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JOINT CONFERENCE OF CHINA MEDICAL MISSIONARY ASSOCIATION AND NATIONAL MEDICAL ASSOCIATION OF CHINA.
CANTON, FEBRUARY, 1917.
ATYPICAL CASES OF APPENDICITIS.

CARL A. HEDBLOM, M.D., Red Cross Hospital, Shanghai.

The diagnosis of appendicitis in the typical case, presenting the "text-book" picture, rests on the history of localized pain, spasm and tenderness, nausea and vomiting, fever, quickened pulse, and leucocytosis. If there is also psoas spasm the symptom-complex is complete. The differential diagnosis in cases that lack in, or deviate from, this symptomatology is between appendicitis on the one hand, and on the other, lesions of the gall-bladder, stomach, duodenum, or kidney. In the female, gynecological conditions must be excluded, and in children the symptoms due to parasites and early pneumonia.

If all cases of appendicitis coming under early observation presented the typical picture there should be no case of perforation or diffuse peritonitis. Lesions of other organs presenting a symptom-complex simulating appendicitis may, for the most part, be excluded by the history and laboratory tests. There remains a group of cases in which the signs and symptoms are few, ill defined, and atypical of any of the above mentioned conditions, yet which sometimes are due to fulminating inflammation of the appendix. These cases are not infrequently diagnosed as indigestion, colic, gastritis, etc. Fitz early recognized their existence. In his classical paper on "Inflammation of Vermiform Appendix" (1887) he writes: "In considering the symptoms of appendicitis it is to be noted that attacks of inflammation frequently occur without any suggestion of any distinct malady. . . . . . There can be little doubt that a diagnosis of biliary attack, colic, enteritis, gravel, ovarian, congestion of the womb, and the like, may not infrequently conceal the existence of an inflamed appendix."

We have learned a great deal since confirmatory of these early observations, but the difficulty of diagnosis in these cases still remains.
The China Medical Journal.

The disease in its typical form seems from most reports to be rare among the Chinese. Taking only the leading symptom of pain, the characteristic stoicism of the race would lead one to expect the relatively frequent occurrence of cases deviating from the text-book description. It may not be amiss, therefore, to call attention to a number of atypical cases of appendicitis. In one of these, a Chinese, perforation occurred as demonstrated at autopsy.

I. Case No. 214. A tired-looking, hardworking male, aged 33. Past history essentially negative, but for fifteen years there has been much pyrosis with occasional attacks of indigestion. During the last five or six years patient has always had much eructation and gastric distress following the ingestion of sugar or pastries. Under normal weight, and general health below par.

Patient was examined about a month before admission because of indefinite pain in the lower abdomen which was occasionally associated with the attacks of indigestion. There were no definite clinical signs. Patient stated that he could not, at that juncture, spare the time for a thorough examination or possible operation.

Four weeks later he called at writer’s office, not because of any special complaint, as he explained, but because he happened to pass by on another errand. He stated that there had been no change in symptoms since previous examination except that for three days there had been an unusual amount of gas and the abdomen seemed “hard.” There had been no pain, nausea or vomiting, chill, nor recognized fever. He had been about his work as usual the same day he entered the hospital.

On examination he was found to have localized tenderness and an indefinite mass in the right lower quadrant of the abdomen. On rectal examination, tenderness was also found on the right side. Temperature 100°F., pulse 104, white count 18,000. Diagnosis, acute appendicitis. Immediate operation. Appendix retrocecal, densely adherent, plum-colored, about an inch and a half in diameter and full of pus. Appendectomy with drainage. Fowler’s position and rectal seepage. Normal convalescence. Patient gained 15 pounds in weight during the next three months. No recurrence of gastric symptoms.

II. Case No. 826. Male, single, aged 27 years, admitted with history of sudden onset of severe pain in epigastrium the night before. The pain disturbed his sleep. No chill, nausea, or vomiting. Seen by a physician about twelve hours after onset, who reported no spasm or localized tenderness, and no fever at that time. On admission, patient lay flat on the back and seemed not the least sick. There had been
Atypical Cases of Appendicitis.

no nausea, vomiting, or localized pain. Abdomen was perfectly soft and not tender to deep pressure. Rectal examination seemed to elicit slight but equal tenderness on both sides. Temperature 101°F., pulse 114, white count 12,000. Urinary sediment, negative. Diagnosis of acute appendicitis was made on the history of pain, fever, and accelerated pulse. Immediate operation. Whole distal half of large oedematous appendix was gangrenous. Appendectomy without drainage. Normal convalescence.

III. Case 1107. A married male, aged 51 years. Family history negative. Past history of severe attacks of neurasthenia, at intervals, during the last five or six years. About seven weeks before admission had an attack of pain, lasting four or five days, in the region of the umbilicus. Pain at times cramp-like and occasionally associated with a little nausea. Had several similar attacks which were treated by attending physician with santonin and vigorous catharsis. Last attack began a week before admission and there had been several attacks of severe pain, some of them doubling-up in character. Day before admission played golf and attended a dinner in the evening. During the night had a very severe attack of pain localized about umbilicus, without chill, nausea, or vomiting. When seen twelve hours later the pain had all disappeared. Abdomen was soft and not tender, except at umbilicus where there was a small, tender, apparently reducible hernia. Pressure on hernia elicited pain which the patient volunteered was similar in character to past attacks. Rectal examination wholly negative. Temperature 100°F., pulse 60, white count 16,000. Patient considered himself quite well. Immediate operation. Abscess with several ounces of characteristically smelling pus. Tip of appendix sloughed off. Drainage. Good recovery.

IV. Case No. 1238. A married male, aged 40 years. Past history unimportant, except that three years ago patient had an acute attack of abdominal pain with vomiting which was diagnosed by a group of physicians as gastritis, and a second similar attack one year ago which was also treated medically.

About sixteen hours before examination he was seized with rather severe abdominal pain localized in epigastrium. Vomited a little and had slight fever at onset. Pain quieted down and patient slept well at night. When seen about sixteen hours after, he was lying flat on the back reading the morning paper. He explained that he had sent for writer only at the insistence of his wife and simply wanted to be reassured that it would be all right for him to go to work. Temperature 98°F., pulse 60. Slight spasm of right rectus, and slight but definite tenderness on deep pressure. Rectal examination elicited tenderness

V. Case No. 540. A robust-looking male, single, aged 25 years. Had typhoid fever nine years ago complicated by osteomyelitis of the elbow. Present illness began two months ago at 3 o'clock one morning, when patient had an attack of severe pain in the lower abdomen without chill, nausea, or vomiting. The night before admission he had a similar attack of severe pain in lower abdomen lasting a few hours but without other symptoms. When seen the next forenoon he was lying flat on his back and quite comfortable. There was moderate spasm and tenderness to palpation in the right lower abdomen. Temperature 100°F., pulse 105, white count 18,400. Urine negative. Diagnosis, acute appendicitis. Immediate operation. Appendix was found to be acutely inflamed, with beginning gangrene on one side. Appendectomy without drainage. No complications.

