the medical profession in China, and their enforcement.
8. The issuing of a medical register containing the names of all those qualified to practise medicine in China.

On such a Council it is by no means certain that the representatives of missionary institutions will form the majority, or, forming the majority, that their recommendations will be invariably carried into effect. As an Association we still have the opportunity and power of doing much to determine the standards of medical education in this country. Surely we shall all regret it if the opportunity pass away and little or nothing is done.

This paper is written with the hope that it will give some assistance in the settlement of our educational difficulties, which have not yet vanished, despite all the resolutions passed at our Conferences.

Attention will be mainly drawn to the following points:

I. The organization and equipment of the mission medical school.
II. The standard of its matriculation examination.
III. The standard of its medical curriculum.

For the purpose of enabling a wide view to be taken of the whole matter, details of the standards of English and American medical in-
Educational Standards of Mission Medical Schools.

Educational Standards of Mission Medical Schools.

The Organization and Equipment of the Mission Medical School.

In England, medical education is completely under the control of a General Council responsible to the State, and a high and uniform educational standard is maintained. In the United States, where each state has its own laws, there are greater differences. Some of the medical colleges there, of great wealth, are not inferior to any in the world. It makes us somewhat envious to learn that the grand total of donations for medical education, teaching hospitals, and medical research, during last year was almost seventeen million dollars gold, a sum which does not include the regular incomes of the medical schools for maintenance, in some instances extremely large, coming through the regular university channels. Mission institutions, with their limited means, cannot be expected to reach the level of these wealthy institutions in strength of teaching staff, buildings, and equipment. Other medical colleges in the United States, however, are weaker, and these may be used for comparison. Among the essentials of an acceptable medical college as outlined by the Council on Education of the American Medical Association in twenty-four paragraphs, are the following:

2. A requirement of at least a four-year high-school education, and in addition at least one year of college work, including at least eight semester hours each of physics, chemistry, and biology, of college grade, and a reading knowledge of German or French.

10. The college should have a fully graded course covering four years of at least thirty-two weeks each, exclusive of the time required for matriculation and holidays, and at least thirty hours per week of actual work.

11. The college should provide at least six expert, thoroughly trained professors in the laboratory branches, salaried so that they may devote their entire time to instruction, and to that research without which they cannot well keep up with the rapid progress being made in their subjects.

13. The college should own or entirely control a hospital, in order that students may come into close and extended contact with patients under the supervision of the attending staff. This hospital should be in close proximity to the college and have a daily average (for senior classes of one hundred students or less) of not less than two hundred patients.

17. The college should own or control a dispensary, or outpatient department, the attendance to be at least a daily average of 60 cases, the patients to be carefully classified, good histories and records of the patients to be kept, and the material to be well used.

18. The college should show evidences of thorough organization and of reasonably modern methods in all departments, and evidences that the equipment and facilities are being intelligently used in the training of medical students.

For the mission field this is a fairly high standard, but is it unattainable? The requirement that there shall be at least six professors
who shall give their whole time to medical teaching hits us hardest, especially as the Council adds: "All faculty members should be appointed because of their ability as teachers, and not because they happen to be on the attending staff of a hospital, or for other like reasons."

II. The next subject for consideration is the Matriculation Examination. In order to ascertain what this should be for our mission medical schools, it may be well to examine the entrance requirements of various non-missionary medical schools—English, American, and Chinese.

1. In England a medical student has the choice of two courses:

(a) For the medical degree which gives the definite title of Doctor or Bachelor of Medicine (coupled in many cases with that of Bachelor of Surgery), a student must matriculate at a university and go through the course of study required by the regulations of its medical faculty.

The matriculation requirements of the London University are as follows:

1. English composition, précis-writing, salient facts in English history and geography. A subject for an essay, to be chosen by candidates, to test power of expression, thought, and arrangement and general knowledge.

2. Elementary mathematics, arithmetic, algebra (including quadratic equations and graphs of simple functions), and the subjects of Euclid (Books I to IV).

3. Latin, or elementary mechanics, or elementary physics (heat, light, and sound), or elementary chemistry, or elementary botany.

4 and 5. Two of the following subjects, neither of which has been taken under Section 3 (if Latin be not taken, one of the other subjects must be another language from the list): Latin, Greek, French, German, ancient history, modern history, logic, physical and general geography, geometrical and mechanical drawing, mathematics (more advanced), elementary mechanics, elementary chemistry, elementary physics (heat, light, and sound), elementary physics (electricity and magnetism), and botany.

(b) For a diploma certifying the diplomate to be a Member or Licentiate of one or other of the great medical corporations, and as such entitled to be registered as a medical practitioner, the student must pass the following matriculation examination prescribed by the General Council:


2. Latin, including grammar, translation from unscheduled Latin books, and translation of English passages into Latin.

3. Mathematics, comprising (a) arithmetic, (b) algebra, including easy quadratic equations, and (c) geometry, the subject matter of Euclid, Books I, II, and III, with easy deductions.

4. One of the following subjects: (a) Greek, (b) French, or German, or one other modern language.

2. In America, the Council on Education of the American Medical Association requires "at least a four-year high-school course education
and, in addition, at least one year of college work, including at least eight semester hours each of physics, chemistry, and biology, of college grade, and reading knowledge of German or French.” This extra year of college work forms the work of the “pre-medical year,” or “preliminary college year,” that is, the year between matriculation at a medical school and the commencement of the regular four years’ medical course, a rather awkward arrangement obviously intended to lengthen the medical course to five years. Before taking the examination, the student must present satisfactory evidence from an acceptable institution, of having completed a certain number of units in various branches of knowledge, a unit being one year’s study, amounting roughly to about 120 hours. The examination comprises:—

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<th>Subject</th>
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<tr>
<td>Mathematics (algebra and plane geometry)</td>
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<tr>
<td>English language (reading and practice)</td>
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<td>One foreign language</td>
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<td>American history and civics</td>
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And seven units of further credit in language, literature, history, or science, making the total of units at least fourteen.

3. In China, still keeping outside avowedly missionary institutions, at the Hongkong University (an English institution affiliated with the London University) the syllabus of the entrance examination is as follows:—

1. English including reading, dictation, composition, grammar, analysis; with questions on the general outlines of English history, and on the general outlines of the geography of Europe and Asia with special reference to the geography of China.

2. Latin, or Classical Chinese, or other Classical Oriental language.

   Latin:—Candidates must pass in (1) grammar, (2) translation of a passage of English prose, (3) translation into English of an unprepared passage, (4) either (a) additional unprepared translation or (b) Virgil : Aeneid I, II, or (c) Cesar de Bello Gallico III, IV, or (d) Cicero, in Catilinam I, II, or (e) any two of the above mentioned books.

   Classical Chinese:—Candidates must pass in (1) translation from English into Chinese; and (2) Chinese into English prepared work, Mencius I to IV.

3. Mathematics. (1) arithmetic; (2) algebra up to and including the binomial theorem; (3) geometry including the subject matter of Euclid Books I, II, and III, with easy deductions.

4. One optional subject: Greek, French, German, a modern Chinese dialect, or other modern language. (Grammar and easy translation from and into English.)

In an American Institution, the Harvard Medical School of Shang-hai, students are admitted under three classifications as follows:—

1. Students presenting a degree in arts or science from a recognized college or scientific school, provided satisfactory certificates are presented showing work through general chemistry and qualitative analysis, physics one year, and mathematics through quadratic equations and plane geometry. Without such certificate, an examination will be required in these subjects. Students may enter “on condition” in not more than two subjects, but the condition must be removed before the beginning of the second year.
2. Students with certificates from a recognised college or scientific school showing the completion of two years of work, including the same requirement as under (1).

(No student will be received, under 1 and 2, who is clearly deficient in English.)

3. Candidates who satisfactorily pass an examination in the subjects below will be accepted as "special students" with the privilege of working towards a degree, if the work in the school shows special excellence.

   English:—The elements of English grammar, a composition of 500 words, sight reading from standard English works, and writing in English from dictation.

   Mathematics:—Arithmetic, algebra through quadratic equations, and plane geometry.

   History:—General European, and Chinese.

   Physics:—Elementary physics.

   Chemistry:—General chemistry.

The writer has not obtained the matriculation regulations of the Peiyang Medical College, Tientsin; of the Army Medical College, Tientsin; of the German Medical College, Shanghai; of the German Medical School, Tsingtau (now closed and hardly likely to be re-opened); or of the Japanese Medical School, Moukden. But Dr. Wu Lien Teh, who is probably familiar with the working of all these institutions, in his Memorandum to the Chinese Board of Education, as a necessary step in order to enable the medical profession of this country to reach the same status as in other civilized countries, offers the following as a suitable preliminary examination, to be passed before the student enters upon his five years medical course:

1. A knowledge of classical Chinese.

2. A knowledge of one of the following languages,—English, German, or French. This should comprise:—(a) Reading, dictation, composition, grammar, analysis, paraphrasing; (b) Questions on the general out-lines of the history and geography of Europe and Asia, and especially with reference to China.

3. Mathematics comprising arithmetic, geometry (Euclid, Books I to IV), and algebra, including easy quadratic equations.

Leaving for later consideration the question as to what should be the matriculation of mission medical schools, it may be well at this place to refer briefly to the language difficulty. On examination of the different educational schemes given above, all will be found to require proficiency in the native language of the student, and a good knowledge of at least one foreign language. If these requirements are complied with, surely it may be left to each medical school to determine the language it will use as the means of instruction. Some of us hold the opinion strongly, that to teach in English has many and great advantages—they need not be recapitulated here—but that is not the main point. Though a student could speak with the tongues of men or of angels, yet at the final examinations, if he were unable to pass them, he could only be regarded as a clanging
cymbal. In the Hongkong University, the teaching is in English; in the German Medical School in Shanghai, it is in German; in the Japanese Medical School, Mukden, it is in Japanese; in the Peiyang Medical College, Tientsin, French professors teach in English; in the Army Medical School, Tientsin, Chinese is the language used. What is to be gained by insisting that in this country only one particular language shall be used as the medium of instruction? As will be suggested presently, if there must be any division between our medical schools, let the line be drawn between schools whose aim is to conform to Western standards, and those with a different aim and standard.

III. The next subject is the medical course proper. In England, the course lasts 5-5½ years; in America, the American Medical Association practically requires a five years' course; in China, nearly all schools give a five years' course, and recommend, in addition, one year of post-graduate work. So far there is agreement. But two schools may differ very widely in the actual amount of work done in the same period, one school, for example, giving 30 hours of classroom or laboratory instruction per week, while the other may give very much less. To overcome this disparity, the American Council requires 4,640 hours of actual teaching during the five years' course, allotted as follows:—Physics, 192; Chemistry, 192; Biology, 160; Foreign Language, 96; Anatomy, Histology and Embryology, 720; Physiology and allied subjects, 600; Materia Medica and allied subjects, 240; Pathology, Bacteriology, and Hygiene, 450: Medicine and Medical Specialties, 970; Surgery and Surgical Specialties, 720; Obstetrics and Gynecology, 300 hours. In his Memorandum to the Board of Education, Dr. Wu presents a well-thought-out scheme, but as the number of hours for each subject is not given, it seems hardly fair to use it for comparison.

The ground has now been surveyed. What conclusions are to be drawn? In the first place it must be sorrowfully admitted that few or none of our mission schools reach the educational standard of medical schools abroad. Moreover, it will become increasingly difficult for us to remain in our present position. Already, educated Chinese who have travelled are sensitive over the fact that some of the medical degrees conferred in this country are not recognized as they should be in Europe and America. Dr. Wu in his Memorandum, after making the sweeping statement that "the training a man receives in this country as a medical student in China counts for nothing in a Western country," urges that medical education should
be placed on the same footing as that of other civilized nations. "Properly managed medical schools, with their attendant hospitals, where a sound education in modern medical science can be obtained, are indispensable for the welfare of our nation. Graduates of these schools should be of such a standing as to be recognised by the world in the same way as those of Japan and the recently established Hongkong University. Such graduates must not be inferior in knowledge to those of other nations, and must keep up with the discoveries made almost every day in medical science."

Because of the present difficulty in getting sufficient teachers and the money for proper equipment, would it be wise for us to leave medical education wholly to secular institutions? That would be a lamentable retreat. In the present condition of China, when the native religions to a very great extent have lost the moral power they once possessed, and the great mass of the people have not accepted Christianity, or even heard of it intelligently, it is imperative that missionary societies shall continue to devote much of their strength to the education of the Chinese; and, as an important part of this work, shall continue to undertake the training of medical students in order to form a medical profession which shall be Christian, or at least profoundly influenced by Christian teaching. Civilization is not always identical with Christianity, and the possibility of a medical profession in China, familiar with all the resources of Western medicine and surgery, yet indifferent or hostile to Christianity, cannot be contemplated without the gravest misgivings. No, we must go on with our medical schools, but the standard should be raised as high as possible, and we must work with the steady aim of eventually bringing it into accord with the standards of England and America.

Some members of the Association may think all this is very well in theory, but that it is hopeless attempting to reach the home standards, and that our efforts to do so are unreal. Others may say the attempt is worth trying by the two or three medical schools in large cities, where there are preparatory schools from which students able to pass the standard matriculation examination can be continually drawn. But is that all, they ask, that missionaries should do in the way of medical education? And then they argue that in this vast country there are regions where the preparatory schools giving a foreign or semi-foreign education are very few, or do not exist at all, and where it is not possible to staff and equip a medical school in accord with the standards given. The
Chinese people, millions of them, it is urged, are sorely in need of the help and relief which Western medicine and surgery can give, even though the men giving it may not be as highly trained as those graduated in foreign schools. Cannot promising Chinese youths, especially if they are Christian, be fairly well trained by two or three foreign missionary physicians, and allowed to practise among their countrymen, though they cannot speak a foreign language, and are unable to pass the standard entrance requirements? After all, it is good swimming, not the method of entering the water, that is important. Then our hospitals are crying out for competent native assistants, who will regard hospital work as their permanent occupation. Such men, unlike some college graduates, will not demand salaries larger than the mission can afford, and will not always be struggling to go abroad in order to command still higher salaries when they return. Is nothing to be done to meet the needs specified?

It is impossible for missionaries not to sympathize with this argument. At first sight, the solution of the difficulty seems easy. Let there be two kinds of institutions, each with its own standard of medical education. Let schools that give medical degrees be expected to conform eventually to Western standards; and, in the meantime, let the Association state the irreducible minimum in equipment, strength of teaching staff, etc., which such schools must possess in order to be approved by the Association. The writer ventures to say it would not be a bad plan if all mission medical schools, until such time as the education given in them is quite on a level with that given in Western schools, should give the diploma of Bachelor of Medicine and Surgery to graduating students, leaving the M. D. degree, if conferred at all, to be won by post-graduate study and practical experience.

With regard to other schools whose aim is not quite the same, until the time when all medical education shall be on a perfect level, let the Association sanction them for the training of hospital assistants and outside practitioners, prescribe a shorter and more limited range of studies, and to those students who pass the final examinations, let a medical diploma be awarded entitling them to be registered on the books of the Association. If such men are addressed as "Doctor," no objection need be made. The difficulty is that such schools will not be willing to be regarded as being in the least inferior to those which give the degree of Doctor of Medicine, and will either wish to confer the M. D. degree or disapprove of its being given by the other schools, because they may consider that the students they graduate are for all practical purposes just as good as the others.
Yet there cannot be two standards of medical education for students who are working for the same degree, and in the end we must conform to Western standards. Whatever educational system is adopted should be consistent and uniform. Altogether, it is a problem which requires much grace, courage, and mutual trust for its solution, but somehow or other it is probably along the lines indicated that the way out of our educational difficulties will be found.

So many resolutions on medical education have been passed at previous Conferences, and so little actual progress has been made, it seems hardly worth while to suggest passing any more, at least for the present. The writer simply presents for consideration his own conclusions, which do little more than expand or modify resolutions on this subject passed at previous conferences. So far as theories are concerned, perhaps most of us are in agreement.

CONCLUSIONS.