VI. Case No. 253. A married sailor, aged 33 years. No previous illness. History of frequent recurring attacks of abdominal pain without other marked symptoms for about four years. Pain had no relation to meals. During attacks was unable to lie on his right side. Last attack began two weeks ago with a little fever, but without chill, nausea, or vomiting. The abdomen has been sore since. On admission, a small mass was felt in the right lower quadrant. Gastric examination negative. Temperature 99°F.—100°F., pulse 70, white count 12,000. At operation appendix was found to be retrocecal, densely adherent, and plum-colored. The whole cecum was injected. Appendectomy without drainage. Good recovery.

VII. Case No. 37. A vigorous young man aged 24. No previous illness, except an attack of cramp-like abdominal pains three months before. About eighteen hours and again about six hours before admission, he had an attack of abdominal pain starting in the epigastrium and shifting to the right lower abdomen. The pain was not very severe. There was no chill, nausea, or vomiting. On examination there was moderate spasm and tenderness to deep pressure in right lower quadrant, but no rigidity. Temperature 99.8°F., pulse 80. At operation the appendix was tensely engorged, about double the normal diameter, and covered with fibrin. Appendectomy with drainage. No complications.

VIII. Case No. 126. A female, single, aged 24 years. Past history unimportant, except for hypochondriacal tendency for several years. Slight soreness in lower abdomen for one month. One week before admission felt nauseated for several hours. Eight hours before
admission had slight cramp-like pains in right lower abdomen without other symptoms. The abdomen was soft. There was slight spasm and tenderness to deep pressure only. Temperature 99°F., pulse 80, white count 20,000. Immediate operation. There was free, coffee-colored, abdominal fluid. Distal third of appendix was occluded and filled with characteristically smelling pus. No drainage. Good recovery.

IX. Case No. 547. A married female, aged 40. Family and past history unimportant. Six months ago had an attack of epigastric pain of gradual onset with chill and a little fever. Two weeks before admission had another attack of pain in the lower abdomen with fever for two days. Bowels moved vigorously following catharsis prescribed by attending physician. Symptoms subsided except for slight tenderness and discomfort in right lower quadrant. On admission, temperature 98°F., pulse 60, with spasm and tenderness over right rectus. Immediate operation. Appendix acutely inflamed. Perforation near base covered by small tab of omentum. Stab drainage. Good recovery.


XI. Case No. 92. A rescued Chinese slave child of about 13 years of age, was brought to the hospital with a history of persistent vomiting for several days. Abdomen soft and not tender. Bowels moved normally. Edema of legs and abdominal wall. Knee jerks sluggish. Skin of hands and feet color of port wine, with sharp line of demarcation. Toes very painful. Ascaris and ankylostoma ova in stools. Blood smear not remarkable. White count 17,000. Urine normal. During the next three weeks vomiting continued with short remissions. Stools rendered ova free and soon after edema disappeared. Knee jerks entirely disappeared in the course of two weeks. Babinski sign positive. Discoloration and pain in the feet remained unchanged. White count remained between 20,000 and 30,000. Three days before decease, patient complained for the first time of pain in abdomen, but
Table No. 1.

**ARTIFICIAL CASES OF APPENDICITIS.**

| Age | Sex | Duration of Symptoms | Past Attacks | Initial Pain | Pain on Exam | Initial Temp | Temp. on Exam | Nausea | Vomiting | Local Spasm | Local Tenderness | Pulse | Leucocyte count | Rectal Exam | Path. Condition | Result |
|-----|-----|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|--------|-----------|-------------|----------------|--------|----------------|-------------|----------------|--------|
| 11  | 13  | 5                    | 3 0         | 10          | 100         | 100         | 100         | 100         | 100    | 100       | 100         | 100            | 100    | 100           | 100         | 100            | 100    |
| 16  | 24  | 12 hrs               | 2 0         | 10          | 100         | 100         | 100         | 100         | 100    | 100       | 100         | 100            | 100    | 100           | 100         | 100            | 100    |
| 24  | 24  | 24 hrs               | 2 0         | 10          | 100         | 100         | 100         | 100         | 100    | 100       | 100         | 100            | 100    | 100           | 100         | 100            | 100    |
| 25  | 25  | 24 hrs               | 2 0         | 10          | 100         | 100         | 100         | 100         | 100    | 100       | 100         | 100            | 100    | 100           | 100         | 100            | 100    |
| 27  | 27  | 7 days               | 2 0         | 10          | 100         | 100         | 100         | 100         | 100    | 100       | 100         | 100            | 100    | 100           | 100         | 100            | 100    |
| 40  | 40  | 3 hrs                | 2 0         | 10          | 100         | 100         | 100         | 100         | 100    | 100       | 100         | 100            | 100    | 100           | 100         | 100            | 100    |
| 40  | 40  | 3 hrs                | 2 0         | 10          | 100         | 100         | 100         | 100         | 100    | 100       | 100         | 100            | 100    | 100           | 100         | 100            | 100    |
| 40  | 40  | 3 hrs                | 2 0         | 10          | 100         | 100         | 100         | 100         | 100    | 100       | 100         | 100            | 100    | 100           | 100         | 100            | 100    |
| 40  | 40  | 3 hrs                | 2 0         | 10          | 100         | 100         | 100         | 100         | 100    | 100       | 100         | 100            | 100    | 100           | 100         | 100            | 100    |
| 40  | 40  | 3 hrs                | 2 0         | 10          | 100         | 100         | 100         | 100         | 100    | 100       | 100         | 100            | 100    | 100           | 100         | 100            | 100    |
| 40  | 40  | 3 hrs                | 2 0         | 10          | 100         | 100         | 100         | 100         | 100    | 100       | 100         | 100            | 100    | 100           | 100         | 100            | 100    |
| 100 | 100 | 20.000               | 2 0         | 10          | 100         | 100         | 100         | 100         | 100    | 100       | 100         | 100            | 100    | 100           | 100         | 100            | 100    |
| 100 | 100 | 20.000               | 2 0         | 10          | 100         | 100         | 100         | 100         | 100    | 100       | 100         | 100            | 100    | 100           | 100         | 100            | 100    |
| 100 | 100 | 20.000               | 2 0         | 10          | 100         | 100         | 100         | 100         | 100    | 100       | 100         | 100            | 100    | 100           | 100         | 100            | 100    |
| 100 | 100 | 20.000               | 2 0         | 10          | 100         | 100         | 100         | 100         | 100    | 100       | 100         | 100            | 100    | 100           | 100         | 100            | 100    |
| 100 | 100 | 20.000               | 2 0         | 10          | 100         | 100         | 100         | 100         | 100    | 100       | 100         | 100            | 100    | 100           | 100         | 100            | 100    |

repeated examinations by several consultants failed to elicit any localizing signs. The pain apparently disappeared in the course of a few hours. The patient died, evidently from exhaustion. Autopsy showed a perforative appendicitis and general peritonitis, also a localized abscess at base of right lung.

As becomes apparent from the accompanying tabulation, pain was present at some time in all but two cases, but was present at the time diagnosis was made in only two of the whole number. Temperature was under 100°F. in four cases, and over 100°F. in only two cases. Vomiting was present in only four. Marked spasm and tenderness were found in only one, but tenderness to deep pressure was present in slight degree in all but three instances. The pulse and temperature were both normal in two cases in which the appendix was gangrenous, and the pulse was practically normal, under 80, in four others. A leucocytosis was the only constant positive finding in all, and yet it is well recognized that perforative appendicitis may occur with a normal leucocyte count. In the first four instances the patients did not consider themselves sick at the time the diagnosis was made, but would have been quite prepared to go about their usual business. In the first three cases the local signs, considered alone, would have seemed quite negligible, and in the third case the pulse, moreover, was normal. The diagnosis in this case rested on the significant history of severe doubling-up pain, on the temperature, and on the leucocyte count.

These cases are cited for what emphasis they may give to the observation that acute appendicitis does not always present the text-book symptomatology, and for what force they may lend to the dictum that efficient diagnosis means not only correct but also early diagnosis.

The urgency of prompt diagnosis lies in the fact that in gangrenous appendicitis immediate operation is imperative.

REFERENCE.


Bastedo's Sign in Chronic Appendicitis.—Bastedo's sign is produced by inflating the cecum and colon by means of a colon tube passed 10-12 inches into the rectum. If appendicitis be present, pain will be felt at the site of McBurney's point when the colon is distended. Rosenbloom (Surg. Gynecol. and Obstetrics, November, 1916) is of the opinion that this sign is of value in the diagnosis of chronic appendicitis.
A CASE OF CHORIO-EPITHELIOMA.


Cases of chorio-epithelioma are sufficiently uncommon in Western lands to merit recording, and, as I have not heard of one having been reported in China, the following history of a recent case is forwarded for publication, with an accompanying photograph of the growth which occurred in a European lady and was removed about two and a half months ago. The diagnosis leading to operation was based on the history of the case with the microscopic findings. The history is instructive as it shows, what has frequently been noted, that these tumours generally occur after the expulsion of a hydatid mole.

The history is briefly as follows:—Mrs. A., aged 42, had what was described as an abortion with some “grape-like bodies” in December, 1915. This was followed by irregular bleedings and the discharge of gray clots at intervals, so that the patient became very weak and anaemic from constant loss of blood. I was consulted in April about her condition, and fearing the possibility of the growth of deciduoma malignum, advised that the patient, who was five days’ journey away from Peking, be brought down for examination. Slight improvement of symptoms occurring, she delayed in the hope that recovery had set in; but further irregular bleedings appeared in July and August, and the patient was brought to me in September, 1916. She was then so weak from loss of blood that she could scarcely walk without assistance.

On examination, the uterus was found enlarged and flabby, and about the size of a two months’ pregnancy. The uterus was carefully curetted, and some suspicious-looking, dark shreds removed. These were submitted for microscopic examination to the Union Medical College pathologist, Dr. C. W. Young, who reported as follows:—“The uterine scrapings you sent two days ago show very definite chorio-epithelioma, as you feared.”

Having received this report, I decided to perform a hysterectomy. On opening the abdomen, the uterus looked swollen and very vascular, but the ovaries appeared quite healthy. There were no evidences of metastasis in the neighbouring structures. The uterus, left ovary, and tube were removed. The right ovary was left intact, though I felt that in doing so I was going against the teaching of the text-books and probably running the risk of not removing possible metastatic growths. I thought, however, as the case had been going on for some months,
Photo of Chorio-epithelioma. (Dr. Cormack.)
if metastasis had occurred it would already be far beyond the ovaries and tubes; moreover, as in other cases removal of the primary growth had been followed by complete cure, I took the risk of leaving the ovary so as not to induce the symptoms of premature menopause.

On removing the uterus and laying it open we found a round, dark brown tumour growing from the posterior uterine wall. The margin of the tumour was well defined, and the uterine walls were at least three times the normal thickness. Microscopic examination of a section of the tumour showed typical chorio-epithelioma cells.

The patient made an excellent recovery and left for her home a month after operation. Her colour had much improved and her strength was returning. I have since had a letter from her husband saying that the improvement is maintained, and that all the former symptoms have disappeared. I am in hopes, therefore, that the cure is permanent.

The photograph shows very clearly the dark tumour and the greatly thickened uterine walls with the blood vessels larger than usual.

A PLEA FOR RADICAL OPERATIONS IN OSTEOMYELITIS*

W. S. THACKER, M.D. (T. C., Dub.); F. R. C. S. (Ed.), Peking.

I understand that in North China septic osteomyelitis is seldom seen till necrosis of the bone has taken place and a sequestrum presents itself for treatment. This certainly was also my experience in India. However, the fact that acute osteomyelitis has been seen here amongst foreign children by my colleagues and by myself, prompts me to write on the subject. The paper is founded on a small series of cases, on some of which I operated in England, and on some in China. At the end of the paper is a short article on the technique of bone transplantation. The pathology of acute septic osteomyelitis is so frequently a marrow infection primarily that I should like to say it is always so. At any rate, the periosteum alone is very rarely affected. Primary periosteal infection is given, I believe, an undue weight by those authors who mention as one of the possible treatments mere incision through the periosteum and then scraping or gouging away the softened and hyperemic bone at the end of the diaphysis, or who merely advise giving free exit to the pus through an incision and

*A paper read at the Biennial Conference of the China Medical Association held in Shanghai, February, 1915.
providing drainage, and later performing a sequestrotomy. Furthermore, it would require a keen diagnostician to discover a case soon enough to follow the suggested early treatment of inducing hyperaemia for 22 out of 24 hours. And to incise the periosteum in the belief that the infection is primarily periosteal and then to wait for twenty-four hours to see if the constitutional symptoms are still severe in which case the medulla is to be incised, as advised by other surgeons, in my opinion is to lose valuable and vital time as these cases may die from acute septicaemia.

The practice of many surgeons is to drain and wait for the separation of sequestrum. This is unnecessary and endangers the life of the patient; if the patient does not die of acute septicaemia it prolongs the treatment by months. Even if we do not see the case till a sequestrum has partially formed, it is better to remove the sequestrum even with living bone, rather than let the patient submit to a long course of suppuration. By this treatment healing is hastened and life saved.

Case I. Mary —, aged 8, admitted to the Royal Infirmary, Leicester, on February 8th, 1913. The patient gave a history of pain in the leg for four days. On examination the patient did not appear to be drowsy nor did she seem to be in a toxæmic state. Her temperature, however, was 103° F.

The tissues over the upper half of the tibia were swollen and tender, whilst at the level of the epiphyseal line there was acute tenderness. An X-ray photograph merely demonstrated roughening of the surface of the shaft. On the same day, shortly after admission, I made an incision extending over the upper two-thirds of the tibia. This revealed a much thickened periosteum. This I proceeded to detach from the bone, then, following Binnie's advice, I examined the popliteal space. I passed one finger under the periosteum into the popliteal space and immediately found a collection of pus.

It is said that when there is a considerable collection of pus beneath the periosteum three or four days after the commencement of symptoms, the case is probably one of inflammation of the periosteum, so the medulla need not be opened up at once. Nevertheless, in spite of this I determined to act on the belief that the disease was primarily a medullary infection. So I removed the medial surface of the tibia with a mallet and chisel. This revealed pus. Yet I did not notice any soft spot in the bone leading into the medulla. This argues in favour of the infection being haematogenous and against the infection travelling by direct continuity and absorption from the
medulla to the periosteum. I then removed bone till healthy marrow was reached. This necessitated the removal of the upper two-thirds of the medial surface of the shaft.