1. Mission medical schools granting degrees should have well-equipped physical, chemical, physiological, and pathological laboratories, with the clinical facilities of a hospital of one hundred beds, and of a large dispensary, both in close proximity to the school. Further, the teaching staff, in schools where a new class is formed every year, should consist of at least fifteen foreign-trained physicians (the professors of chemistry and physics may be laymen), of whom three physicians at least should give their whole time to medical teaching.

As the standard number of hours for lectures and laboratory instruction is thirty per week, a staff of this strength should be able to do the work, especially if reinforced by locally trained men, many of whom render excellent service.

2. Every student before beginning the medical course should pass a matriculation examination in the following subjects:

   i. Classical Chinese, including composition and paraphrasing, with questions on Chinese history and geography.

   ii. Mathematics, comprising (a) arithmetic; (b) algebra, including easy quadratic equations; (c) geometry, the subject matter of Euclid, Books I-III, with easy deductions.

   iii. One foreign language, preferably English, with questions on the general outlines of the history and geography of Europe, Asia, and America.

3. The medical course should last five years, and the allotment of time to each subject of study should conform as closely as possible to the requirements of the Council on Education of the American Medical Association.
4. Each school should determine for itself the language it will use as the medium of instruction.

5. After receiving a medical degree, the graduate should serve at least one year as interne in a good hospital before he begins the independent practice of medicine and surgery.

6. As to other schools, when three or more practitioners in one locality—having the necessary time, strength, and teaching facilities—wish to undertake in the Chinese language the training of Chinese youths to be hospital assistants, and to assist in medical work generally, the Association should sanction the formation of such a school, prescribe its courses of study, and register the diploma awarded to its graduates.

In conclusion, we can all join in the hope that the Chinese government will soon be in a position to assume the control of national education in all its branches, and bring the whole system into complete accord with Western standards. When that time comes, it will be a source of legitimate pride and satisfaction to all concerned if the government finds that in all essential matters little or no alteration can be made for the better in mission medical schools.

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ACCLIMATIZATION IN THE TROPICS.—Before the Life Assurance Medical Officers Association, London, Dr. Adrian Caddy read a paper on life insurance in India based on records kept for 19 years. The author and his brother had examined personally 6,276 cases, and had revised the papers of other examiners in 5,179 cases, making in all 11,455. Of these, 3,365 were Europeans, 530 Eurasians, and the remainder natives of India.

With regard to the question of acclimatization in the tropics the author, "with much diffidence," gives his own experience:

"1. We think that the European does not acclimatize in the tropics; meaning by this, he is unable to rear healthy, strong children in India, that he is unable to continue in the same state of health as he was in on arrival in the country.

"2. Quite apart from the effects of tropical diseases, we think that the European gets debilitated by residence in the tropics and at least every four or five years requires a change to a temperate climate. As regards Europeans, Calcutta is one of the most healthy cities in the East; the Europeans live in a well-drained part, and have every convenience of water supply and electric fans; malaria and dysentery are uncommon; and it frequently occurs for them to live periods of several years without any illness at all; yet, in spite of this, Government and mercantile offices have to give their staffs regular leave home to get full work out of them.

"4. The children of Europeans, who have been sent home when four or five years old for their education (the customary age) are generally not so fine physically as their parents, owing to the debilitating influence on their constitutions of the tropical climate at an important growing period of their lives."

In pleading to congregations in the home-lands on behalf of medical missions to China, speakers often refer to the backward state of the native medical and surgical practice and mention, by way of illustration, the many queer and disgusting concoctions compounded by Chinese physicians, and the disastrous results which not infrequently follow acupuncture as performed by Chinese surgeons. It is all very true and constitutes an effective and proper argument. Yet sometimes one cannot but feel that the Chinese, a very sensible people, would have utterly rejected the whole system of native medicine long ago if it were inert or if nothing but evil came from it. The very fact that it has existed for centuries is proof that some good must be occasionally, if not constantly, accomplished by it.

The native practice of "needling" different parts of the body has undeniably produced woeful consequences, particularly when dirty needles have been thrust into joints with incipient disease. There is a wide difference, however, between an ignorant person using a dirty needle for all sorts and conditions of disease, and the use of a perfectly clean needle with skill and knowledge. The interesting paper by Dr. Cantlie, reprinted in this issue of the Journal, is a plea based on sound reasoning for the more general use of acupuncture in certain well-defined conditions. As Chinese patients will very readily submit to this form of treatment as they are familiar with it, reports of cases in which
it had been frequently and carefully tried would be of great interest.

As to medicinal remedies, though the Chinese have many drugs which are common to the pharmacopoeias of Western lands, others are so strange and repellent that it is not surprising if foreign physicians are inclined to condemn the whole system of native practice and seldom use Chinese drugs, not even in times like the present when the cost of all imported drugs is extraordinarily high. On the other hand, while admitting that Western surgery is far beyond the range of the native surgeons, the Chinese have not an equally high opinion of our medicinal treatment—except in those diseases for which it is known that we have specific remedies—and when ill generally prefer to go to the native doctor. This attitude is taken not only by the lower classes unacquainted with the learning and civilization of the West, but also by those who have received a foreign education and some of whom have lived abroad.

No doubt this preference for what is peculiarly their own is partly due to national prejudices of which one striking instance may be given. About twenty years ago the Chinese Minister to London was a remarkable scholar named Lo Fung-luh. Educated in the West he had acquired an almost encyclopaedic knowledge of Western, and especially of English, literature. He was a fine Shakespeare scholar and was as familiar with Chaucer as with Herbert Spencer and John Stuart Mill. It was he who composed for his patron, Li Hung Chang, the remarkable series of speeches which astonished the British public during that statesman's visit to England by their liberal and lofty philosophy. During the last illness of Lo Fung-luh an English friend came to see him. At the time of the visit, "he was lying on a low couch, and he pointed to a little wizened Chinese who was crouching beside him on the ground over a smoking brazier. For about five minutes the Chinese medicine man continued to chant in a shrill native voice, while from time to time taking up a pinch of ashes from the brazier and sprinkling them over different parts of Lo Fung-luh's body with strange passes and incantations. He thereupon kow-towed three times and retired. 'I thought, my dear friend,' Lo Fung luh then said to me, 'it might interest
you to see how a Chinese, steeped in your Western literature, saturated with your Western science and philosophy, dies—a Chinese." The narrator adds: "I shall never forget this weird and pitiful scene, enacted in the heart of London, nor the pathos and sincerity of the lesson which it was meant to convey." Perhaps those of us who are missionaries do not always appreciate to the full the depth and strength of the feelings and beliefs which separate so many of the Chinese from us in so many ways.

But the preference for their native system of medicine is not wholly due to national prejudice. The Chinese do not all admit that structurally and physiologically they are exactly the same as foreigners; hence they believe that the native doctor better understands them when ill than do foreign physicians with all their learning. Moreover, they stoutly assert that some of the medicines which we despise are of great value, curing their diseases when foreign medicines fail, and there are others equally efficacious of which we are totally ignorant, held for the most part by private practitioners as secret remedies. In support of this contention, numerous cures—some of them very remarkable—are reported by all classes of Chinese.

It may be objected that the cures reported never really occur, or if they do occur that they are due to more or less clever hocus-pocus of the native doctor and the patient's own faith or imagination. This explanation cannot be accepted. As may be seen in Dr. Duncan Main's article on another page, foreign physicians as well as the Chinese bear witness to the surprising efficacy of some of the native drugs even in such a disease as leprosy. Besides, such disbelief is not wholly reasonable as it ignores probabilities. If quinine, emetine and salvarsan were held as secret remedies the cures resulting from their administration in the diseases for which they are specifics would be wonderful to outsiders. No doubt the psychic effect produced by the remedy being a secret one and by the use of chanting, passes, incantations, and other religious aids, has much to do with the cure in certain cases, but it does not explain all. Whether medicines which are prepared privately may not be fresher and better in every way than the same medicines obtained by public purchase, and whether
some of the effective remedies used by the Chinese may not be well-known drugs masquerading under strange names, are questions which cannot now be considered. The main point is, the Chinese are convinced that native medicines are often most efficacious, certainly in the diseases of their own people, and that foreign physicians do not appear to know what these medicines are.

The whole subject requires thorough investigation without prejudice. Much valuable information concerning Chinese drugs may be found in works such as Porter's "Chinese Materia Medica," and in the Customs Reports. But it is necessary that the medicines should be tested according to the scientific requirements of pharmacology. The investigation will not be altogether fruitless. For instance, in cases of dropsy the Chinese have for long used a medicine called "Senso" which they obtain from the skins of toads. It has now been discovered that the skins of certain species of toads yield powerful substances such as bufagin, bufotalin and bufotoxin, that bufagin is really efficacious in dropsy, and that in combination "Senso" has an action similar to that of adrenalin. It may be that other Chinese remedies if similarly investigated will be found of great value. The difficulty is to procure them, or to procure them in sufficient quantity.

For the guidance of those who wish to undertake the investigation of native medicinal plants, the following points are given by Dr. Pyman in an instructive paper on "Some Interesting Drugs of Tropical Origin" (Trans. Soc. Trop. Med. Hygiene, April, 1916): (1) The complete chemical and physiological examination of a plant requires, as a rule, a considerable amount of material, and even for a preliminary examination a quantity of at least seven pounds is desirable. (2) The plant should be accessible in quantity; from the practical point of view there is little value in finding out that a plant has useful medicinal qualities if it cannot be obtained in quantity. (3) It is essential that the plant should be botanically identified, or that a sufficient specimen of its different parts should be collected to permit of botanical identification. Lastly, it is important to record whether the reputed action of the plant in disease is purely of native origin, or whether it has been observed by competent observers.
At the next Conference it is proposed to add to the By-laws the following paragraphs defining the powers and duties of the Standing Committees and Councils of the Association.

§8. The duties of the Council on Medical Education shall be:—(a) To outline acceptable standards for medical schools; (b) To act as a central body of reference in matters concerning adequate occupation of the field; (c) To publish at intervals a careful survey of the entire field of medical education in China and to make such recommendations as may be deemed necessary; (d) To co-operate as far as possible with other organizations interested in medical education.

§9. The Council on Public Health Education shall endeavor to create and stimulate popular interest in scientific medicine by the use of exhibits, lectures, the press, and all available forms of public education in order to bring constantly before the Chinese people the advantages of disease prevention, and of personal and public hygiene.

§10. The Committee on Publication and Terminology shall undertake the translation into the Chinese language of Western medical text-books needed by Chinese physicians and medical students, shall arrange for their publication and shall attend to the revision of these translations whenever necessary; it shall also co-operate with Chinese educational and medical associations in forming a standard system of medical nomenclature in the Chinese language.

§11. The Committee on Medical Research, in co-operation with other members of the Association, shall investigate:—(a) unsettled questions concerning tropical and sub-tropical diseases met with among the Chinese; (b) all matters relating to public health, preventive medicine and sanitation necessary to promote the health of the Chinese people; (c) the anatomical and physiological differences which may exist between the peoples of the East and of the West.
MEDICAL EDUCATION IN CHINA.

Joint Meeting of Executive Committee and Council on Education.

A joint meeting of the Executive Committee of the China Medical Missionary Association and the Council on Medical Education was held on June 15-17, 1916, to consider the present situation with regard to medical education in Central and Eastern China. Present: Drs. Beebe, Cochran, Davenport, Houghton, Hume, Merrins, and Shields. Dr. Balme of the Tsinanfu Medical School, Mr. E. C. Lobenstein of the China Continuation Committee, and Mr. Roger S. Greene of the China Medical Board attended one or more meetings by invitation.

A communication was read from the Faculty of the Tsinanfu Medical School stating that about sixty students had been sent to it from the Union Medical College of the China Medical Board, Peking, and that to meet the increased expenses due to this enlargement of its work the Board had given it G. $150,000. This placed the school in a sound financial position, but it was proving very difficult to increase the staff to the requisite strength as there were not many qualified men able to teach medicine in the Mandarin dialect. An appeal was therefore made to the Executive Committee that, acting for the Association, it should render whatever aid it could to meet the emergency.

After full and careful discussion a resolution favorable to the appeal was passed unanimously. In this resolution the meeting expressed its satisfaction that the negotiations concerning the transfer of students had been successfully concluded between the China Medical Board and the Tsinanfu Medical School, and that the school was now in a position to develop its work in a thoroughly efficient manner; it recognized that a unique opportunity to demonstrate the possibility of giving a first class medical education to the Chinese through the medium of their own language was presented to the missionary societies; it pointed out that the success of the enterprise now depended upon the full and efficient staffing of the institution, and that the Mission Boards, unless by concerted effort they succeed in establishing and maintaining one thoroughly efficient Mandarin Medical College, will find their influence in the cause of
medical education rapidly decline; also it was urged that the strong support of such a school was the more necessary as well-trained Chinese assistants were greatly needed by Mission Hospitals—a need which it cannot be expected that the schools of the China Medical Board will be able to meet for a long time to come—and that an ample Faculty was required to maintain professional efficiency and give time to its members for the important work of preparing and translating an adequate medical literature for the Chinese; lastly, as the number of men qualified to act as teachers of medicine in the Chinese language is very limited the Mission Boards were asked to set aside for this work those who may be invited to join the staff of the Tsinanfu Medical School, and the existing medical schools in Central and Eastern China were asked to support the Tsinanfu School even if it meant the sacrifice of local aims and interests, as concentration of strength at the present time was of primary importance.

A cablegram giving the gist of this resolution was forwarded to the secretary of one of the missionary societies most immediately concerned, and by him communicated to the Conference of British Missionary Societies which he happened to be attending at the time. The Conference thereupon appointed a Committee to consider the fuller communication on the subject expected by mail and to get into touch with the Societies concerned in order to ascertain their views.

The Executive Committee and Council on Medical Education passed also the following resolutions:—

That a sub-committee of the Council on Medical Education consisting of Drs. Hume and Beebe be appointed to prepare and publish a survey of the Medical Schools in China. It was also resolved that the Secretary be instructed to write to the Yale Mission requesting them to allow Dr. Hume the time necessary to accomplish this object. It was further resolved that the Executive Secretary be requested to meet the expense of this survey, as far as possible, from the appropriation made to him by the China Continuation Committee.

Further, in compliance with a suggestion made by Mr. Lobenstine concerning the appointment of a Candidate Secretary in the United States (whose duty it will be to induce suitable men to
offer as candidates for mission work and to guide and otherwise help them as needed to reach the field), Drs. Beebe, Hume, and Venable were appointed to take the necessary steps towards finding a suitable nominee for this position and to report to the Executive Committee.

**REPORT OF FIRST MEETING OF UNION COMMITTEE ON MEDICAL TERMINOLOGY.**

In January, 1915, members of the C. M. M. A. Terminology Committee met representatives of the Kiangsu Educational Association to discuss co-operation in the translation of medical terms and kindred objects.

In February, 1916, a second meeting was held at which there were also present representatives of the China National Medical Association (whose members have taken a course of Western medicine in English), and of the Chinese Medico-Pharmaceutical Society (whose members have mostly studied in Japan). It was then arranged to form a Union Committee from representatives of the four bodies present to prepare a standard list of medical terms in Chinese, to invite the co-operation of the Board of Education, and to hold their first session in August. The success of these preliminary meetings and of the August session is largely due to the officials of the Kiangsu Educational Association, Mr. Huang, Vice-Chairman, and Mr. David Yui, Secretary, both of whom spared no trouble in forwarding the preliminary arrangements. Mr. David Yui was appointed Chairman of the conference, a position which he filled, though not a medical man, with great tact and ability.

The National Association sent five representatives, of whom Dr. Abel Tang took a leading part in the discussions.

The Medico-Pharmaceutical Society sent five, all of whom but one were engaged in medical school work in Soochow and Hangchow.

The Board of Education sent Dr. Tang Er Ho, an able and courteous gentleman who had studied many years in Japan and who is now engaged in literary medical work in Hangchow.

The Kiangsu Educational Association had four representatives, one of whom, Mr. Sen, an elderly scholar who lectures on the history and morphology of Chinese characters, was our referee on the value of different terms.
The C. M. M. A. Publication Committee had four representatives. After a preliminary meeting on August 5th, the conference met in earnest on the 7th, and took up Anatomy terms, following, in the main, the order of the B. N. A. We soon found our ideals of a good Chinese term differed, the Japanese-trained men being anxious in all cases to have a literal translation of the Latin name, and justifying their method by saying that such a course prepared the way for the student later to study foreign books; others of us wished to break away from many of the foreign terms, realizing the disadvantage of perpetuating in Chinese the archaisms, poor illustrations, and false etiology of many western terms. The members of the Kiangsu Educational Association practically acted as arbiters, sometimes siding with us, sometimes with the Japanese-trained men. Taken altogether we were in agreement on more than half the terms, and of the balance something like three-fifths were decided in favor of the Japanese-trained men, and two-fifths in favor of our old terms, a two-thirds majority being required to fix a term. In Anatomy, for cartilage, artery, and vein the Japanese terms were preferred; for muscle and nerve the vote was in our favor by a narrow majority but not sufficient to fix them, so two terms were adopted.

It seems likely that for some time yet alternative terms will have to be given for many objects, but as long as the terms chosen do not lead to confusion no great disadvantage can arise, any more than is the case with our use of the terms bile and gall, etc.

As might be expected progress was not very rapid, but a good start was made, many general terms and practically all those in Osteology being dealt with. The list of approved terms is to be circulated by the Kiangsu Educational Association, and criticisms will be welcomed.

No notice of the Conference would be complete without mention of the cordial relations which sprang up and steadily ripened into friendship as the days went by. In addition to the actual sessions there were a number of receptions held; thus the Kiangsu Educational Association entertained us all to lunch; the National Association entertained us at dinner at Dr. Tang's; the Medico-Pharmaceutical Society gave us a feast at a Chinese tea garden, and we replied with a dinner at Bickerton's Hotel.
On these occasions, in spite of linguistic difficulties due to the fact that many dialects were spoken by those present, there was a great interchange of opinions and experiences, very many barriers were broken down and misunderstandings cleared up.

At the concluding meeting the representative of the Board of Education read a telegram he was sending to Peking, describing the Conference as having been "extraordinarily successful."

After more than a week's work the conference broke up to meet again January, 1917, when the Anatomy lists will be continued, and Chemical Terms will also be taken in hand.

J. B. N. and P. L. M.

NATIONAL HEALTH, ESSAY CONTEST.

The Joint Council on Public Health Education, representing the National Medical Association, the China Medical Missionary Association, and the Young Men's Christian Association, announce a National Essay Contest open to all undergraduate Chinese students of middle schools and colleges who are interested in the question of the health of the people. The Council is holding this contest to stimulate interest on the part of the students in the question of public health and to find out how the students would solve some of the very important problems in connection with this question. There should be many entries, not because the prizes are large, but because this is a most vital question, in the solution of which the students of the country have a very great responsibility.

The subject to be discussed is, "Present Health Conditions in China and How They May Be Further Improved."

The essays may be written either in English or Chinese and must be not less than 2,000 and not more than 8,000 words or characters long. The essays should be written in duplicate and in popular newspaper style, and must bear both the seal of the school and the signature of the president or principal. The essays must not have the name or address of the author written upon them, but must have these enclosed on a separate card. The prize-winning essays will become the property of the Joint Council, and the others will be returned when return postage is enclosed.

There will be offered, in all, three prizes. For the best essay the Council offers as first prize a gold medal, or its cost equivalent of $25.00; for the next best essay, a second prize of a gold medal, or its cost equivalent of $20.00; for the third best essay, a silver medal or its
cost equivalent of $15.00. These prizes will be sent by mail to the winners through the head of the school.

The essays themselves must be sent by registered first class mail to Dr. W. W. Peter, 4 Quinsan Gardens, Shanghai, and must be in the mails by December 31, 1916.

A board of five judges will be appointed, and the result of the contest will be announced before June 1, 1917. The names of the winners and their prize essays will be published separately and in some of the newspapers and thus distributed throughout the country.

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Medical Reports.

Report of the Rankine Memorial Hospital, Ichang, China,
Church of Scotland Medical Mission, for 1915.

Hospital Staff:—Dr. and Mrs. T. Chalmers Borthwick; Dr. and Mrs. Graham (on furlough for 9 months of the year); Nurse Annie Reid (on furlough); Nurse C. C. Colley.

Hospital Statistics:

<table>
<thead>
<tr>
<th>In-patients</th>
<th>Out-patients</th>
</tr>
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<tbody>
<tr>
<td>Buchanan Memorial Hospital for Women</td>
<td>200</td>
</tr>
<tr>
<td>Rankine Memorial Hospital for Women</td>
<td>208</td>
</tr>
<tr>
<td>Rankine Memorial Hospital for Men</td>
<td></td>
</tr>
<tr>
<td>Surgical</td>
<td>587</td>
</tr>
<tr>
<td>Medical</td>
<td>235</td>
</tr>
</tbody>
</table>
| Out-patients (new and old) | 22,060 | 1,230
| | 28,602 |

While absent from the station on furlough, Dr. Graham made good use of his time in Scotland, shown by the fact that, after six months' study, he was successful in the examination for the Fellowship of the Royal College of Surgeons, Edinburgh. In an interesting letter printed in the Report he writes:

"It is a real delight to a medical missionary to re-visit the old haunts of his student days; and in the home hospitals he derives immense benefit from attending post-graduate courses, which bring him into line again with up to date methods in medicine and surgery. One felt very grateful to the Foreign Mission Committee for permission to use one's time in this way. The more complete study of special diseases, for example, those of the eye, which are so commonly met
with in the East, caused one to look forward to greater usefulness on returning to one's work. One was specially grateful for being set free for two full months' surgical work in the Glasgow Royal Infirmary, where much was learned that will be useful in the days to come. Although furlough is pleasant and useful, yet we were glad to feel the insistent call of the East, and with hearts full of hopefulness and expectation we returned to our work.

The year just ended has been a busy one in the matter of buildings. In the spring the new dispensary at Hsi-pa intended to reach the tracker class was commenced, and is now ready to be opened with the advent of the new year. A start has been also made with the Buchanan Memorial Hospital for women. This hospital consists of two pavilions and an administration block, and is built to accommodate forty patients. It will assuredly supply a long-felt want in this place.

A full account is given of the evangelistic work among the patients. After referring to the various needs of the hospital the report concludes: "We are very anxious that our work should increase, not only in numbers, but in quality, and to secure this we feel that, so far as possible, our equipment should come up to that of home hospitals. Medical mission work should be second to none. The opportunities we get for first rate work are certainly as good as one could wish for. People place themselves implicitly in our hands, and it is for us to avail ourselves of such an opportunity of following the example of our Master who so evidently considered the healing of the sick an important part of His work."

Wha Mei Hospital Report for 1915, American Baptist Foreign Missionary Society, Ningpo.

Staff:—Dr. J. S. Grant and Chinese assistants.

Hospital Statistics:

| In-patients (Men, 679; Women, 251) | ... | Total | 930 |
| Out-patients | ... | ... | ... | 12,298 |
| Operations under anaesthetic | ... | ... | ... | 342 |
| Expenditure for the year | ... | ... | ... | $10,966.18 |

Dr. Grant reports that the regular beds have been full all the time; part of the time it was found necessary to put beds on the verandahs and several times even the morgue was changed into a ward, thus making the number of beds seventy instead of sixty-two. Even then the staff not infrequently had regretfully to turn patients away."
The most noticeable advances were made in the rent of private rooms, donations from the Chinese, and the doctor's office fees. These are tabulated for the sake of clearness:

<table>
<thead>
<tr>
<th></th>
<th>1914</th>
<th>1915</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rent of private rooms</td>
<td>$1,036.81</td>
<td>$1,733.46</td>
</tr>
<tr>
<td>Donations from Chinese</td>
<td>$373.00</td>
<td>$1,073.72</td>
</tr>
<tr>
<td>Doctor's office fees</td>
<td>$354.00</td>
<td>$496.00</td>
</tr>
</tbody>
</table>

An advance which deserves especial attention was also made in another direction. A young man engaged Dr. Grant at $50 a year (medicines extra) to look after his health. 'Same as you do your foreign patients,' he said. This is not mentioned so much on account of the money but as an example of the advance China is making. Each year greater responsibilities are being laid on the Chinese staff who are responding nobly. A most interesting account is given of the successful evangelistic work done in the hospital.


In this pamphlet is included the report of the hospital and of the general work of the station.

Staff:—E. F. Wills, M.B., C.M., (temporarily at Wuchang), J. Lee H. Paterson, M.B., Ch.B., Dr. Wu, Mrs. J. L. H. Paterson, B.A.

Hospital Statistics:

- In-patients (Men, 482; Women, 120) ... ... Total 602
- Out-patients ... ... ... ... ... ... 9,668
- Major and minor operations ... ... ... ... ... ... 600
- Total 10,270

The Hankow-Szechwan Railway, now being built, has already affected the town. The three largest temples have been converted into residences for railway engineers, or barracks for the soldiers guarding the town and the railway works. One large temple only is left and this is in too great decay to be used for civil purposes. This is a sign of the times in China. The temples are being converted into schools or barracks and the old religion is not being replaced by a new one. The god of material progress is fast ousting other gods in the large centres, but still the processions of pilgrims from the country pass on their way to the sacred cliff dedicated to "Kwan Yin," the Buddhist Goddess of Mercy.

"The year has seen the commencement of two important developments in the hospital work. The first is the building of new wards
for first-class patients. ' The second development is the opening of our first branch dispensary. This dispensary has been opened in a country town twenty miles away (a day's journey, often more for a sick person or in bad weather). The plan we have followed is somewhat novel. Our chief assistant, who had been with us for many years, has been set up in this town with a moderate stock of drugs and instruments, and he is running the dispensary in his own way and making his own living from it. Severe cases he sends on to us when possible. If he requires drugs, etc., we order for him with our own. He is required to repay in time the amount of money we originally put out for him, and it will then be available for similar use elsewhere. He also pays 5 per cent of his nett receipts to our hospital committee which, in consultation with the District Church Council Executive, will use the money for the benefit of the Church in the town where the dispensary has been opened. The preacher in the local church has the right and the duty of speaking of the Gospel message with any of the dispenser's patients who care to listen, and the dispenser, who is an earnest Christian, allies himself very closely with the church, sometimes taking services, and generally seeking to forward the Christian cause in that place.'

The evangelistic work in the hospital is carried on with great earnestness and with a careful avoidance of all methods which have not proved very profitable.

Abstract from Chinese Report of the Kwangtung Kung Yee Medical College and Hospital, 1914-1915.

Staff:—Drs. Hofmann, Todd, Kirk, Machie, Hough, and seventeen Chinese most of whom are physicians.

Statistics of Medical College:

Number of students ... ... ... ... not given.
Expenditure for the year ... ... ... Mex. $21,595.73

Hospital Statistics:

In-patients. Out-patients.
Kung Yee Hospital ... ... ... 1,443 8,425
Kung Yee Women's Hospital ... ... 88 2,030
Yan Tsai Hospital, Honan ... ... 123 2,865
Total Expenditure for the year ... ... Mex. $30,763.82

The Seventh Annual Report of the Kwangtung Kung Yee Medical College and Hospital shows there has been a gradual growth in the work of the Institution. The standard of the school has been
very materially raised since its foundation. For the last two years not more than one half of the students who applied for entrance were accepted. The number of students enrolled the last year was not so great as in the two previous years on account of a higher standard for entrance.

Early in the year, the Yan Tsai, a large native hospital in Honan, turned over one-half of its plant to be used by the Kung Yee staff.

The official paper for the Government grant of land (64 mau) near the East Gate was secured in December. To this, over 26 mau have been added by purchase, making ninety mau, or fifteen English acres, in all.

About 7,000 graves have been removed from the Government grant at a cost of $21,000.00 to Kung Yee.

The Board of Trustees are in the midst of a campaign to raise funds to the amount of $150,000 for College and Hospital buildings to be erected on the new site.

Ground has already been broken for the erection of one-third of the proposed buildings.

Hangchow Leper Refuge.

D. Duncan Main, F.R.C.P., F.R.C.S.

Those of us who are engaged in medical mission work are often fascinated and sometimes perplexed by the number of problems in pathology, diagnosis, and treatment which daily confront us. Constantly do we meet with cases which at first seem to stump us. The symptoms are often masked and aggravated by native treatment and it is not easy to make out what is disease and what is due to malpractice, and the history as given by the patient or his friends is often false and unreliable. Leprosy in its early stages is not easily diagnosed and, as a rule, is seen by most of us for the first time in China where is no lack of material for observation. And those who have no accommodation set apart for leper work feel very hopeless when they are called upon to treat it.

So far no one as yet has discovered a remedy that has stood the test of time and experience; many drugs have been tried. We have given many medicines a very thorough trial, but have not found any one specially efficacious. Chaulmoogra oil, internally and externally, seems to do good in the early stages of the disease, and in the tuberculated form more especially—at least that has been our experience. We have seen very marked improvement in two cases that were treated by Chinese medicine, the composition of which we did not know;
in these cases, the discoloration passed away, sensibility in the hands and feet was restored, the eyebrows which had fallen out returned, and the mental dulness became better; ulcers on the feet healed up, and the clumsiness of the gait improved very much. When we were rejoicing that a cure was apparently in sight, one of them suddenly died, and his death affected the other one so much that he became insane and died within a week.

Many of those who come to us improve for a time without any special treatment. Fresh air, good food, and healthy surroundings do much for them, but when they are placed under treatment by a new remedy, especially if that remedy is brought by one who declares that it cured himself, the mental attitude is brightened by the hope of recovery, and they unconsciously exaggerate their feelings and make you believe they are much better than they really are. Nastin, samoin, lepralin have not, with us, produced favourable results; one or two cases seemed to improve a little when the treatment was first commenced, but we are inclined to think the improvement was not due to drugs but to the mental stimulus, because others were really worse with the treatment, while most of the cases remained unchanged. We are not able from my experience to confirm all that is said for nastin. We have had a serum made from one of our patients and after three injections he seemed to improve somewhat, and we are very hopeful of this line of treatment and believe that before very long we shall have a toxin that will effectively deal with the lepra-bacillus. May that day soon come.

Those who come to us have, as a rule, gone the round of the native physicians of fame, spent all their money, and are not cured; some come only for us to confirm their own or their friends' diagnosis, others come because of the wonderful things we get the credit of doing. Most of those who enter the Refuge stay with us till they die, but a few leave us, usually after a few days or weeks and always because they see no signs of improvement. They are anxious for immediate results, and although they have been ill for years and swallowed medicine by the gallon, when they come to us they expect the first dose to go right to the spot, and if it does not, they are disappointed and make some excuse for leaving. A very common one is that their mother is ill and just about to die, and they must hurry home before the end comes.

In the early days we used to think that the bacillus entered the body through the skin of the exposed parts—face, hands and feet, the feet being affected in those who do not wear shoes and stockings, and
not affected in those who do—at least in the early stages. At first we noticed it in the feet of farm servants, who worked in the rice fields up to the knees in the mud; this kind of work lowers the vitality of the skin and often produces dermatitis, which might make a path of entrance for the bacillus. Later we leaned a little to the decayed fish theory, because we had all the conditions here which favoured it. The fish in this district is all sun-dried and the temptation to use too little salt in curing it is very great, but so far the bacillus has not been found in decayed fish and, until it has, we cannot hold without waverering to that theory. It may probably enter by the alimentary canal, and also by the nose and throat and perhaps through the skin as well, but now we are inclining towards the possibility of bugs, lice, flies, and mosquitoes playing an active part in the transmission of the disease.

After much delay and trial of our patience we have accepted a site for the new leper refuge offered to us by the officials, and we hope soon to commence building operations. It is a little distance behind the Pagoda Hill, quite isolated, and away from the public road. Leprosy, as we have often said, is but slightly contagious if proper sanitary precautions are taken, and if treatment is of much use it must be made use of in the very early stages, and our experience is that, as a rule, treatment is not sought for till the disease is well advanced, and we feel strongly that only a universal system of segregation can hope successfully to cope with the spread of the disease.