Being guided by Sherman's device of filling aseptic spaces with saline, I filled this septic medullary cavity with saline, and, adopting Bier's plan, I sutured the wound completely, placing the sutures at a distance of \(1\frac{1}{2}\) inches from each other and applied a Bier's bandage for 22 out of 24 hours daily. I also employed a stock streptococcus vaccine.

Soon, however, a sinus established itself at the proximal end of the wound. This I treated with Wright's hypertonic saline. Following on the bursting open of this sinus the temperature fell to normal. Later, the temperature rose again, so I decided to operate a second time. Interesting to relate, on exposing the tibia it was found that new bone with cloacæ had been laid down on the medial surface of the tibia. This new bone with the lower third of the medial surface I removed. This occupied about twenty minutes, yet the child collapsed and I had immediately to resort to an intravenous injection of pituitrin and saline, to which the child responded. The wound was sutured except for the old sinus, and I again resorted to syringing out the wound with Wright's hypertonic saline and the application of Bier's bandage, whilst at times hydrogen peroxide was used.

Towards the end of April the child acquired scarlatina, and it was necessary to move her to a fever hospital, but as this institution was outside the infirmary's jurisdiction and as the wound was discharging pus I determined that a radical operation must be done before her removal. So on April 29th, I operated for the third time and removed the middle two-thirds of the diaphysis. The patient was at this time in a very weak and nervous condition. Thinking of Crile's teaching, and fearing the psychical effect of going to the theatre, I removed the bone with a Gigli saw in the ward. The operation lasted barely five minutes.

On April 30th, the child went to the fever hospital. Whilst there the wound healed except for a pin-hole sinus below the knee and a similar one above the ankle.

Thinking another operation was advisable, the child was again admitted on July 12th, 1913, and on July 22nd I removed the upper end of the diaphysis, and the lower end with some new periosteal bone. On August 8th the child was discharged with a completely healed wound. The entire treatment had occupied six months.

When the patient left hospital the prognosis was excellent, as the upper and lower epiphyses were intact and so the transplantation of
the fibula, an eminently satisfactory operation as practised by Bond of Leicester, was feasible.

From this case I learnt several lessons:—

(1) In spite of a collection of subperiosteal pus the exposure of the medulla was necessary.

(2) Though pus was present in the medulla and under the periosteum, yet there was no area of softened cortex.

(3) A more radical operation in the first case would have been advisable, such as immediate excision of the diaphyses, or removing the medial and lateral surface of the tibia and leaving the posterior surface as a long scaffolding, as recommended by Pringle of Dublin and as practised by me in Case V with excellent results.

Case II. William —, aged 8, was admitted July 10th, 1913, with a temperature 101.2°F., pulse 104, respirations 22. He had been treated outside as a case of acute rheumatism. The skin down the front of the tibia was oedematous and tender. On the day of admission I made an incision over the full length of the tibia and, in doing so, opened a large superficial abscess; deepening my incision I found the periosteum thick and a deposit of new subperiosteal bone present. I excised the whole medial surface of the bone, leaving a trough formed by the lateral and posterior surfaces of the diaphysis.

On August 8th, I found his temperature again up to 100.2°F. and there was an abscess over the 7th rib. So I determined to resect this rib. On exposing it I found it was rough and eroded from its vertebral articulation to the anterior fold of the axilla, and that the abscess had opened into the pleural cavity. I therefore disarticulated the rib from its vertebral attachment and excised it in its posterior two-thirds. The empyema I treated as usual.

On August 24th, as the temperature was 102.6°F. and as the empyema was improving satisfactorily and was not accountable for the temperature, I explored the tibia again. On exposing the tibia I discovered pus in the medullary cavity. That the infection had spread to the lower epiphyses was proved by the curette perforating this epiphysis and striking the head of the astragalus. Considering the wide extent of the disease I thought it best to resect the whole diaphysis with the exception of the upper and lower epiphyses which were retained for the reception of the transplanted fibula. I believe in this case also it would have been wiser to excise the diaphysis in the first instance. Nevertheless, I believe the lives of these two cases would not have been saved by less radical measures than those adopted at the first operation.
Case III. Ernest —, aged 19, a milkman, admitted to hospital August 19th, 1913, with a temperature 102.2° F., pulse 128, respirations 30. The medial surface of the leg was red and oedematous and presented a pointing abscess. On the day of admission I exposed the whole of the medial surface of the tibia, meeting a large collection of pus and finding that the periosteum was detached from the tibia; furthermore, having learnt a lesson from my previous cases, I excised the middle two-thirds of the tibial diaphysis. In my notes I recorded that the lower third seemed to be healthy. However, as he ran a hectic temperature for fifteen days I exposed the tibia again on August 26th, and resected the remaining part of the diaphysis, leaving merely the epiphyses. For five days after this second operation the temperature behaved in a similar manner, but on the 6th day it fell to 99°F. whilst in a month's time after admission the temperature had fallen to normal and the patient was discharged on November 8th, with the wound healed. The time involved in the treatment of this case, 2 3/4 months, compares favourably with the six months spent over Case I. The shorter time was chiefly due to the more radical operation done in the first instance.

Case IV. At Peitaiho in North China, I was asked at the commencement of August, 1914, to see an American girl, Mary —, aged 12. She had been running a hectic temperature for about a week. An incision had been made over the internal malleolus, pus had been discovered and the child's life probably saved, yet the temperature had not fallen.

The ankle was swollen, oedematous, and tender. The lower third of the tibia was very tender. I diagnosed an osteomyelitis of the lower end of the tibia, which had perforated into the ankle joint. I therefore exposed the lower end of the tibia and also the ankle joint by an anterior straight incision. To my surprise the whole astragalus was involved and I found a dark-coloured sequestrum, whilst the lower end of the tibia for 1/6th inch and the lower 1 1/2 inches of the fibula presented a roughened and noded surface. I removed the lower 3/4 inch of the tibia and the lower two inches of the fibula, sacrificing the epiphyseal line and removed the astragalus in its entirety. The wound was sutured without drainage. Following on this operation the temperature at once fell. No syringing out of the cavity was necessary. The wound healed by first intention except for two small stitch pustules. The child is now up on a crutch and a Thomas's hip splint with a patten on the good foot.

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CASE V. A man aged about 40 was admitted to the Union Medical College Hospital, Peking, in November, 1913, with a fractured tibia, united at an angle.

I divided the bone at the seat of fracture and removed the callus and plated the bone with a Lane's plate. The wound healed except for a small sinus. When the fracture was strongly united I removed the plate. In June, 1914, he was readmitted with a small discharging pin-hole sinus.

Diagnosing a chronic osteomyelitis I exposed the medulla, removing the medial surface of the tibia for one inch, and curetted the medullary cavity till the healthy medulla was exposed.

I then slid over a flap of skin and fat by making an incision on the flexor aspect of the leg and sutured the wound. As the wound suppurated and discharged, I again exposed the medulla and performed the operation suggested by Pringle of Dublin. This operation consists in removing the mesial and lateral surfaces of the tibia and merely leaving the posterior surface, forming a scale of bone, a scaffolding which will increase in circumference according to the demands put on it. This operation was successful, the patient being discharged to the out-patient department with a small superficial ulcer.