Medical and Surgical Progress.

Progress in Internal Medicine.

Dr. Edward H. Hume, Changsha.

A Study of Diarrhea and Vomiting in Children. Edward Mellanby (Quarterly Journal of Medicine, Oxford, 1916, ix, 165) has made a very important contribution to this complicated subject. He points out that the bacteriological aspect of this problem has received much attention in the past; B. enteritidis sporogenes, Morgan's bacillus, Shiga's bacillus, streptococci, and other organisms have been held responsible. There was room for investigation on entirely different lines, and Mellanby has given us the results of a chemical study of a toxic substance normally present in the alimentary tract. The present study has been made on animals but indicates the direction of studies made also on children. There is a group of organic substances found in the intestine, the result of protein metabolism, some of which, such as leuciu and tyrosin, are familiar to
even the casual student of physiological chemistry. Still others are lysin, diaminovaleric acid, and histidin. The simple removal of carbon dioxide from the five substances named gives as derivation products, in the order mentioned, isoamylamine, tyramine, cadaverin, putrescine, and b-imidazolylethylamine. It is this last named substance to whose activity Mellauy draws particular attention throughout this study. A bacillus has been isolated which, either aerobically or anaerobically, has the power of converting histidin into b-imidazolylethylamine. "In an acid medium, or what comes to the same thing, in the presence of carbohydrate—for bacteria always produce acid if sugar is present—the end product of the bacterial action on histidin was quite inactive physiologically, and certainly was not b-imidazolylethylamine." The reasons for the choice of this particular substance for experimental observation were three:

1. It is present in the intestinal mucosa of normal animals.
2. Bacilli have been isolated from the intestine capable of producing it from histidin; also from meat extract, in the latter case from carnosin.
3. It is a substance capable of causing—
   (a) diarrhea and vomiting,
   (b) fall of systemic blood pressure,
   (c) depression of the respiratory centre,
   (d) coma,
   that is, symptoms met with in diarrhea and vomiting of children.

Two hypotheses served as a starting point:—1. That in diarrhea and vomiting there is excessive production of b-imidazolylethylamine; 2. That in diarrhea and vomiting, even though there be no increased production of b-imidazolylethylamine, still this substance becomes active in some way and is absorbed into the blood stream at a time when the animal is incapable of resisting its toxic action and rendering it innocuous. The experimental work was done on cats.

The most important results of the research, from a practical point of view were as follows:—

"First, as regards the absorption of toxins like b-imidazolylethylamine from the intestine:

1. There is a marked delay in the absorption of toxic substances, normally in the intestine, when animals are injected with large quantities of fluid.
2. That water in the intestine delays the absorption of toxic substances.
3. That during the digestion of foodstuffs generally, meat, milk, sugar, and fat, there is a delay in the absorption of toxic substances.
4. That the presence of bile in the intestine delays the absorption of toxic substances.
5. That magnesium sulphate, of a concentration of 2 per cent or over, delays the absorption of toxic substances from the intestine. A less concentration of this salt has no effect.
6. That morphine, below the point of being a serious menace to the respiratory centre, has no effect on the absorption of toxic substances."

"Secondly, as regards the resisting power of the animal towards absorbed toxic substances:

1. The resistance of an animal against toxic substances is very greatly increased by the injection of fluid into the circulation.
2. An animal with a diminished amount of fluid, and particularly after the loss of a small amount of blood, has little power of resistance against toxic substances.
3. An animal's resistance is greatly increased after it has absorbed from the intestine food, and, more particularly, meat."
4. During the digestion of fat, toxic substances absorbed from the intestine have a diminished action, at least, for some hours.

Now without discussing the primary cause of an acute attack of diarrhea and vomiting in a child, beyond making the bald statement that a child's alimentary canal is capable of being deranged by many causes not necessarily bacterial in their nature, it is apparent that a child suffering in this way, has:

1. No food in its alimentary canal and no water.
2. A deficiency of body fluids to a greater or less degree.
3. A loss of bile, including more particularly, bile salts.
4. No reserves of foodstuffs in its whole economy.

These are precisely the conditions demonstrated in the animal experiments for:

1. Allowing toxic substances to be absorbed from the alimentary canal at a maximum rate.
2. Allowing the toxic substances to have their maximum effect. Thus, "once the condition has been set up, the effects are cumulative, for the diarrhea and vomiting first produced allow substances such as b-imidazolylethylamine to be absorbed, which by exerting their own action produce further diarrhea and vomiting, and fall of blood-pressure and loss of fluid. The child becomes more and more susceptible and death ensues."

As to the bearing of these experiments on the treatment of disease in children it is obviously impossible to say that deductions made from animal experiments can be applied in toto. However, certain deductions seem necessary and logical.

1. The necessity of increasing the body fluids to normal. This measure is important because of the loss of resistance to toxins when fluids are deficient. If a child vomits everything, including water, a sterilized saline solution should be injected into the blood stream rather than subcutaneously, for the tissues seem to refuse to imbibe fluid subcutaneously when a certain maximum is attained. Sometimes intravenous injection in infants is difficult and subcutaneous injection is necessary. As soon as vomiting subsides, large quantities of fluid should be given by mouth. A few sips of water occasionally seem of little value. As much as two ounces of water should be given by mouth every hour while the child is in a moribund condition, and until vomiting completely ceases. Water thus given and absorbed from the alimentary canal is undoubtedly better than water in any other way. It not only markedly diminishes the absorption of toxic substances from the intestine but liberates substances capable of stimulating organs such as the kidney.

2. Feeding. So long as there is a deficiency of fluids in the body, it is useless to feed the child with food requiring digestion. For, in the absence of fluids, the secretion of digestive juices will be absent. This would seem to contraindicate the use of albumin water at an early and severe stage of the disease, because of the decomposition changes likely to occur in albumin in the absence of a secretion of proteolytic juices and hydrochloric acid. The most reasonable foodstuff would seem, at least theoretically, to be a solution of 10 per cent dextrose made up with 0.5 per cent HCl. If this is retained, one might pass on to a solution of whey containing a large proportion of lactose, and so on to milk, the latter diluted. It is important to feed the child as early as possible in order to afford resistance to the tissues in view of the danger of a complication such as broncho-
Medical Progress,—Tropical Diseases.

3. The use of purgatives. If magnesium sulphate is used it must be in fairly large doses to be at all effective; and it is useless until the body fluids are up to or above normal. Castor oil ought to be effective, for fats have a protecting action, and fats, if absorbed, have a large caloric value. Still recommends castor oil in 5-minim doses and states that thus given it is constipating.

4. The danger of morphine. It is of the utmost importance to avoid depressing the respiratory centre, and therefore morphine should be withheld if possible. In ordinary doses it has no action in suppressing the absorption of toxins.

Tropical Diseases.

Dr. G. Duncan Whyte, Swallow.

It is with regret that we find in the American Journal of Tropical Diseases and Preventive Medicine, June, 1916, the announcement that it has surrendered its independent existence and become merged in the New Orleans Medical and Surgical Journal. From its start three years ago the defunct Journal has ably presented the work done by American investigators of the problems connected with tropical medicine and hygiene, but unfortunately it has not been a financial success. Below will be found various extracts from recent numbers.

Schistosomiasis Japonica. In the American Journal of Tropical Diseases and Preventive Medicine, November, 1915, there is a very good article on this parasite by Dr. Alfred C. Reed, of Changsha, Hunan, in which attention is called to the fact that the disease is spreading in the localities in which it is endemic, and that it is now to be regarded as a menace to Western countries.

The endemic areas referred to are five of the provinces of China, which form part of the Yangtze basin—Hunan, Honan, Hupeh, Anhwei, and Kiangsi—and four of the provinces in Japan—Yamanashi, Hiroshima, Okayama, and Saga.

In addition to these there are smaller foci of infection scattered throughout Japan and around the infected regions of China, and an infective focus undoubtedly exists in the Philippine Islands.

Bubonic Plague. In the same issue is an article by Seemann on "The Treatment of Plague in New Orleans." The distinctive feature of the treatment is the use of large doses of Yersin's serum administered intra-venously. Adults received 120 ccm. to 200 ccm. and children from 50 ccm. to 80 ccm., the dose being repeated after twenty-four hours, or so. Of twenty cases receiving this treatment seventeen recovered and of these one example must be given. A man aged 20 had been ill 5 days before he came to the Hospital. On admission the temperature was 105.6° and this rose to 106° before the serum could be administered. Two hundred cubic centimetres of Yersin's serum were given but the temperature continued to rise for another hour when almost 108° had been reached. Thereafter a great improvement set in and the patient made an uneventful recovery.

Mosquito Prevention. Attention has been drawn on more than one occasion to the value of ducks
in destroying mosquito larvæ. In the June number of the same Journal, Bishopp sounds a note of warning. If ducks are not permanently kept in the same piece of ground the holes that they make will often be found to contain water and mosquito larvæ. These holes are often six or seven inches deep and may have comparatively small openings which are easily concealed by growing grass. If attention is not given to the filling up of these holes after the ducks have destroyed all the larvæ and have been sent elsewhere, it may be found that the latter state of the place is worse than the former.

**Sprue.** In regard to many diseases which one sees only rarely one may be pardoned for having somewhat hazy ideas as to what is really the best modern method of treatment. Some of us may feel thus about sprue; we have heard about all sorts of dietetic treatment, strawberries and cream, pure milk, meat diet, as well as of three day periods with two or three different kinds of diet. Any who feel confused by these different dietaries will turn with pleasure and relief to an article by Ashford in the January number of the same Journal. Milk is what he recommends; milk taken slowly—perhaps through a tube or a straw, but in any case ten minutes should be spent on each feed; milk taken at two hour intervals beginning from the hour of waking, so that if possible nine feeds are taken each day. At first the quantity of each feed should be only eight ounces, but after four days this should be increased to nine ounces, four days later ten ounces should be taken at each feed, and so on till thirteen ounces are taken nine times in the day. The milk is usually given cold, and may be either plain or modified in one way or another—e.g., sowed with the Bulgarian bacillus or peptonized, or it may have added to it soda bicarbonate, or Vichy or lime water. Ashford specially recommends "plantain gruel" which "mixed in varying proportions with milk has often a most felicitous result in the feeding of sprue patients intolerant of milk alone." One sets about the preparation of the gruel as follows:—a green plantain is cut into thin slices which are dried in a hot sun, they are then powdered in a mortar, and from this powder the gruel is made. Ashford permits the addition of three or four oranges, or an equal bulk of grape fruit, to the milk diet every day, and after 117 ounces of milk have been administered for four days solid food may cautiously be substituted for some of the milk. The only drug he uses as a routine is castor oil which is given every four days during the course of the milk treatment.

**Ankylostomiasis.** In the same (January) number, Moillet and Carreno give some of their experiences with intestinal parasites at Tehuantepec. Out of 431 cases infected with hookworm 320 complained of pain in the epigastrium, coming on at uncertain intervals. "Several cases of lumbago and muscular rheumatism cleared up immediately after the expulsion of the parasites." "Afternoon and evening fever without chills is more often due to hookworm than to malaria at Tehuantepec." "Ankylostomiasis is the commonest cause of the non-healing of wounds."

**Kala-azar.** The following (from the Indian Medical Gazette) is a summary of observations made by an Indian sub-assistant surgeon who was recently on special kala-azar duty. I. Examination of the blood showed (a) well marked leu-
copenia with an increase of mononuclear leucocytes; (b) that endothelial cells were frequently present in the peripheral blood; (c) that leucocytes containing parasites were notably fragile. III. From a study of the temperature it appeared (a) that the fever is never very high but is very exhausting and (b) that there are two, if not three, rises of temperature (from .5° to 1° F.) every day. IV. There is rapid loss of weight. IV. The skin is often dark, dry, and furfuraceous. V. There is often a history of diarrhoea or dysentery at the onset. VI. Very often two or more cases occur in the same family.

**DYSENTERY—ITS SPREAD.** Dr. Lynch of Charleston, South Carolina, has found (J. A. M. A. Dec. 25, 1915) that (a) in epidemic foci in Charleston the rat suffers from spontaneous amoebic dysentery similar to that occurring in man; (b) the amebae found in the cases of rat infection are indistinguishable from *Entamoeba hystolytica*; (c) this infection may be transmitted from the infected to the healthy rat. Dr. Lynch concludes therefore that the rat is a possible and probable disseminator of dysenteric amebae pathogenic for man.

Kartulis recommends the following enema in the treatment of dysentery:

- **Tannic acid** ... 4 grammes
- **Iodoform** ... 3 grammes
- **Sodium Chloride** ... 3 grammes
- **Arrowroot** ... 25 grammes
- Distilled water 1000 cubic centimetres.

**emetine poisoning.** The subject of the toxic action of emetine hydrochloride will always have a special interest for readers of the C.M.J. for Dr. Suell's case (C.M.J., May, 1915) was one of the first published. Dr. H. H. Dale (Brit. Med. Journ. 18 Dec., 1915) records the results of experiments initiated to determine the important question "whether a repetition of individually sub-toxic doses of emetine could produce a cumulative poisoning of serious importance." The answer is very definitely in the "affirmative." In such of the experiments as were carried on for as long as a fortnight symptoms of intoxication appeared; they became intensified with persistence in the daily injection and terminated fatally. In rabbits the most prominent symptom was a profuse diarrhoea, with rapid emaciation; in cats lethargy and somnolence deepened into fatal coma. The daily dose given in these experiments (5 mgrs. to an animal of 3 kilos.) corresponds to a dose of about one and one third grains to a man of one hundred and twenty pounds, which is, perhaps, the average weight of a Southern Chinese.

**anthrax GERMS IN HORSEHAIR FROM CHINA.**

A case of anthrax has occurred in Sheffield, England, which has been traced to the consignment of cheap shaving brushes a part of which was seized at Newcastle. Fortunately it was a local form of the disease and the man was quickly cured. The brushes were imported from Japan, and the horsehair employed in their manufacture came probably from China and Manchuria, where in certain districts anthrax is rife. Their selling price was id. and 1½d. The importing firm had supplied only eight customers, and it is believed that all the brushes have now been traced. It does not appear that any of the infected goods were sold to London dealers. An outbreak of anthrax which occurred in August of last year was also traced to horsehair imported from China.—*London Times.*
In a paper on "Some Radium Achievements," American Journal of Surgery, 1916, xxx, 73, Dr. Howard A. Kelly claims that radium cures skin epitheliomata, especially those about the face, in over 90 per cent of cases when seen early.

When the disease extends on to and involves the mucous membrane of the nose or mouth, or when it extends back of the ear and becomes adherent to the mastoid, although there may be marked improvement, the final results are not nearly so good. Of the mastoid group he has not yet seen a single cured case.

Cancer of the lip, if taken early, can often be eradicated; late cases are difficult to handle. He presents a case, however, which was treated and apparently cured. Where the glands of the neck are involved they ought to be removed surgically. Of cancer of the tongue he has had several apparent cures, but all were early cases.

Of 20 cases of lymphosarcomata, 13 had been operated upon; all were advanced cases and most of them desperate risks, with one exception, yet 65 per cent gained entire relief. Kelly does not believe that surgery is justifiable any longer in this group, for here surgery is at its worst with its practically invariable recurrences, and radium is at its best with its rapid dramatic cures.

Of 213 cases of cancer of the cervix uteri treated by Kelly between January 1, 1909, and January 1, 1915, 14 were operable and 199 inoperable or inoperable recurrent cases. Of the 14 operable cases 10 were operated upon and treated prophylactically with radium. Of these 2 have remained well for more than two years; 4 for more than one year; and 3 for more than six months. In 4 cases of the operable group, on account of some general contra-indication to operation, radium alone was used. All of this group are living and well; 2 for more than three years and 2 for more than one year.

The total number of inoperable and inoperable recurrent cases is 199, of which 53 patients have been clinically cured, 109 markedly improved, and 37 not improved. The series includes 35 cases of originally inoperable cancer of the cervix uteri or vagina in which the patients are clinically cured: 2 cases for more than three years; 4 cases for more than two years; 17 cases for more than one year; 10 cases for more than six months. It also includes 18 cases of originally inoperable recurrent cancers in which the patients are now clinically cured: in 1 case for more than six years; in 1 case for more than four years; in 11 cases for more than two years; in 10 cases for more than one year; in 5 cases for more than six months.

Excluding the 10 operable cases in which he both operated and used radium, there are 203 cases left; in 57 of these 203 cases the patients are clinically cured. Of the 57 clinical cures, 1 has lasted for six years, 3 for more than four years; 4 for more than three years; 5 for more than two years; 24 for more than one year; 15 for more than six months.

From this experience, Kelly formulates the following rules: 1. Operate on every operable case, estimated as a good risk, as heretofore.

2. Radiate from four to six weeks after the operation.
3. Do not operate on borderline cases, but use radium first, for the disease practically always returns after operation in these cases, while many are curable with radium.

4. Radiate all the advanced inoperable cases, for many of these too are curable, or can be shrunken so as to become good risks.

5. Where there are metastases up into the abdomen radiation may give great relief and a temporary return to apparent good health, but it will not cure.

Concerning the treatment of Cancer of the Tongue and Mouth, Dr. J. S. Horsley, in an article on this subject in the *Virginia Medical Journal*, 1916, xx, 500, states that there are two possible treatments of cancer. The ideal procedure would be the injection of a serum whose action would inhibit the growth of the neoplastic cells, or of a vaccine which would produce in the system antibodies imical to such growth, or of a chemical which would destroy and inhibit by its presence in the blood and tissues. But experiments on lower animals which react to cancer as man does have developed no process of inhibition, immunization, or destruction by means that are of clinical value. The knife and the cautery are the chief, if not the only, treatment that offers hope.

The extent of the excision, beyond that necessary to the enucleation of the growth, must depend upon the anatomy of the region involved. The operator will govern himself by the value of the system's economy of the organ or tissue involved, the nearness or remoteness of vital structures, the presumable ability to circumscribe, or tendency to permit of, metastasis of the tissue in which the growth is found.

It is a general principle that cancer of the tongue and mouth should be excised in one mass wherever possible. The mucous membrane here is thin, offering little resistance to the cancer's inroads; the blood and lymphatic supply is rich. Hence, types of cancer that might remain stationary for years on the skin of the face pursue in this location a rapid and fatal course.

The author states that in the past four years he has operated upon 8 cases of squamous-celled cancer involving the tongue or mucous membrane of the mouth. All were advanced cases. The patients were white, 7 male, 1 female. Either pronounced involvement of the cervical glands or marked recurrence after previous operation or incision was noted in 7 cases, and 3 showed both. The ages varied from 46 to 81 years.

The operations were done under general anaesthesia induced: either by inhalation or per rectum, and under local anaesthesia, cocaine, or novocaine. The advantages of rectal administration are obvious. It avoids the inconveniences of the mask, the danger of suffocation from aspirated blood, and the precautions necessary in the use of the cautery.

Excision of cancerous tissue en masse was done wherever possible. The cervical glands were removed in block dissection, clearing one or both submaxillary areas, or by the Crile operation beginning at the clavicle and dissecting up the sternomastoid muscle, internal jugular vein, and the neighboring tissues in one mass to the mastoid process. When possible, the primary growth was removed with the cautery, or the surface left after excision thoroughly cauterized. Where the large vessels of the neck forbade the use of the Paquelin cautery, the wounds were swabbed out with pure phenol followed by alcohol with the purpose of destroying loose cancer-cells. During the
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dissection the operated surface was also frequently flushed with salt solution to wash away these cells.

In two of the worst cases, the Percy cautery, which develops a low heat under electricity, was used. So far as the author knows, this is the first use of this method in cancer of the mouth. It was devised for and is chiefly used in uterine cancer.

The low heat makes a long application unnecessary, so that injury to surrounding healthy tissue may not occur, or the aspiration of hot air prove harmful. But where an external wound through which the cautery may be inserted exists, the author considers it admirable, superior even to a block dissection. Such conditions would be found in late recurrent cases or after extensive incision.

The cauterization should be continued at least thirty minutes. If the tissues are hard from old scar tissue, the Percy cautery is applied ten minutes and involved tissue is excised. A reapplication is then made, thus gaining penetration.

Of the author's 8 patients, 4 are dead: two of recurrences of the cancer, one of a pulmonary lesion undetermined, one of other causes than cancer but with a small recurrence present at time of death. Four are living, 1 with a recurrence and 3 without recurrence at periods varying from thirteen months to three years and eleven months.

The author holds that this series shows the disastrous results following the excision of a piece for microscopic section when the operation is deferred until later. Such examination should be by frozen section after the patient is prepared for operation, and the operation should be done at once should the microscopic findings indicate it. Any incision tends to spread the cancer markedly and rapidly. The region of the neck should be cleared by a block dissection, removing the tissues in one mass.

Whenever a preliminary excision of tissue is done for the purpose of examination and is not followed by immediate and radical operation, or where through error in diagnosis or planning of the operation incomplete enucleation of the growth or connected tissues is made, operation of the cancer or its recurrence has a very poor prognosis.

Of his 3 patients now living and well, none had any preliminary incision. Of the remaining 5, four of whom are dead and one living with a recurrence present, a preliminary incision or an incomplete operation was done on each at least several days before the radical operation.

Public Health Education in China.

Dr. W. W. Peter, Shanghai

PEKING HEALTH CAMPAIGN.

The North-China Health Education Campaign as originally planned was to include the six most important cities. Plans for the campaign were laid as early as the fall of 1915, and the time decided upon was May and June in 1916.

Unfortunately at this time the country was in an unsettled state, and when the final exchange of letters and telegrams was made it was found that only two cities of the original six were in a position to conduct health meetings, namely, Peking and Tientsin. All the others for one reason or another were compelled to drop out. The monarchical movement was at that time assuming its most alarming
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aspect, and some of the provinces, as the most effective method of manifesting their disapproval, were withholding their usual remittances to Peking. On May 12th the Central Government was compelled to declare a moratorium, the unfortunate effects of which reached even to the health campaign.

In Peking there was organized a Public Health Campaign Committee under the auspices of the Ministry of the Interior, Mr. Chu (朱凱鈞) being the Minister of the Interior at that time. This Committee was composed of Mr. Kung Pa King (金紹城) who was elected Chairman of this Committee, and Dr. S. P. Chen of the Government Contagious Hospital was elected Secretary. Dr. H. Jocelyn Smyly of the Union Medical College and Mr. W. P. Mills of the Young Men's Christian Association were the other members of this Committee.

This Committee was told that the sum of $600 would in all probability cover the necessary expenses of the campaign in Peking. The Committee, however, decided to raise $800. By the time the campaign opened they had already secured $1,835 and by the time the campaign closed there was over $2,000 in hand. This in spite of the two facts that the Committee made no efforts to secure subscriptions after the $800 mark was reached and that the moratorium was still in force.

The Peking Committee declared that the objective for the health campaign was first of all extensive education of the public regarding the epidemics which had been raging in Peking the past winter. There had been an unusual amount of scarlet fever, diphtheria, and measles. A second objective was to crystallize public sentiment in some form of organization, perhaps a public health society.

The advertising was most effectively prepared. Among other things the Committee used seven large canvas street standards, 100 personal letters, fifty men with placards marching the street from Saturday preceding the campaign until the very last day of the campaign, 500 placards, 50,000 handbills were distributed, and there was a very hearty support on the part of the newspapers.

The opening meeting was a reception on Saturday, May 20th, in the Public Garden near the Temple of Earth in the Forbidden City where the daily meetings were to be held. This was a beautiful place, and tea was served under the great trees, and among the flowers before the meeting. The meeting was held in a nearby building and was opened by Mr. Chu, the Ex-Minister of the Interior. Sir John Jordan, Minister of Great Britain, and the American Minister, Paul S. Reinsch, made addresses. Due to the effort of the local committee in securing so many foreign and Chinese dignitaries the prestige of the campaign was assured.

The key to success in any health campaign is the local committee. I am convinced that Mr. Kung Pa King, Dr. S. P. Chen, and Dr. H. J. Smyly found time for little else during the week of the campaign. One or the other and sometimes all of these men were on the job from early morning till late at night. They were all the more busy because Mr. W. P. Mills, the fourth member of the Committee, was one of those stricken in the epidemic.

TIENTSIN HEALTH CAMPAIGN.

The campaign in Tientsin was under the management of the Young Men's Christian Association. Dr. Chuan Shi Po, a member of the Board of Directors and the President of the Army Medical College
was Chairman, and Dr. C. A. Siler, Physical Director of the Tientsin Y. M. C. A. was secretary. Mr. R. M. Hersey, General Secretary, John W. Nipps, A. G. Robinson, R. S. Hall, and the staff of the Chinese secretaries, devoted themselves whole-heartedly during the week of the campaign to make it a success.

The opening meeting was a gathering of seven newspaper men at a dinner at the Y. M. C. A. on May 29th. The object the Health Campaign Committee had in mind in calling these men together was to get their co-operation in advertising the campaign and to afford an opportunity for discussing the question of public health. Un fortunately that very afternoon some rather prominent men had been taken and executed by the authorities. At one end of the dinner table, at least, this event took precedence over the question of public health.

The meetings were held at the Anhwei Guild Hall immediately west of the Governor's yamen. A reception was held there on Wednesday afternoon, May 31st, and the campaign was opened the next morning. An important contribution to the effectiveness of the public health lectures was the work of Dr. Chuan who delivered a number of addresses himself.

In both Peking and Tientsin the plan of campaign was something as follows. The central meeting place for the large crowds was open from morning till night. It was so arranged that those who came had to see the exhibit first. This exhibit now occupies 680 linear feet of wall space, doors and windows excluded. The exhibit is divided into thirty sections, and each section has an instructor whose duty it is to explain his section to the people as they pass by. In Peking this work was under the direction of Dr. Smyly supported by the students of Union Medical College. The students were divided into teams, and a schedule was made out so that every meeting was fully provided for. In Tientsin this very important work was under the direction of Mr. Nipps who tried out for the first time in any campaign the scheme of having different explainers or instructors for each meeting. When all of these instructors were talking at the same time in a large room with the people also talking and asking questions, it resembled a great discussion club, or an immense Sunday school, or perhaps a political convention.

Following an hour or an hour and a half spent in studying the exhibit, the people were allowed to find places in a large auditorium, and here there was given either by your secretary or by Mr. C. H. Han (韓鏡湖), whom I brought with me from Shanghai, a lecture on the subject "The Relation between National Health and National Strength." This lecture of an hour or an hour and a half in length was demonstrated by many pieces of apparatus.

This program of seeing the exhibit and hearing the lecture was repeated morning and afternoon. In the evening the central building where the exhibit and lectures were given was closed, but lantern slide lectures were given in different parts of the city. In Peking there were five districts and in Tientsin three districts where lantern slide lectures on various health subjects were given.

**Summary.**

On the whole, in spite of the many difficulties, the campaign in Peking and Tientsin may be said to have been most successful. A great deal of interest was aroused in the subject of health. Truth of this is found in the fact that after
the campaign was closed there was
a meeting of sixteen men, four of
whom were foreigners and the rest
Ministers and Vice-Ministers in the
Central Government. In a brief
address Dr. Paul Reinsch said that
five of the most powerful men in
China were in this little meeting to
consider this very important ques­
tion of national health in its relation
to national strength. These men
sat from 12.30 until 3.30 in the
afternoon at this most critical time
in the affairs of the country. No
further proof is needed of their re-
alization of the importance of this
question.

In all, the following meetings
took place:

I. Special meetings, dinners, etc.
Peking .................................... 7
Tientsin ................................... 3

II. Demonstrated Health Lectures
Peking ..................................... 13
Tientsin ................................... 20

III. Lantern Slide Lectures in the
Evening
Peking ..................................... 25
Tientsin ................................... 21

Total number of meetings for
Peking ..................................... 46
Tientsin ................................... 44

The attendance report as handed
in to me by these committees is as
follows:
Peking ..................................... 18,000
Tientsin ................................... 14,106

A total of .................................. 32,106

The travelling expenses of four
men and 4.7 ship tons of apparatus
from Shanghai, amounting to
$454.38, were paid by the Public
Health Campaign Committees of
Peking and Tientsin, in addition to
providing for all local expenses.

ANTI-TUBERCULOSIS CALENDAR.
In response to numerous requests
for a new edition (1917) of the
Anti-Tuberculosis Story Calendar,
with promises of large orders, we
regret to state that owing to the
greatly increased cost of all print-
ing material, and to the insufficiency
of the funds of the Association, a
new edition at the present time
cannot be printed.

A GOOD EXAMPLE.
The following is an extract from
a letter to the Secretary-Treasurer
of the Joint Council on Public
Health Education:

"In order to encourage others
to do the same, enclosed please
find a cheque for $100 as my con­
tribution to the Joint Council on
Public Health Education. I sin­
cerely trust you will be able to get
more people interested in this
work."

(Signed) Wu LIEN TENG,
President, National Medical Association.

MEETING IN CONNECTION WITH PUBLIC HEALTH CAMPAIGN, NORTH CHINA.

Back row from left to right:
Jung Hsun (秦健), Vice-Minister of the Interior.
Kungbaa T. King (王光謙), President, Public Health Campaign Committee.
R. R. Gailey, General Secretary, Y.M.C.A., Peking.
Dr. C. C. Wang (王基春), Ministry of Communications.
Dr. S. P. Chiu (張士柳), Hon. Sec. Public Health Campaign Committee.
H. E. Chow Tzu Chi (周自齊), Minister of Finance.

Front Row:
Dr. H. J. Smyly, Hon. Treasurer, Public Health Campaign Committee.
H. E. Liang Shih Yi (梁士诒), Director of Customs.
Shen Ming Chang (沈銘昌), Vice-Minister of the Interior.
Dr. W. W. Peter, Secretary, Joint Council on Public Health Education, and
National Committee Y. M. C. A. of China.
Dr. Paul Reinsch, U. S. Minister to China.
H. E. Wang I T.ang (王權), Minister of the Interior.
H. E. Chu Chi Chiu (徐必修), Ex-Minister of the Interior.
Chiang Yung (江庸), Vice-Minister of Justice.
Japanese Medical Literature.

A Review of Current Periodicals by the Staff of the Research Department, Severance Union Medical College, Seoul, Korea.

RALPH G. MILLS, M.D., Director.

Saikin Gaku Zasshi

The serum of a patient with Relapsing Fever has a protective action against infection but cannot stop it when once begun. The serum has a distinct fixing power upon the causal organism, but when the patient's serum was mixed with a culture of the organism and incubated as long as a week, it still retained its infectivity. The power of agglutination was lost after having been passed through the bodies of ten rats, and in the bodies of infected lice it was retarded after four weeks and entirely lost after seven. The rat can be immunized either by the use of the patient's serum or by cultures, and this immune serum remained active for at least 100 days. The organisms producing the attack and the relapses are uniformly capable of agglutination.

(68) PROTEUS BACILLUS, found in case of Septicemia, pp. 603-610. H. Nakagawa.

(69) TUBERCLE BACILLUS, Isolation from Sputum, and Culture on special Medium, pp. 653-654. O. Minasaki.
One cc. of sputum known to contain tubercle bacilli was treated with 2% sodium hydrate and stirred until solution had taken place. The alkali was completely neutralized with 5% HCl using phenolphthalein as indicator. The centrifuged sediment was cultivated on a medium composed of "Hyden's" nutrient, 5 gms., salt, 5 gms., peptone, 10 gms., glycerine, 40 gms., Agar agar, 15 gms., crystal violet 0.01 gm., water 950 cc. Visible growth was reported after one week, but well developed, whitish, opaque dull colonies were present in 2-3 weeks.