CASE VI. Lo Yung-mao, aged 37, entered the Union Medical College Hospital on October 20th, 1914. He had a sinus above and another below the clavicle; a sinus on the anterior fold of the axilla and another on the posterior fold, and an abscess pointing in the axilla, also several sinuses on anterior aspect of the thorax over the pectoralis major muscle. The humerus was firmly ankylosed and could not be moved. On October 23rd, 1914, I attempted to open up the sinuses. The arm became swollen and oedematous on November 3rd, 1914, therefore I opened up the sinus leading from the anterior to the posterior fold of the axilla. The temperature, which had from the first operation ranged between a morning temperature of 100°F. and an evening temperature of 102°F. did not go down. So on December 7th, 1914, I operated for the third time. Exposing the clavicle I found it rough and noded and so excised it. As the other sinuses communicated with the humerus and as the shaft of the humerus felt rough in its upper third to the finger, I excised the humerus except for a small fragment, including the condyles and one inch of the shaft. Bony stalactites were present on the humerus in its upper third and pus was found in the joint cavity, whilst the glenoid fossa in its anterior third was free of cartilage. Two sinuses leading down to the subscapular fossa were also opened up. I hope when this wound heals to transplant
the fibula, as I think that will be the easiest and most reliable treatment.

As in this paper I have referred to the transplantation of bone and as this method will probably take the place of Lane's artificial plates, I think it will not be out of place to refer to the technique of this art. Murphy's technique of transplanting bone is as follows:—

He uses Lane's technique, i.e., his gloved hand does not touch any part of an instrument that enters the wound, and if by accident he does touch such a part of an instrument then that instrument is resterilised.

The steps of the operation are:—

1. Apply a constrictor.
2. Make incision.
3. Attach towels to the edge of the wound.
4. Freshen the ends of the bones.
5. Use Murphy's medullary reamer and enlarge the canal in the fragments or if the medullary canal is too small for the reamer make a depression in the fragments in which the transplant's ends will rest.
6. Cover this wound with sterile towels.
7. Then remove the transplant from the crest of the opposite tibia. In removing this implant first mark the upper and lower limits of the implant by cutting crosswise with a Hey's saw, and with a v-shaped cabinet-maker's chisel make a groove along both sides of the tibia to the desired depth. Then deepen this groove with a straight chisel.
8. The implant is to be lifted with two sequestrum forceps out of its bed and implanted into the bed prepared for it.
9. The ends of the implant are to be driven into the reamed out medullary cavity or to be placed in the depression.
10. If the implant fits tightly in the medullary cavity use no artificial aid to hold it, whilst if it is loose a nail is to be driven into a drill hole made through the upper fragment and the implant.

McWilliams of New York City has developed a most excellent technique. His rules are as follows:—

1. The bed for the transplant must be aseptic and all wounds should be healed before transplantation is necessary.
2. Living bone should be transplanted with periosteum.
3. Chromic gut should be used to fix the grafts in position, avoiding nails and wires as the latter tend to initiate and, if not invite suppuration, often produce sinuses.
4. As a graft increases in size according to the demands put upon it by the organism, a much smaller living transplant than the original bone may be used, which will increase to the size necessary.
5. After transplantation immobilisation for at least five months is essential for success.
6. An Esmarch's tourniquet should not be employed as it predisposes to an effusion of blood about the graft, whose nutrition is thus injured.
7. Make a curved incision over the mesial surface of the tibia.
8. Use a wide thin carpenter's chisel and make transverse cuts on the anterior border of the tibia at each end of the part to be transplanted, ½-¾ inch in depth.

9. On the mesial surface join the posterior end of each transverse cut by a longitudinal groove which is made by successive light blows of the mallet on the chisel directed outwards, which is removed along after each blow—so prevent splintering of the graft.

10. Deepen this groove.

11. Separate the tibialis anticus from the lateral surface of the tibia and make a similar groove on this surface.

12. Deepen both grooves until the chisel enters the medullary cavity, so produce a graft with periosteum on two of its surfaces and medullary tissue on the other.

13. Lift the graft out with instruments; do not touch it with the gloved hand. Place the graft immediately in its new bed. Do not place it in salt solution as this washes away the little blood that is left on the graft to nourish its cells.

McWilliams' rules for preparing the bed for the implant are different from Murphy's as he does not enlarge the medullary cavity, but makes furrows on the stumps large enough to receive the graft. He then drills holes through the graft and fragments and unites them with chronic gut sutures.

McWilliams proved that the life of a graft taken from the same patient depends on a sufficient blood supply, irrespective of the periosteum or whether it is in contact with living bone or not. Nevertheless, he showed that the blood supply was favourably influenced by the periosteum, since 100% of implants are successful with it and only 48% are successful without it. To minute fragments of bone minus periosteum there is an easier access of blood, so the pieces of bone may grow and coalesce and not become absorbed. Of such implants 50% were successful.

Murphy, believing that the transplant must be in contact with living bone at one end and that bone transplanted into muscle always dies, stated that a graft is only osteo-conductive, meaning, by that, that blood vessels from the living bone make their way into the Haversian canals of the transplant, carrying on their walls osteoblasts. The osteoblasts thus enter the Haversian canals of the transplant and produce bone. However, McWilliams has proved that the graft is indeed osteogenetic as it need not be in contact with living bone in order to insure its permanent life.

McWilliams' statistics naturally compelled him to transplant periosteum with the bone, as the periosteum receives a sufficient blood supply from the surrounding tissues and so insures a proper blood supply for the implant it is covering, whilst in the event of the osteoblasts of the graft dying, the inner surface of the periosteum, forming osteoblasts, can proceed to reform the bone of the graft.
These statistics of McWilliams also show that Macewen is mistaken in his conception of the lack of function of the periosteum in maintaining the life of grafts.

Lewis, of Chicago, has also experimentally proved that a bone graft is osteogenetic, i.e., the graft lives and increases in size and is not merely a scaffolding for bone to launch its cells into.

Haas, of San Francisco, has also done some interesting experiments on the function of the periosteum. He proved that periosteum, especially in the presence of blood clots, has the power to regenerate bone. This supports Shede's recommendation, which was to add blood clot after resections for osteomyelitis. However, his experiments also proved that regeneration of bone was never found except when periosteum was present. Another experiment of Haas, I think, illustrates the fact that one of the great functions of the periosteum is to maintain the blood supply of the graft, and also illustrates the fact that the periosteum is a tissue into which blood vessels with osteoblasts can extend from growing bone. This experiment consisted in filling a 3 c.m. space between two bones with fascia, which also surrounded the end of the bones. Nine weeks later there was found an excessive callus formation filling up the space.

Albee, now world famous for his treatment of spinal caries, insists on the graft consisting of periosteum, endothelium, and marrow, and being in contact with bone, as these several parts aid in establishing an early and sufficient blood-supply from the recipient tissues to the cortical part of the graft. He says that a rapid and complete union between the graft and recipient bone should be in many cases enhanced by the interposition of numerous small grafts in which the periosteum may be disregarded because of the easy access of blood to their osteoblasts. These grafts coalesce with each other and also with the recipient bones and the large graft. We see that both Albee and McWilliams transplant medullary as well as cortical tissue. The importance of this is emphasized by Moore and Corbett's experimental work in the University of Minnesota. They demonstrated that medullary bone is responsible for the formation of subperiosteal bone as (1) cutting the nutrient artery, which supplies the medullary bone, prevents the formation of subperiosteal bone; (2) a hole in the periosteum may be filled in by a bridge of subperiosteal bone, if the nutrient artery is intact. A third technique, in addition to that of Murphy and McWilliams, that I should like to mention, is that of Bond of Leicester, as being an eminently suitable one for our own adoption.
In a case in which the tibia has been resected with the exception of the epiphyses, he divides the fibula below its head and bends it over into the upper fragment of the tibia, where he wires it. Two months later he divides the fibula just above the external malleolus and buries it in the lower end of the tibia.