Animal inoculation into guinea pigs, dogs, rats and monkeys was done without success and then finally the blood from a fever patient was injected into man. The blood was found to be infectious when removed on the 1st to the 7th day after the paroxysm. As small a dose as 0.05 cc. was capable of transmitting the infection and still retained this power after being kept in the incubator as long as 6 hours. Mosquitoes were allowed to bite the patients and then the salivary and digestive tracts of the mosquitoes were dissected out and used for injection, but with negative results. Filtration was negative in most cases. This article is an advance notice of the report of an investigating committee of the Governor General of Formosa, not yet published.

(71) SPIROCHAETA Icterohemorrhagiae, Preventive Serum, pp. 665. R. Inada, Ito, Hogie, Ido, Oagika.
Milk or other liquid media containing spirochaetes to the extent of about 10 organisms to the field, was treated with carbolic acid to make 0.5% solution and the supernatant liquid after centrifugation was injected into marmots. For
injection into man the amount was 30 times as great, and doses of 0.5, 1.0 and 2.0 cc. were injected within 5 days. The serum thus produced after 10 days has a weak immunizing action, and is identical with that produced by the injection of the marmot serum removed after 8 or 9 days. It was therefore believed that the latter could be used as a preventive and that no reaction would follow. Marmots were immunized with a mixture of highly immune horse serum 0.01 cc. and milk culture (10 organisms to the field) 1.0 cc. and the resulting serum used for treatment at intervals of 5-6 hours until a total of 60 cc. had been injected. In the first 35 cases of serum treatment the blood of convalescent patients was the source, and it was found to be very effective in sterilizing the blood early in the disease. The result of this newer serum treatment was equally promising in that the organisms disappeared quickly from the blood, those in the urine changed their shape, the mortality rate was decreased, immunity was quickly produced, and no untoward results were noted. This article is evidently a summary of work reported elsewhere in full.

Ji Kwa Zasshi


(72) Stomach, Physiological Function of in Babies, pp. 9-21, D. Hayashi.
The author examined the stomachs of a series of healthy Japanese babies with the following results. Total acidity, 38-80 cc. of N/10 NaOH, average, 59 cc. or 0.211%. This figure is greater than in the healthy adult. Free acid was 20-50, with an average of 35 or 0.1241%. As to sex the average total acidity was 62.6 cc. or 0.2263%, and free acid 36.6 cc. or 0.1995% for males; the corresponding averages for females were 51.2 cc. or 0.1898% and 29.2 cc. or 0.1695%. No lactic acid was present.

The resistance against hemolysis was tested by placing small amounts of blood in tubes of sterile salt solution of varying strengths. Three hours in the incubator with occasional shaking, and then 16-18 in the ice box was the after treatment and the weakest solution tolerated without hemolysis was considered the index of resistance. During the first two weeks of life the average strength of solution resisted was 0.525% up till one month of age. The average was 0.483% and then up to 15 years old it was 0.472%. The corpuscles of boys were more resistant up to the age of 9 years, but after that the corpuscles of girls were more resistant.

(74) Mumps, Blood findings in a series of cases, p. 29, S. Shima.

In a series of 208 examinations sugar was found present as 7.26%, and fat as 3.99% in healthy women, and in 40 cases of beri-beri in the children the milk of the mother contained 7.07% sugar and 2.7% fat.

(76) Diphtheria, An unusual form of Pseudo-diphtheria, p. 31, Sugita.
The author isolated from the throat of a pharyngitis patient a bacillus with the morphology of the diphtheria bacillus, and the cultural characteristics of the pseudo type except on potato and ascitic fluid plus sugar and litmus. It was nontoxic for guinea pigs, was highly specific in its agglutination with the serum prepared by injection into rabbits, and was not affected by the stock diphtheria sera.
(77) Cerebrospinal Fluid, Sugar content under different disease conditions. p. 36. N. Saito.


(79) Rat bite Disease, p. 67. D. Koshira.

From clinical and animal experimentation the author finds the Wassermann reaction usually present and the ulceration curable by neosalvarsan. The cause was found to be a spirochete to which the rabbit is especially susceptible, and which gradually loses its virulence by frequent passage through animals.

Tokyo Igak Kwai Zasshi
April 20, 1916.


Young guinea pigs were deprived of mother's milk for certain lengths of time on successive days, keeping other young of the same litter as controls, to determine the effect of chronic undernourishment upon the body in general and the process of ossification in particular. The body weight was definitely affected and the growth of the length of the legs retarded as shown in two photographs. Under X-ray examination the bones of all the animals experimented on cast a dimmer shadow and the cortex was everywhere reduced to a thin outline. The articular cartilages were surprisingly small, but no fractures or distortions were observed. The long bones were definitely shorter and more delicate than in the controls. As compared with the changes in other organs the osseous changes appeared relatively early, even though the animal was still quite lively. The interference with growth depended entirely upon the duration and intensity of the undernourishment and affected other organs to a certain extent. The atrophic appearance was most noticeable in the muscle and fatty tissues, distinct in the liver, spleen, and heart, and slight in the kidneys. The atrophy of the bones was caused by interference with the normal process of deposition of lime salts, which in turn depended on a diminution in the osteoblasts. The general structure of the bone remained normal, so that the findings indicated a deviation from the normal type rather than the introduction of any distinct pathological entity. In those places where the process of ossification is the slowest, i.e., the distal end of the humerus and the proximal end of the tibia, the disturbed ossification was the most noticeable. Everywhere the epiphyseal cartilages showed a definite atrophy. The cartilaginous ground substance was considerably reduced and the cartilage cells were small with darkly colored nuclei. The epiphyseal centers developed as a frail and delicate spongiosa with few or no osteoblasts, and sometimes were reduced to mere traces. The vascular development in the cartilage was only suggestive, while the calcification of it was well advanced. Bone formation in the calcification zone was often absent over a wide strip and the medullary cavity contained a clear cell-poor marrow. The intermediate cartilage was definitely narrowed and was wavy in outline. The osteogenetic zone had the typical columnar arrangement but was always thin and sometimes merely suggestive. The normal activity of osteoclasts with deficient deposition of salts, and the constructive activity of the osteoblasts, resulted in the more or less complete destruction of the primary spongiosa, and occasionally brought the smooth margin of the primary calcification zone into direct contact with the marrow. The secondary spongiosa in the diaphyses was likewise deficient because of the lack of osteoblastic action. Periosteal ossification was delayed and on the endosteal side areas of resorption were observed. The marrow was unusually clear, had lost its lymphoid character and was very poor in cells. The supporting tissue...
was composed of scattered star or spindle shaped cells with very fine projections into an abundant perfectly clear ground substance (hanger-marrow). Characteristic marrow elements were present only in the subependymal areas. Blood and lymph spaces were enormously dilated, the former sometimes showing a cystic dilatation.


The fact that the microfilaria reside chiefly in the lungs during the daytime was correlated by the authors with the fact that the lungs are the seat of the gaseous exchange of the oxygen and carbon dioxide for the body. The question arose as to whether this was a condition of chemotaxis in which one or the other of these gases was preferred and if so which one. They therefore devised certain corked test tubes with small inlet and outlet tubes constricted in the middle for the purpose of sealing readily in the flame. A small pipette entered a third hole, through which was introduced a small amount of blood from a filaria patient. Atmospheres of pure oxygen and carbon dioxide were then made to surround the blood samples, and one with air was kept as control. The filaria in the tube of oxygen ceased motion in 80 hours, while those in the carbon dioxide did not become quiescent for 180 hours. The authors wish merely to record this observation and are now engaged in determining whether this coincides with the condition of the peripheral blood during the night, and whether this a priori reasoning will prove correct.


The results of the experiments the author reports are summarized as follows:—

(1) Santonin acts upon the motion of the pigment in the retina but not upon the regeneration of the visual purple.

(2) Electrical stimulation to the back of a dark frog produces a response in the retina, while that on the eye results in a retraction of the pigment. These new findings as to the two different ways in which the retina is affected are sufficient in the author's mind to correlate the various opinions on the subject.
(2) Eserin and atropin which affect the size of the pupil during life are commonly supposed to have no effect after death, but the author found that the latter still exerted some *post-mortem* effect.

(3) As to the effect of temperature on the pupils, in warm-blooded animals the pupils are dilated by cold and contracted by heat, this phenomenon depending to a certain extent upon age.

(4) The action of eserin and atropin upon the eye of the frog has been the subject of much controversy. The author finds that atropin dilates the pupil, while eserin, apparently, has no effect.


These authors report good results from their practice which they are certain are not the result of chance or the general therapeutic measures employed, but must be ascribed to this remedy. They emphasize the importance of a properly regulated dose, and state that the progressive decrease of the untoward symptoms commonly reported at first is due to the smaller size and better regulation of the dosage.


For the preparation of preventive inoculations the virus has been used in three forms, dried, heated, and diluted. The first is the most used in Japan to-day, but the author has worked out a method involving the use of the last. A strong emulsion is made of the brain and spinal cord of an infected rabbit, diluted with 0.5% carbolic acid glycerine, and kept in the ice box. This has been found to retain its activity for more than a month under these conditions. For use a 1/20 emulsion is made up with the same solution and injected in doses of 20 cc. once a day for 10-15 times. Used in dogs this prevented the disease in 10 out of 12 animals, and of 649 persons bitten by mad dogs it was found of no avail in only 0.15%.


Routine examinations of the milk of women nursing sick and healthy children, with the exception of those suffering from pleuritic effusion and beri-beri, were quite uniform and gave average results as follows: Ninety-one cases: Fat, 3.99 per cent; Sugar, 7.257 per cent.

Milk from the mothers of dyspepsia patients. Seventy-seven cases: Fat, 3.75 per cent; Sugar, 7.052 per cent.

Milk from the mothers of patients with "hydrops asthmaticus." Forty cases: Fat, 2.7 per cent; Sugar, 7.067 per cent.

In the above-mentioned series there was no noticeable difference from each other or from the normal, in the gradual change in the proportions as lactation proceeded. The seasonal change in the first series indicated a greater proportion of both fat and sugar during the summer months but in the second and third the fat was more and the sugar less in the winter. These results are not different from those found in the milk of American women previously examined by various investigators.


Saviol, invented and manufactured by Dr. Nagahara, has been tested by these clinicians and found to be practically the same as salvarsan.
Japanese Medical Literature.

Tai Wan Igaku Kai Zasshi
(Journal of the Formosa Medical Society) Nos. 150 and 151.
May 28, 1916.

Cases are much more numerous in northern Formosa than in the southern part, this being evident even by a casual observation of the spatum on the streets. The Chinese and native Formosans are more heavily infected than the Japanese, the comparative exemption of the Japanese being supposed to be due to their more hygienic mode of life. Vegetables, uncooked fish, and unboiled water enter largely into the diet of the former, and it is alleged that they eat shell-fish in the raw condition though they deny this and insist that the shell-fish are always soaked in salt water for a time. The time of year when the first attack occurred was not confined to any one season but evenly distributed. More than 11 per cent of the patients were opium-smokers but the habit is more likely a direct result than a cause.


Hifu Kwa Hitsu Nyo Kwa Zasshi
June, 1916.

In the pathogenesis of this condition the mild chronic inflammation of the skin over the part seems to be the important factor. This may have been induced by a hypersecretion of sweat, and the dilatation of the vessels induced made permanent by perivascular round-celled infiltration and connective tissue proliferation in the vessel walls. Blood pressure increase, especially when associated with circulatory disturbances as varicocele or cardiac lesions, induces the cavernous formation which in turn thins the walls still more. The vessels in the lower portion have more or less localized thickenings in their walls but peripherally the walls are reduced to the intima alone. The author could see no grounds for considering any of these cases tuberculous in origin. His classification is:

1. Angiokeratoma Mibelli. This includes the classical type which usually occurs on the hands and feet and is closely related to pernio or other local asphyxia.

2. Angiokeratoma scroti. This form is differentiated because of its localization and its cause as outlined above. It is not rare if it is held to include the punctiform vessel dilatations.

3. Angiokeratoma due to chemical or physical irritation. Simple physical and chemical irritation causing a wide dilatation of the vessels of the corium may be a local (e.g., hand, foot, or scrotum), or a general determining factor, as under these conditions, every permanent dilatation of the vessels (as nævus angiomatus, angioma senilis, etc.) may form an angiokeratoma.

This well-known work in its latest edition, the fifth, has been thoroughly revised and in part rewritten. In order to increase its usefulness and to keep thoroughly abreast with recent developments in physiological chemistry, there are several new chapters on Nucleic Acids and Nucleo-proteins, Gastric Analysis, Intestinal Digestion, Blood Analysis, and Metabolism. The latest and best methods of quantitative analysis are given. There is a description of the nephelometer, an instrument for measuring the density of precipitates and thus determining the amount of any substance which can be obtained in the form of a suitable suspension, such as proteins in digestion mixtures, fats in milk, acetone bodies in urine and blood, etc. Bürker's Hemocytometer is also described fully, as the author considers this instrument gives a more accurate counting of the erythrocytes than is possible by the Thoma-Zeiss apparatus. The "fractional method" of gastric analysis, i.e., the analysis of samples of a test meal withdrawn from the stomach at short intervals for a period of two hours or more until the stomach is empty, is held to be far better than the old method of removing the entire contents of the stomach at the end of one hour after the ingestion of the last meal, as by the former method the observer is able to follow the entire cycle of gastric digestion. No doubt this criticism is correct from the chemical point of view, but patients are not always so manageable as test tubes, and not a few would probably object to this frequent procedure. Thirty-five illustrations elucidating the text have been incorporated.

The book is well adapted for the teaching of physiological chemistry in our medical schools, and practitioners will find it helpful in reviewing their knowledge of the physiological processes which underlie the scientific treatment of disease.

Hospital Laboratory Methods for Students, Technicians, and Clinicians. By Frank A. McJunkin, A.M., M.D., Professor of Pathology, Marquette University School of Medicine, Milwaukee, Wisc. With one coloured plate and 93 illustrations in text. Price, G. $1.25 net. Publishers: P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia.

This is a small but capital book for the hospital laboratory worker who wishes to learn the most reliable and up-to-date methods for the
pathological examination of the blood, sputum, gastric contents, urine, faeces, and the preparation and examination of bacteriological and surgical specimens. There are also directions for the performance of autopsies. The charts and illustrations are good. The book contains many practical hints not always found even in much larger works. It is well worth its moderate price.


The new edition of this admirable surgical Manual fully maintains its reputation as an up-to-date, first-class "Consultant" for surgeons. In one strongly bound volume of over 1300 pages of letter press, well printed, fully illustrated and indexed, the author in concise practical description covers all the complex and difficult fields in which the surgeon is called upon to work. His method of describing the various steps of an operation in distinct and successive steps is clear and most helpful.* Collating his methods and details of procedure from such authorities as Mayo, Curling, Jacobsen, Treves, Köcher, König and others, and from much current literature, both European and American, he well accomplishes the task he sets himself to do.

Quoting from his own preface, he says:—"Great care has been taken to avoid the perspective of a text-book where emphasis must be placed on the common, rather than on the unusual, operations of surgery. The constant endeavour has been to give aid to the surgeon when he is in trouble, hence much greater space has been devoted to some rather rare operations than to many of far greater everyday importance, but which ought to be familiar to everyone." However good the author's intentions, being but human, he falls into the temptation here and there of writing for the text-book rather than for the operating manual. Take for instance the chapters on the Wounds of Joints. Excellent and clear as they are, much of the matter should nevertheless be found in a surgical text-book rather than in an Operation Manual.

Running all through the book the difficult but most useful subjects of plastic surgery, transplanting of tendons, nerve rupture, bone transplanting, etc., are dealt with at length and most helpfully. Eleven pages are devoted to the very important subject of infective lesions of the hand. The treatment of this condition is discussed from its anatomical and surgical standpoint with a precision and thoroughness which its importance, frequent occurrence, and difficulty well merit.
The chapters on Cardiac Surgery, Retroperitoneal Neoplasms, Hypophysectomy and other abstruse procedures bear out the author's statement that he has attempted to "widen and lighten the path" through or over many existing surgical difficulties.

As is meet and right in these bellicose times, War Surgery receives full consideration under various headings such as: (1) Surgery of the Dressing Stations on the Fighting Lines; (2) The Surgery of Transport; (3) Surgery of the First Line Base Hospital, etc.