In China, as chronic osteomyelitis is so common, I thought it fit to report Case V, as illustrating the operation of Seton Pringle of Dublin. He removes the whole of the diseased bone and some of the healthy portion in such a manner that the bone left is rounded off, so that there are no steep ridges or walls, which might prevent the soft parts from falling in and obliterating the cavity. Merely a narrow strip of bone connecting the healthy upper and lower extremities is left to maintain the continuity. For a few days Pringle plugs the space thus made with gauze and on removing the gauze he applies a moist dressing and bandages the limb tightly with the object of pressing the soft parts in and thus obliterating the space. The periosteum adheres to the raw surface of the bone and regeneration proceeds quickly.

The ages of my patients (Case I, aged 8 years; Case II, aged 8 years; Case III, aged 19 years; Case IV, aged 12 years) are interesting as compared with the observations of Conte of the Pennsylvania Hospital. He found the lesion of acute osteomyelitis originating in the ends of bones in 50 out of 55 cases before the fusion of the epiphyses and diaphyses. In 1911, he said that the majority of bone inflammations originated beneath the periosteum, but by 1912 he had changed his mind and considered that the large majority of cases before epiphyseal fusion originates centrally. Thus he supports the contention of this paper.

Treatment of Osteomyelitis.—In Surgery, Gynecology, and Obstetrics, 1915, Vol. 1, p. 129, Simmons, in a short but exhaustive paper, summarizes the treatment of osteomyelitis as follows: (1) In children with pain in a limb and evidence of toxaemia, always consider osteomyelitis. (2) Operate early, even if the symptoms are rather vague. (3) In acute cases, open the medulla and pack the wound. (4) In cases where bone destruction has taken place, seen less than three months after the onset of the disease, perform subperiosteal resection when possible. The prognosis is good. (5) In chronic cases of bone abscess, drain and pack. (6) In chronic cases, with bone destruction, remove sequestrum and pack. (7) In old chronic cases either with bone destruction or of the bone abscess type, remove necrotic areas and drain. Try to obliterate the cavity with flaps of living tissue. If this cannot be done, either use bone-wax and pack, or sterilize cavity, allow it to fill with blood-clot, and close without drainage. (8) The treatment, when such bones as the pelvis are involved, is unsatisfactory and the prognosis problematical. (9) When in old chronic cases the whole shaft of a long bone is badly diseased, re-section of the entire shaft, with bone-transplantation, should be considered before amputation is resorted to.
ON THE LIFE-HISTORY OF ASCARIS LUMBRICOIDES.*

By F. H. STEWART, M.A., D.Sc. (St. And.), M.B. (Edin.), Captain, I.M.S

Preliminary Note.

The development of *Ascaris lumbricoides* is at present almost universally considered to be direct. It is well known that the eggs passed in the faeces of man undergo development in the outer world up to the formation of a motile vermiform embryo. The egg containing this embryo may readily reach the alimentary canal of man, and it is supposed that it there hatches, and that the larva, having escaped, develops in this site into the adult. This theory is based on the work of Davaine, Grassi, Calandruccio, Lutz, Epstein, Jammes and Martin, Martin, and Wharton. I have not at present access to the works of these authors in the original with the exception of the articles of Jammes and Martin and of Wharton. Summaries sufficient for the present purpose are, however, available in the textbooks of Leukart as regards Davaine; of Railliet, Manson, Clifford Allbutt, and Castellani, as regards the later writers.

Davaine administered ripe eggs to rats, and found that after twelve hours free live larvae were to be found in the lower part of the small intestine. He also introduced ripe and unripe eggs in glass capsules closed with linen into the alimentary canal of the dog, and found that after the lapse of a certain period the ripe eggs had disappeared, whereas the unripe eggs remained. He concluded that hatching and development occurred in the alimentary canal of the definitive host.

Grassi administered ripe eggs to himself, and two months later found eggs in his stools. Calandruccio infected a child of 10 which had previously suffered from worms, but had been relieved of these parasites by anthelmintics. Lutz fed an adult on ripe eggs, and found evidence of the subsequent appearance of adult worms. Epstein's work is unfortunately not available even in summary, but from the context of the references it is clear that he successfully infected man.

Jammes and Martin worked on the line of experimental hatching of ripe eggs in artificial and natural solutions, and found that hatching took place readily and *en masse* in 0.8 per cent salt solution (which they consider to be an alkaline solution) at 37° to 40° C. Martin found that the embryos of the ascarids from the calf, pig, horse, and

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dog hatched best in alkaline solutions, and that when developed eggs were introduced into the alimentary canal of an animal they passed through the stomach unaffected and only hatched after they had been subjected to the action of the alkaline juices of the intestine (Ext. quoted from Wharton).

Wharton states that direct infection can take place, but that the embryos must be "completely developed." He does not give the period necessary to secure this complete development.

In spite of the general acceptance of the theory there is a considerable bulk of evidence against it.

Davaine administered three to four hundred ripe eggs to an ox—an animal which is stated to harbour *Ascaris lumbricoides*—and found that after four months no worms were present in the intestine. Küchenmeister experimented with a dog, which, however, escaped from his observation. Leukart fed a rabbit on ripe eggs, and found no worms after ten days; a dog was also treated, and was equally unresponsive after fourteen days. This very experienced helminthologist also fed a pig for three weeks on several thousand ripe eggs, and did not find any worms on section. An experiment on man was arranged in 1857, but it is not clear that it was carried out. He also administered to a horse the eggs of *Ascaris megalocelphala*; to a dog those of *Ascaris marginata*; to a cat those of *Ascaris mystax*, with invariably negative results.

Leukart, therefore, maintained that the life-history of *Ascaris lumbricoides* would be found to be completed by an alternation of hosts. He supported this opinion by the facts known with regard to (1) *Ascaris acus*, which is found as an encysted larva in *Leuciscus alburnus*, and in the adult form in the pike, and (2) a larval *Ascaris* found encysted in the muscles of the mole, which, when administered to the buzzard, continues to develop, although it does not yet become adult. He considered that Davaine's rat experiment, if correctly described, did not point to the direct development of the worm, but to the fact that the rat was an intermediate host. He pointed out the ease with which the larvae liberated in the faeces of the rat could be conveyed to the intestine of the definitive host—man. He attempted to confirm the experiment, but employed a mouse in place of a rat, and found that the eggs were passed unaltered in the faeces of the mouse. He therefore abandoned this line of research. He attempted to find the intermediate host among invertebrate animals, experimenting with a number of insects, snails, and earth-worms, but without success. Von Linstow suggested that *Julus guttulatus* might be the intermediate host.
Ascariasis, both in man and the pig, is of extraordinary frequency in the colony of Hongkong and in South China generally. I therefore, while stationed in this colony, had an unusual opportunity of studying the subject. I commenced experiments in the spring of 1915. Two young pigs were obtained, aged two months. The faeces of both were examined and found to be free of *Ascaris* eggs.