As consultant and guide everyone who has the work at hand will find it comprehensive, clear and complete, just what is needed.


In this work the diseases of digestion are fully and clearly described. The first part, dealing with the subject generally, gives the anatomy and physiology of the digestive system, and discusses the examinations, physical, chemical, etc., necessary for the proper elucidation of disease. This is particularly valuable as the author is an expert in physiological chemistry. Then follow chapters on dietetics and treatment. In the second half of the volume the various gastrointestinal disorders and diseases receive detailed consideration in due order.

The author is quite conservative, yet he is by no means bound by every current conception of disease. Intestinal stasis, for instance, he regards as being altogether too common to indicate a true pathologic condition. Contrary to those who assert so positively that every discomfort in the right iliac fossa is due to appendicitis and nothing else, he maintains that there is, and always has been, a typical perityphlitis and paratyphlitis by peritoneal invasion in which the appendix may not be disturbed in any way and remain perfectly healthy. As to appendicitis, while the physician is to be on the alert to call on the surgeon whenever a simple appendicitis becomes destructive, the author does not regard the average surgeon, whose "antipathy for an appendix can be likened only to that of a bull for a red article," as being always the safest adviser as to the necessity of operation, and holds that when the rise of temperature is slight, the pulse under 100, and "moderate spasms continue longer than forty-eight hours with no accession, he may proceed confidently to treat the patient medicinally with no great fear of the outcome."
Although at one time a professor in the University of Texas the author has little to say of the gastro-intestinal diseases of tropical and sub-tropical climates. Sprue is not even mentioned. Now that the U.S. has colonial possessions such as the Philippines, Hawaiian Islands, etc., more attention might well be given by American authors to the diseases of warm climates.

The book is pleasantly written and is therefore easy reading. Here and there are a few literary slips. The quotation: "Of the making of [many] books there is no end" is not from Milton but from the Bible. (Ecclesiastes, ch. xii, v 12.) The illustrations, ordinary and colored, are all most helpful. The book can be confidently recommended as a clear and reliable guide in the diagnosis and treatment of the disorders of digestion.


To the practitioner in China whose dispensary is always crowded with patients suffering from skin diseases of many varieties and in all stages, the publication of a new book on dermatology is a matter of considerable interest. The volume under review covers the entire subject comprehensively yet concisely, the symptomatology, diagnosis and treatment being presented as clearly as possible, and in the manner which the author has found most effective in his college and university work. The classification adopted is that of Crocker, which is considered to be the most satisfactory in the present state of our knowledge.

The more familiar diseases such as syphilis, leprosy, eczema, psoriasis, tuberculous affections of the skin, the tuberculides, etc., are fully described, and brief but sufficient mention is also made of many rare diseases. Even acarophobia, the peculiar mental disorder characterised by an abnormal fear of being infected with parasites, comes within the range of the book. This is certainly a rare affection in China. Tropical skin diseases on the whole are adequately dealt with, particularly the common parasitic diseases, but there are omissions. Anthrax maligna is such a grave disease as ordinarily treated—the author disposes of the treatment in three lines—that it might be well to mention such a simple but apparently efficacious remedy as pulv. ipecac applied externally. (See the China Medical Journal, 1915, p.178.) To avoid the accidental eruptions of vaccination the suggestion is made that the vaccinal bleb should be allowed to mature, then incised and drained, and the entire area painted over with tincture
of iodine to be followed by the application of a sterile gauze pack. This is said to give excellent results.

The illustrations number no less than 693 and are very good. The eight colored plates, consisting of three on foot-and-mouth disease in man, and one each on angiokeratoma of scrotum, nævus linearis, hemorrhagic sarcoma of Kaposi, lupus erythematosus and ulcerating granuloma of the pudenda, are perfect. The whole work is thoroughly up-to-date and can be recommended as a trustworthy and helpful guide in the diagnosis and treatment of skin diseases.


When a book has gone through six editions in a few years, as Thorington's "Refraction and How to Refract" has done, not much is required by way of recommendation of the present work, which is a new edition brought up to date and with much additional matter. With the work is incorporated the author's other writings on "Prisms and Retinoscopy," the latter of which has passed through six editions; the whole makes a complete handbook of no little value.

Among the entirely new matter introduced is Chapter xxi (not Chapter xx as wrongly printed in the Preface) upon the method of Retinoscopy without a Cycloplegic. Another interesting piece of special work done by the author, the results of which are here recorded for the benefit of other workers, is that the visual acuity under certain definite conditions is an index of the strength of the necessary spherical lens (plus or minus) required to give a perfect vision of Vi/Vi or more.

The chapters on Retinoscopy are specially clear, and beyond question show the "Shadow" test to be the method par excellence for accurate work. The use of the plane mirror, one of small diameter with a 2 mm. sight-hole, is preferred by the author, and has largely superseded the concave mirror of earlier days, as being simpler to use and under certain conditions of the source of the light used, easier to work.

In the earlier chapters the principles which underlie Retinoscopy such as the understanding of conjugate foci, the reflections from mirrors and the images formed by them, are fully explained and gradually lead the student up to the practical application of those principles. In the end of the book is a chapter upon spectacles and
eye-glass frames, how to measure for them and how they should be fitted.

We do not hesitate to recommend the book to anyone interested, or wishing to become interested, in eye refraction. It is well printed on good paper, full of illustrations and of a convenient size for handling, containing some 400 pages. We have detected only two or three printer's errors which are of no consequence.

MEDICAL CLINICS OF CHICAGO, Vol. 1. Pts. 2, 3, and 4; 35s. net per annum paper; 50s. net cloth. W. B. Saunders Company.

The format and printing of these books greatly conduce to the pleasure of reading them; the type is of the respectable size one expects in a book, and not the miserably small characters one gets in the weekly medical journals; the size of the page is convenient for reading when travelling, while the glazed paper which reflects the light so strongly is only used when it is required to do justice to the numerous plates, otherwise a rough-faced, non-reflecting paper is used.

Some of the clinical papers are full of information—such as the one by Dr. Tivnen on "Various Ocular Manifestations," but the majority of them are very light and easy reading. Where there is so much interesting material it is difficult to know which articles to select for special commendation, but one may be allowed the criticism that in some of the reports too much space is given to remarks made by visitors, etc., which contain nothing of value.

There is little that is absolutely new in these clinics but there is much that one was forgetting and certainly would soon have entirely forgotten if one had not this pleasant opportunity of refreshing one's memory.

Two facts may be emphasized. First, the information is certainly up-to-date. No addendum is required for Weaver's lecture on the Schick phenomenon, or Hamburger's on auricular fibrillation and pulse irregularities. They are the last word. Second, the treatment or the technic to be carried out is described with adequate and, if necessary, well-illustrated detail; e.g., Williamson on the Treatment of Typhoid, Tice on Lumbar Puncture, and Hamill on Injection of the Gasserian Ganglion.

While many a busy man may often be compelled to neglect the standard works on his shelves, even the busiest can find time for these companionable little volumes, and the best informed will not fail to learn something from them.

By "sex complex" is meant the correlation of all the internal secretions with the reproductive functions. The physiological connection between the genital organs and some of the distant endocritic or ductless glands, e.g., the thymus gland, has long been known, but it is the author's aim to prove the existence of a definite genital system in which all the internal secretions influence, and are influenced by, the reproductive functions. He confines himself mainly, however, to the consideration of this sex complex in the female sex, and he claims that femininity itself—not only the finer physical qualities which distinguish woman from man, but all the other qualities mental and otherwise that we admire and reverence in the good woman and all that we dislike and pity in those not so good—is dependent on the internal secretions. As he sententiously expresses it: Propter secre-tiones internas totas mtdier est quod est. This is rather difficult to accept, but the author goes far to prove his theory.

After a statement of primary and secondary sex characteristics, the functions of the various endocritic glands are considered, also the influence of their secretions one upon the other, upon the genital system, and upon the body metabolism generally. Pathological conditions are next reviewed, including derangements in the course of sexual development, derangement of fully established female characteristics and functions, the sexual psychoses and neuroses, and the endeavor is made to weld the whole into a consistent system.

Whether this system will be able to withstand all critical assaults remains to be seen. For instance, the secretion of the pineal gland is said to be related to sexual and somatic precocity. Yet according to a recent report, based upon sound experimental evidence (Dandy, Journ. Expér. Med., 1915 xxii, p. 237), removal of the pineal gland produces no somatic, sexual or mental effect in the direction of either inferiority or superiority, and it is held that the gland is not essential to life and seems to have no effect upon the well-being of animals. Then some of the speculations of the author seem to be somewhat far-fetched, as when it is stated that the rejection of maternal functions by modern woman may be Nature's plan for securing the disappearance of man to ensure further evolution. The whole work, however, is very instructive and suggestive; much light is thrown upon the physiology and pathology of the reproductive system; and here and there are valuable therapeutic hints.
Correspondence.

Correspondents are requested to write on one side of the paper only, and always to send their real names and addresses. The Journal does not hold itself responsible for the opinions or assertions of correspondents; nor can it undertake to return unused MSS.

Who Will Offer Their Services?

To the Editor, C. M. J.,

DEAR SIR,—One sees queries occasionally on diagnostic and other difficulties, and scarce ever an answer! Why not ask a number of our leaders to stand by to answer such queries, each on a specific subject according to his specialty; then send such enquiries direct on receipt, and publish the answer with the enquiry? The thing ought to be most instructive and might become a real feature of the paper. Even if the answers were non-committal, it might suggest things.

Yours truly,

G. H.

* The suggestion is a very good one, and the editor will be glad to do all in his power to further the scheme.—Ed.

 Conjunctival Swelling: Diagnosis Wanted.

To the Editor, C. M. J.,

DEAR SIR,—Can you assist me in the diagnosis and treatment of the following condition? One has met it several times and can get no clue to it in the books. In each case the patient is a young man, otherwise healthy, but with a compressed tumour condition of the conjunctiva, springing apparently from both fornices throughout their entire length, and growing to a size about as big as the lids themselves, so that they hang down, or project up over the entire sclerotic area of the eye, and even so far as almost to obscure the cornea. They are often multiple. The thickness is somewhat less than the thickness of the lid, so that the eye at first sight looks like the heavy lids of a very bad trachoma. The epithelial covering seems to be nearly normal, so that there is very little discharge or discomfort, but the colour is the red of granulation tissue. There seems no tendency to cure. Excision ought to be quite practicable, but the control of haemorrhage seems likely to be a problem. Besides, there seems no reason to suppose that the condition would not recur. The condition is unilateral. In one case the condition started definitely about five months ago from the seat of a wound by a bamboo spike, piercing the lower lid and orbit and wounding the globe. In this case there is certainly a residual infection still hanging about; the plates of overgrowth in this case are more tag-like and irregular than usual.

Very sincerely yours,

Geo. HADDEN.

University Education in China.

To the Editor, C. M. J.,

DEAR SIR,—My attention has been drawn to your criticism, July, 1916, of a recent article from my pen published in the Educational Directory of China, 1916. I am exceedingly sorry that my endeavour to stimulate the ambitions of other institutions has been interpreted as "not an impartial review" about the state of affairs out here. But I will attempt to reply to the questions, disarming your reviewer by quoting his own phrase that I wish to "say a few words more which I (we) hope will be taken in good part."

I agree with him entirely about the development of character, and am delighted to think that missionary societies manage certain hostels of the University of Hongkong. But since the days of Confucius the Chinese have studied these things about "Duties as a citizen of the State" and other matters; it is not a new effort by us English to point out great moral truths to the children of Cathay.

What they do not seem to have been taught are the virtues of mercy, healing and self-sacrifice, and therefore medical colleges supply something practical for such purposes.

I am a most enthusiastic supporter of the Arts Faculty of the Hongkong University. It is quite healthy in its growth, and has about the same number of students as the Faculty of Medicine. If it can help to produce a clean civil service for China, it will be a worthy off-spring of the great training school of British civil servants, the University of Oxford.
The scheme of Lord William Cecil failed, as, in my humble opinion, it deserved to fail. It was not practical politics. In its most recently modified form it has been altered to conform with the ideas of the promoters of the University of Hongkong. If only Lord William Cecil had thrown his energy and influence into the Hongkong scheme, it would have been able to make many improvements such as your reviewer hints are needed.

There was no idea of glorification, or of depreciatory criticism, in my original contribution. I stated the facts as I believed them. I will willingly amend the views I hold, if new facts can be produced.

In conclusion, I think that your reviewer ought to sign any reply that he cares to make to this letter. I don't like talking to shadows, and, being a busy man, I have a habit of getting knocked up by what the doctors call overwork, but which is a mixture of climate and poor constitution. I will, however, cheerfully devote any time likely to be usefully employed in improving university education in China.

Yours faithfully,

C. A. Middleton Smith.

* Although two or three points in Professor Middleton Smith's letter are debatable—such as the assumed adequacy of the Confucian system of ethics to meet the existing spiritual needs of China—a formal rejoinder is hardly necessary as he seems to agree with nearly all that was said in the review, and declares that his criticism of educational institutions in China other than Hongkong University was not for the purpose of making invidious comparisons but simply to stimulate their ambition. The explanation is cordially aff. It may not be amiss to add, however, for the benefit and information of all critics, that the ideals of missionaries engaged in educational work are quite as high, to say the least, as those of other educators. Further, they are aware of and deplore whatever shortcomings there may be, so it is not stimulation they need so much as practical help. As a matter of fact, in the present state of China all educational ideals are extremely difficult of attainment. Even the Rockefeller Foundation, with its almost boundless wealth, will encounter numerous and not easily surmountable difficulties in the work it proposes to undertake in China, and, allowing for the legitimate pride of Professor Smith in the institution to which he belongs, it is to be hoped that in its present state Hongkong University has not yet reached the ideal of its founders. Surely the wisest policy is for all to work together with reciprocal good-will, and co-operation if that be possible.

In reply to Professor Smith's question, it was the editor of this Journal who wrote the review.—Ed.

NEWS AND COMMENT.

BIRTH.

STUCKEY. On September 12, 1916, to Dr. and Mrs. E. J. Stuckey of the Union Medical College, Peking, a daughter (Margaret Agatha).

ARRIVAL.

A cablegram has been recently received from Dr. Philip Cousland stating that he is on his way back to China.

The total appropriations of the Rockefeller Foundation from January 1, 1916, to July 31, 1916, amount to $3,945,442.47. The appropriations made to the China Medical Board amounted to $198,985.78.

PHYSICIANS IN THE UNITED STATES.

—It is estimated that there are 150,000 physicians in the United States, or one physician to every 657 people.

A NATIONAL SCHOOL OF HYGIENE.—It has been announced from Baltimore that the Rockefeller Foundation purposes to establish in that city as an integral part of the Johns Hopkins University, a National School of Hygiene and Public Health. It is proposed to erect a building to cost about $200,000, with running expenses of about $75,000 annually. Dr. Welch, professor of pathology at Johns Hopkins, and Dr. Wm. H. Howell, professor of physiology, will undertake the work of organizing the school. It is planned to open the school in October, 1917. Educating the public by exhibits, lectures and other means, with a view to better appreciation and understanding of the importance of public and personal hygiene and in co-operative efforts for the training of public health nurses, are the objects for the establishment of the school.
Nanning, Kwangsi. Terrible Cholera Outbreak.—This summer the heat has been beyond anything we have experienced in this part of China. The heat, together with low water and lack of rain, caused a terrible outbreak of cholera. It was at this time that Mr. Point, the French Consul at Lungchow, died. The people were dying like flies here, and a state of terror prevailed. The coffin makers and quack druggists were having the time of their lives. The epidemic has now died down as quickly as it rose.—N. C. Daily News, October, 1916.

Medical Missionary Enterprise in Nanning. The English (Emmanuel?) Medical Mission has opened a store in the main street of the city (almost opposite the General Post Office) under the name of "The All-British Drug Depot," and put it in the charge of a Chinese. Here, besides medicines, such things as carbolic soap and condensed milk are sold.—lb.