Pig A was fed throughout the course of the experiment on tinned milk and rice flour. Large quantities of ripe eggs from the *Ascaris* of the pig were administered to it on thirteen occasions between September 20th and December 6th, 1915. The age of the eggs employed varied from 26 to 64 days, and they invariably contained well-developed and motile embryos. They had been incubated at a temperature between 25° and 30°C. in a damp atmosphere. They were administered under varying conditions, after food and after twelve hours' starvation, with and without the addition of sodium bicarbonate. The total number of eggs used must have greatly exceeded several thousand. This pig was killed on December 15th, 1915. One small *Ascaris* only was found in its intestine.

Pig B was fed between September and December, 1915, in the same manner as Pig A, on tinned milk and rice flour; from January, 1916, onward he was fed on boiled rice and vegetables. Between September 27th and December 2nd, 1915, large quantities of ripe eggs from the *Ascaris* of man were administered to him on nine occasions. The age of the eggs varied from 22 to 106 days. They also had been kept during the colder months in an incubator between 25° and 30°C. in a damp atmosphere. The faeces of the pig were repeatedly examined for *Ascaris* eggs but none were found. Between January 5th and February 27th, 1916, large quantities of eggs from the *Ascaris* of the pig were administered, the age of the eggs varying between 17 and 73 days. The faeces of this animal were again examined repeatedly, but up to April 17th no eggs of *Ascaris* were found.

These two series of experiments thus strongly confirmed the negative finding of Leukart's experiment with the pig.

On April 6th, 1916, I took up Davaine's experiment with the rat. Four specimens of *Mus decumanus* albino had been obtained. Their faeces had been repeatedly examined and no eggs of nematodes had been found.

At 2 p.m. on April 6th ripe eggs of *Ascaris lumbricoides* from man were administered to all four rats. The faeces passed between 8 p.m. on the 6th and midday on the 7th were found to contain free larvae of *Ascaris lumbricoides*. These larvae moved in a languid manner in
normal salt solution. Eggs of the *Ascaris* of the pig were administered to all four rats on April 7th and 9th, and to Rats A, B, and D on April 10th. Eggs of the *Ascaris* of man were again given to Rat C on April 10th. The faeces continued to contain free *Ascaris* larvae. Specimens of the faeces were preserved in an incubator between the temperatures of 25° and 30° C. Live larvae were found in these specimens after the lapse of three days. The experiment of Davaine was therefore fully confirmed.

On April 12th a further development of the experiment took place. Rat C died, but I was prevented from examining this rat or observing the remaining three until April 15th. Rat C was preserved during the interval in an ice chest. On April 15th it was examined. A small quantity of blood had escaped from its nostrils. No nematodes, larval or adult, were found in the stomach or intestines. The lungs were found to be congested. Portions were removed and teased out in normal salt solution. Numerous nematode larvae in active movement escaped from the tissue. The liver was also examined and a small number of larvae found. No larvae were found in the spleen or kidneys.

The Rats A, B, and D were on this day obviously suffering from the pneumonia. A small quantity of blood was issuing from the nostrils of B and D, and all three were breathing in a rapid and exaggerated manner.

On April 16th Rat D was killed. The same nematode larvae were found abundant in the lungs. No larvae were found in the trachea, liver, heart, spleen, kidneys, stomach, intestine, or in the masseter and lumbar muscles.

Rat A had apparently recovered from its illness on April 17th, Rat B on April 18th.

The organs of C and D were examined by serial sections. In the lungs the greater part of the air vesicles were found to be filled with red blood corpuscles. Larvae were found in the air vesicles and in the bronchi of D. No larvae were found in the other organs examined, namely, liver, kidneys, and spleen.

As a control another specimen of *Mus decumanus* albino (E) obtained from the same source as A, B, C, and D, and five specimens of the wild *Mus decumanus* and two of *Mus rattus* obtained from the town of Victoria were examined. No larvae were found in their lungs.

The Rat B was killed on April 22nd. The lungs, trachea, nasal cavities, liver, heart, spleen, stomach, and intestines were examined. No larvae or other worms were found. The lungs appeared slightly
fibrosed but otherwise normal. The rat had therefore freed itself from the parasites sixteen days after the date of the first infection and twelve days after the date of the last infection.

Further experiments were made to confirm the results obtained.

On April 22nd two white rats, F and G, were given large quantities of mature eggs. Rat F was treated with the eggs of an *Ascaris* of the pig, which were eighty days old. On April 25th the treatment was repeated. On the 27th the rat was obviously ill and breathing at the rate of 134 per minute. It has continued alive, although very seriously ill, up to the date of writing—May 3rd.

Rat G was fed with eggs of the human *Ascaris* fifty-four days old. The doses were repeated on the 24th and 25th. On the 26th it was extremely ill, and breathing at the rate of 160 per minute. On the 27th it died. *Ascaris* larvae were found in the lungs and liver.*

A piebald mouse said to be one year old was treated with the same culture as the Rat G on April 24th, 25th, and 26th. On the 28th it was seriously ill, with respirations at the rate of 120 per minute. It died on that day. Lungs and liver were richly infected with larvae.*

It is interesting to compare the last experiments with Leukart's experiment with the mouse. Leukart asserted that the eggs were passed in the faeces unaltered. I found in addition to a few unaltered eggs a small number of free but dead larvae. It is probable that Leukart did not give sufficiently large doses of eggs to cause the death of the animal, and thus failed to observe the larval stages of the parasite.

Having traced the infection to the air vesicles and bronchi of the rat and mouse, it became necessary to ascertain whether the larvae in these situations were capable of further development in the definitive host.

Portions of the lungs of Rat D were administered on April 16th to the Pig B, which had been used in the experiment on direct infection described above. This animal was killed on April 30th, and stomach and intestines, heart, lungs, and liver were examined. No ascarids were found in any of these organs.

Several factors may have been responsible for this failure: (1) The larvae may require to undergo further development either in the outer world or in a second intermediate host; (2) the larvae in the lung of Rat D may have originated only from the first dose of eggs administered to it, and may therefore have belonged to the *Ascaris* of man. It is a point in debate whether the *Ascaris* of man (*A. lumbricoides, L.*) is or

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*Sections showed that the larvae in the lungs were situated in the air vesicles, in the liver in dilated blood capillaries.
is not specifically identical with that of the pig (A. suilla, Dujardin). Infection experiments only will be able to decide this point. (3) The Pig B may have been rendered immune to Ascaris infection by the large doses of eggs administered to it previously. The eosinophile index of the blood was observed to rise after several of these administrations.

I do not propose to describe the larvæ found in great detail in this place, as somewhat elaborate drawings are necessary for this purpose. I hope shortly to be able to publish a full account of the zoological aspects of the case in one of the zoological journals. [Here follows a short summary of the measurements and morphology of various Ascaris larvæ encountered during the experiments.]