Tsinanfu Medical School.—The Medical College session began in September, and 110 students are already enrolled; some 60 of them have come from the Union Medical College, Peking, according to previous arrangement. Other students are expected to come from Nanking and perhaps from Hankow, so that the total will possibly reach 150 men.

The teaching of English is now made a special branch of the curriculum and is under the control of the Rev. B. M. McOwan, of the Anglican Mission, T’aiianfu, assisted by Mr. Kwo, of the Auglo-Chinese College, Tientsin. A series of lectures on hygiene by Dr. Leslie, of the Canadian Presbyterian Mission in Honan, is also a new feature in the curriculum this term.

The buildings are not yet complete, but it is hoped they will be finished in about a couple of months. The main building, however, has been altered and rearranged, and the classes are going on there while dormitories and other necessary buildings are in readiness to accommodate the large number of new students now in residence.

Eurasian and other Mixed Races.—The words "hybrid" or "mongrel," terms of reproach as usually applied to the human race, relate commonly to the union of widely different peoples. But the question of "race or mongrel" can not be settled by a priori assertions as to the superiority of pure over mixed races. There is no general law that mongrels are sterile, inert, and non-resistant. It is to be determined by a study of the results. Experiments have no pertinency unless best is mated with best, and even then they might prove conducive only if many times repeated. And no result shown in individuals need be valid as a general law of crossing. It would apply only to the particular types in question. No important information could be expected from the study of the first generation. One would need to know the nature of the recessive characters involved as well as of the dominant ones. The final Mendelian disposition of mixed race characters must determine the final answer.—David Starr Jordan.

Shanghai Museum. Snakes, lizards, tortoises, frogs, and newts are wanted for the Museum. If you are willing to help, please keep a big wide-mouthed closely-covered bottle containing 75% alcohol (or strong samshu) for dropping such specimens into. Towards the end of the year place the specimens in a tobacco or grocer’s tin just wrapped in a piece of cloth moist with strong alcohol and send by Parcel Post. A few notes as to where found, etc., will increase the value of the gift. Out of pocket expenses will be gratefully paid on receipt of particulars.

Arthur Stanley, Curator.

U. S. Public Health Service.—In the Outlook for August 16th, there is an article describing the United States Public Health Service by a member, Dr. Ezra Kimball Sprague. Too little is known by the public of this remarkable body of physicians, picked men physically and mentally. They run great risks along the line of duty; eight have succumbed to tuberculosis. Before the secret of yellow fever was discovered, many were sacrificed to that disease. Surgeon General Rupert Blue, just reappointed, says, “by concrete example the people at large—not a few scattered counties—must be shown that tuberculosis, malaria, and typhoid fever are a needless drain upon their vitality.”
Nurses' Association of China.

OFFICERS, 1916 to 1918.

President:—Miss Powell, Peking.
Vice-President:—Miss Gregg, Tientsin.
Treasurer:—Miss Chisholm, Shanghai.
Editorial Secretary:—Miss Lenhart, Shanghai.
General Secretary:—Miss Batty, Shanghai.
Assistant Secretary:—Miss Ogden, Anking.

Registration Committee:—Miss Chui, Hongkong; Mrs. Davenport, Shanghai; Miss Haward, Peking; Miss Logan, Tsinanfu; Miss Massey, Foochow; Miss Sawyer, Tchchow; Mrs. Ts'en, Hankow; Miss Wadill, Wuchang; Miss Yen, Changsha.

EXAMINATION FOR THE N. A. C. DIPLOMA, MAY, 1916.

Nursing of Children.—(Mrs. Bayard Lyon.) Six of the following questions to be answered:
1. How would you prepare a child for an abdominal operation? 2. If you were nursing a child with hip disease, in splints, what methods would you use to prevent the splints from being soaked with urine? 3. If you were nursing a child with broncho-pneumonia, at what temperature would you keep the sick-room? 4. In nursing of children what symptoms would you observe? 5. In the nursing of children, give three important rules that should be observed. 6. What are the special qualifications a nurse should have for undertaking the nursing of children? 7. Give two diseases commonly met with in children, and the treatment of each from a nurse's point of view. How may they be prevented? 8. What are the various kinds of rashes that may be met with in children and what may they indicate? 9. How would you nurse a child of two years old who was suffering from diphtheria? What symptoms would lead you to send at once for the doctor? 10. A child with a high temperature develops a rash and its skin has a very red appearance; what would you suspect and what precautions would you take? 11. Describe the after-nursing of a child who has been operated on for hare-lip. 12. Give the various methods by which a child's temperature may be taken? Which method do you consider the most reliable.

Dietetics.—(Dr. Tsao.) Five questions to be answered.
1. Name three classes of food stuffs and give an example of each. 2. Describe the dietetic treatment of typhoid fever. 3. How would you prepare (a) peptonized milk, (b) albumen water? 4. What do you understand by forced feeding in tubercular patients? 5. Name some Chinese foods useful for extra nourishment. 6. Describe the dietetic preparation of patient in treatment of Ankylostomiasis.

General Nursing.—(Mrs. Bayard Lyon.) Ten questions to be answered.
1. In nursing a patient who is very ill, what points concerning the patient's general condition should a nurse observe so that she may be able to give a full
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report to the doctor. 2. Describe the after-nursing of a patient upon whom laparotomy has been performed. 3. On what parts of a patient's body are bedsores likely to appear, and how may they be prevented? 4. Give the various artificial ways of feeding a patient. How would you give (a) a nasal feed, (b) a rectal feed? 5. When giving a patient a cold bath what symptoms would lead you to discontinue the bath? 6. Give the symptoms of internal hemorrhage? How would you treat such a patient while waiting the doctor's arrival? 7. When nursing an infectious disease what precautions would you take to prevent (a) yourself from catching the disease, (b) the spreading of the disease to others? 8. Suppose you were visiting in the slums, what advice would you give a poor mother for the welfare of her children other than concerning feeding? 9. Give the various kinds of spuata and their indications. 10. Name the various kinds of stools and their indications. 11. How would you treat a patient having a chill until the physician's arrival? 12. What is the significance of a sudden drop in temperature in an enteric fever patient?

Medical Nursing.—(Miss Baldwin.) Ten questions to be answered. Time allowed, three hours.
1. Give two formulas for mouth wash and state when and why you would use a mouth wash? 2. In nursing bronchitis, what must be remembered in regard to ventilation? 3. What are the chief symptoms of pneumonia? What are the main points to remember in nursing such a case? 4. In case of pulmonary hemorrhage, what would you do until the doctor arrives? 5. How would hemorrhage from the lungs be distinguished from that of the stomach? 6. In nursing a case of nephritis, mention three most important points to be observed, giving reasons for your answers. 7. Name symptoms and state nursing care of patients with any form of heart disease. 8. Define: crisis, stimulant, coma. 9. What are the most important points to remember in nursing paralysis? 10. What is gastritis? What is the important point in treatment? 11. Mention the chief complications in enteric fever. What are the chief points to attend to in nursing a case of this disease? 12. Describe the means a nurse would employ in dealing with (a) high fever, (b) sleeplessness, (c) acute delirium.

Surgical Nursing.—(Miss Baldwin.) Ten questions to be answered. Time allowed, three hours.
1. What is asepsis? Name two methods of obtaining it. 2. How would you prepare a patient for anesthesia? 3. How are burns classified? Which class is most serious? 4. What do you understand by, (a) the healing of wounds by first intention; (b) granulation. 5. In preparing a patient for abdominl operation, what are the chief points to be observed? Give reasons for your answer. 6. What measures would you take to prevent shock after operation? 7. After an operation, how long would you allow a patient to go without voiding urine without reporting it? 8. Why is increasing flatulence a serious symptom after abdominal operation? What treatment is often ordered for its relief? Describe the treatment. 9. If a wound needs dressings after operation, how would you prepare? 10. Why should a dressing be reinforced or changed as soon as discharge oozes through? 11. What is erysipelas? What is its importance in a surgical ward? 12. Name two solutions used for bladder irrigation.

Hygiene and Bacteriology.—(Dr. Tsao.) Ten questions to be answered. Time allowed, three hours.
1. Why is ventilation important? 2. Tell briefly the dangers of using alcohol, and tobacco. 3. Give a reliable disinfectant for each of the following and state exactly how each disinfectant is to be used:—typhoid stools: bed clothing from case
The China Medical Journal.

of typhoid: tubercular sputum. 4. What are the dangers of eating raw meat? 5. What are bacteria? Name three kinds according to shape. 6. Name four diseases caused by insects. 7. What is the difference between an infectious and a contagious disease? 8. What causes decomposition? 9. Given a room 10' x 10' x 10', give method of disinfecting it in detail, stating amount of chemicals to be used. 10. Explain the dangers of drinking unboiled water, and eating vegetables and fruit exposed to flies and dust. 11. Name six common diseases caused by bacteria and the bacteria which cause them. 12. What are the dangers of walking barefoot on the ground?

Anatomy and Physiology.—Ten questions to be answered.
1. Describe the humerus and name the muscles which are attached to it. 2. Name the chief muscles of respiration. 3. Name and describe the kinds of joints. Give examples of each kind. 4. Name and locate all the salivary glands. 5. Name and locate the main divisions of the nervous system. 6. Give a brief description of the stomach. 7. Describe a cell, its structure and function. 8. Trace the circulation of the blood from the left ventricle of the heart, over the body, and back to the left ventricle. 9. Describe the process of digestion. 10. What are the effects of respiration on the blood? 11. What diseases affect the spleen? 12. Give the functions of the skin.

Materia Medica.—(Dr. Tsao.) Ten questions to be answered. Time allowed, three hours.
1. Name five disinfectants and give strength in which each is used. 2. Give symptoms of opium poisoning and describe treatment. 3. Give symptoms of arsenic poisoning and describe treatment. 4. Give symptoms of mercury poisoning and describe treatment. 5. What is a liniment and how used? 6. If an adult dose is 20 grains, how much would you give a child of two years? 7. Given a solution of a drug of which minims 10 contain gr. 1/20, how much of the solution would you use to give grain 1/50? 8. Name a stomachic and give its action. 9. Describe the action of atropin. 10. Name three kinds of cathartics and three kinds of diuretics. 11. What is the antidote to carbolic acid? 12. Give the dose of the following drugs:—Morphin; Tr. of Nux Vomica; Chloral hydrate; Strychnia Sulphate; Atropin; Tr. of Opium.

First Aid.—(Dr. H. B. Taylor.) Answer five (including No. 6) of the following six questions:
1. A man has received an incised wound of the dorsum of the foot and is bleeding profusely: State how you would render first aid. 2. Name and describe the different kinds of wounds. 3. Give the symptoms of fracture of one of the long bones. 4. Give the symptoms of dislocation and first aid treatment. 5. Give first aid treatment of syncope. 6. Describe method of artificial respiration and name five conditions in which it may be required.

Diseases of the Eye.—Answer five (including No. 4) of the following six questions:
1. Name three contagious eye diseases and give precautions to be taken by nurse to prevent spread. 2. Describe trachoma, method of spread and its complications if untreated. 3. What are the symptoms of iritis and its treatment? 4. Give preparation of patient for, and after-care of, cataract operation. 5. A patient has gonorrhreal conjunctivitis of one eye: What precautions should be taken to prevent its spread to the other? 6. A patient has received a wound of the cornea: Give treatment in absence of doctor.
Obstetrics and Gynecology.—(Dr. H. B. Taylor.) Answer ten (including No. 6) of the following twelve questions:

1. What are the signs and symptoms of pregnancy? 2. Describe the stages of labor. 3. Describe the placenta and give its function. 4. How would you treat a post-partum hemorrhage in the absence of a physician? 5. Describe the care of a baby just after its birth, including the umbilical cord, eyes, etc. 6. Describe the care of a patient during the puerperium and important symptoms to be watched for. 7. Give the preparation of patient for, and after-care of, the operation of perineorrhaphy. 8. Give the signs and symptoms of the menopause and the usual time of its occurrence. 9. What is the usual cause of hemorrhage from the vagina after the menopause? 10. Describe means of encouraging a patient to void before proceeding to catheterize. 11. Name and describe the gynecological positions. 12. Describe irrigation of the bladder.

Genito-urinary and Venereal Diseases (for men nurses).—(Dr. H. B. Taylor.) Answer ten (including No. 11) of the following twelve questions:

1. Name the organs composing the genito-urinary system in man. 2. Name four abnormal constituents of urine that indicate need of medical attention. 3. What is meant by the specific gravity of urine? 4. Describe the conditions that may cause blood in the urine. 5. What are the causes of cystitis? 6. A patient has acute retention of urine: How would you prepare him and what instruments would you get ready for the doctor to relieve this condition? 7. Describe the symptoms and nursing of a case of enlarged prostate. 8. What is gonorrhea? Describe nursing precautions. 9. Name three complications following gonorrhea. 10. Describe the nursing of a case of acute epididymitis. 11. A patient has secondary syphilitic lesions in exposed positions: What precautions would you take in nursing him and what instructions would you give him to prevent the infection of others? 12. Name three venereal diseases and differentiate between them.

List of Practical Demonstrations.


Each question to be marked on a scale of ten. Oral questions to be asked. This list marked, to be returned to Assistant Secretary with a letter from each examiner with criticisms and remarks as to how the examinee did the work.

MARY REED OGDEN, Assistant Secretary.

CAN A GOOD HOSPITAL BE RUN WITHOUT A NURSES' TRAINING SCHOOL?

Supposing one could visit all our mission hospitals in China, in connection with how many of them would we find a nurses' training school? Even where there are such schools are they considered a real necessity to the progressive development of the medical work? Are they worth while? Why has one been organized at any particular station? Where a hospital exists without such a school what reasons are given for this anomaly? Has it been thought impossible to
organize and conduct a school because the staff consists of only one foreign doctor and one foreign nurse?

At home, with the exception of the small private institution where all the nurses are graduates, I think almost every hospital is striving for, if it has not already gained, the complete plant of a hospital and nurses' training school, working together and in harmony, to the great benefit of both. But a school presupposes teachers, scholars, and regular hours for study and class work. This means much time required of the staff for preparation as well as of the nurses for study. Still, has it not been proved beyond all question that the educated nurse does her work a hundred-fold better than her uninstructed sister? Can a doctor in any way secure better care for his patients than by regularly instructing the nurses in classes and in bedside clinics? We all recognize the busy life of the average missionary doctor and the varied interruptions which break into his daily work. But if he is looking to the future, the training of native nurses will mean some efficient helpers in the next few years, therefore work worthy of his time. The foreign nurse will naturally be glad to cooperate with him by doing her share of teaching both in class room and in the wards.

Yet some object that the standard set by the C. M. M. A., and the N. A. C., is higher than necessary for good practical nursing. Others emphasize the fact that a training school necessitates a larger nursing force and therefore entails much needless expense for the hospital. Moreover, some would suggest that nursing schools are needed only at strategic points. But are our present schools found only in large cities? Have they not rather developed wherever the staff have realized that, however great the effort required, hospitals cannot be brought up to modern standards without an adequate provision for the training of nurses. At Wuchang, so strongly have we felt the truth of this remark that, in spite of our miserable Chinese buildings and lack of modern equipment, we have bent a great part of our energy toward the development of a nurses' training school. Our staff consists of only one foreign doctor and one foreign nurse, hence we have been unable to develop our work as we should have desired. However, in an imperfect way, we have given the nurses daily class instruction and provided for a study hour each evening. Our efforts have been rewarded by an interest and enthusiasm that have made teaching a delight. Moreover, the ward work has materially improved. The slight success that has attended our efforts has thoroughly convinced us that even such inadequate attempts are worth while. May our experience encourage others who are facing the same problem.

ELISE G. DEXTER, Women's Department, Church General Hospital, Wuchang.

July 26, 1916.

NOTICE:—At a recent meeting of the Executive Committee of the China Medical Missionary Association when the finances of the China Medical Journal were considered, it was stated that owing to the greatly increased charges for paper and printing, the actual cost of each number of the Journal was more than fifty cents per copy, and therefore the subscription price to Nurses of Mex. $3.00 per annum did not cover expenses. It was therefore decided to advance the price next year to Mex. $4.00 per annum.