**SUMMARY OF RESULTS.**

The life-history of Ascaris lumbricoides presents an alternation of hosts. Eggs develop mature embryos in the outer world in a damp atmosphere, preferably at a temperature of from 25° to 30° C. When ripe eggs reach the alimentary canal of the rat (Mus decumanus) or mouse (Mus musculus) they hatch. The larvæ liberated enter the bodies of their host, a few only escaping in the faeces. Between four and six days after infection they are found in the blood vessels of the lungs, liver, and spleen. The host is seriously ill with symptoms of pneumonia. On the sixth day they have passed from the blood vessels into the air vesicles of the lung, causing haemorrhage into them. On the tenth day they are found only in the air vesicles of the lung and in the bronchi. If the disease does not prove fatal the host recovers on the eleventh or twelfth day. On the sixteenth day the host is free from parasites.

The further course of the life-history requires further experiment for its elucidation. I have commenced experiments with this object, but among the uncertainties of military service it may not be possible to bring them to a conclusion. I therefore consider it advisable to publish the results obtained. It is obvious that the transfer of the parasite from the bronchi of the rat and mouse to the intestine of man and of the pig could be readily effected. The intermediate host might readily contaminate the food of the definitive host or the dust and earth of his surroundings.
Novarsenobenzol as a Substitute for Neosalvarsan.

Novarsenobenzol as a Substitute for Neosalvarsan.

R. V. Taylor, Jr., M.D., Yangchow.

During the two months, June and July, 1916, when the drug could be procured by us, we gave fifty-six intravenous injections of the new French preparation Novarsenobenzol. From a clinical standpoint these cases have been highly satisfactory. As yet our laboratory is not equipped for performing Wassermann reactions, but we hope soon to be able to make this test in order to study more thoroughly the real efficiency of this new substitute for Neosalvarsan.

Our method of intravenous administration is as follows: Into a clean, sterile, white bottle, with rather large mouth, 100 c.c. freshly distilled water is poured. (The bottle has two marks scratched on it with a file, one at 100 c.c., and one half way between, at fifty c.c.) After the vein is dissected out and ligated distally, the Novarsenobenzol Dose iv is poured into 100 c.c. of the distilled water in the bottle. The yellow powder goes into solution immediately, and the mixture can be injected at once, being perfectly neutral in reaction. First, a little normal salt solution, made from chemically pure sodium chloride, is allowed to run into the vein from the long glass tube. Before this has entirely run out, the Novarsenobenzol solution is poured in, and this in turn is finally followed by more salt solution poured into the same tube by an assistant. By this simple procedure only one glass tube is necessary, and the drug to be injected into the vein is both preceded and followed by non-irritating salt solution.

In all our fifty-six cases we injected two patients at a time, using fifty c.c. of the solution for each patient. In this way their first dose was 0.30 gram. The two cases were always prepared at the same time by two separate operators, and with separate sets of instruments.

The temperature of the distilled water in which the drug is dissolved must be cold (68° F. to 71.6° F.). The mixture cannot be set aside after it is made as it oxidizes very rapidly, forming poisonous by-products. It must be given at once. (In one of our packages one bottle had been broken. The contents had almost entirely disappeared leaving a small black residue.)

In this series of cases, giving 0.30 gram as a dose, there were only two unpleasant reactions. One patient vomited while the solution was running into his vein, most probably a psychic effect, and in the
other the temperature was 104° F. four hours after injection. As the latter patient had sacro-iliac tuberculosis also, with a sinus, it is possible that the fever was due to his tuberculosis and not to the drug injected. In all the other cases there were no symptoms due to the injection other than at times slight chilly sensations following the operation.

Every case showed improvement after the first dose, and some were startling in the rapidity with which they cleared up. The most rapid results were in cases of well-marked secondary rashes. Some of these very violent rashes seemed to fade away over night, and be entirely gone from the third to fifth day. The cases with joint pains also improved quickly after the first injection.

There were three cases with extensive tertiary lesions: one of the scalp, and two of the legs, which had resisted mercury and potassium iodide for nearly a year. These improved rapidly in a few weeks after each had received two injections of Novarsenobenzol.

There were also two cases of spastic paraplegia, which rapidly improved after two injections. One patient who had been brought in on a stretcher, was able to walk out of the hospital after two weeks. The other could sit up when he left the hospital, although, when he came in, his condition was one of extreme spastic paraplegia. He was instructed to continue taking potassium iodide, and mercury inunctions, and to return in three weeks for a third injection and later, for a fourth. It will probably be necessary to lengthen the flexor tendons of the legs in this case before they ever get straight again.

As yet we do not know how much of this drug it takes to effect a cure, but in our clinical experience we do know that even one dose is always followed by some improvement, and that in 0.30 gram doses there are no unpleasant after-effects such as violent chill, vomiting, abdominal pains, or high temperature.

In addition to the charges for their admittance to the hospital and their board, we have been charging $3.50 Mex. for one injection of 0.30 gram.

TREATMENT OF PHAGEDENIC TROPICAL ULCER.—In a paper on this subject, (Geneesk. Tijdschr. v. Ned. Ind., 1915), the author states that, being deterred by the cost of salvarsan, he tried Fowler's solution of arsenic as a local application to tropical ulcers, with very good results. Since July, 1911, he has treated 1,544 cases to his entire satisfaction. An exception is to be made of large ulcers as the caustic action of the arsenical solution may be too pronounced. The method has the advantage of cheapness, and also of avoiding the dangers of salvarsan.
THE CIVIL GOVERNOR OF KWANGTUNG.

The success of the Joint Conference held last month in Canton was due, in no small measure, to the courtesy and goodwill of the Civil Governor of Kwangtung, who not only welcomed and entertained the medical visitors in the most hospitable manner, but also took a keen interest in the medical proceedings. The China Medical Association and the National Medical Association of China joined in presenting him on his birthday with a silver vase as a souvenir of the occasion, and it was directed that an appreciation of his kindness and of his public services be recorded in the CHINA MEDICAL JOURNAL.

H. E. Chu Ching Lan (朱慶澜) Governor of Kwangtung, is forty-four years of age. He was born in Shaohing, Chekiang, but was reared in Shantung and has the tall and vigorous physique characteristic of so many men of that province. During the war between China and Japan he served in the army as a major and afterwards served for a number of years as military Commissioner in Szechwan.

After the Revolution he was appointed governor of Heillungkiang province, filling both the civil and military offices. Here he demonstrated his excellent qualities as an official by encouraging farming on a large scale and various other industrial enterprises for the development of Manchuria. At Tsitsihar he established an industrial home for women from Hupeh driven north by necessity, who were given an opportunity to earn a living and were also encouraged to become the wives of settlers in that province and found homes and families. His wife, said to be a very able woman, assisted him in this work and took direct charge of a similar institution at Chinchow where his home was located. During the winter months, when navigation of the river is closed, trade between Tsitsihar and Aigun, 300 miles eastward, was greatly hindered by the fact that it required fourteen days to travel the distance overland. Governor Chu inaugurated a motor car service and reduced the time to two days, thus greatly facilitating the trade and commerce of the district.

He was opposed to Yuan Shi-kai's plans to assume imperial authority and visited Peking to try to dissuade him from attempting to carry them out. During the trouble in Kwangtung after Yuan Shi-kai's death, he was chosen to go to that province as an arbitrator, and within forty days was quite successful in his mission, and acquired the great popularity which he still retains.

Governor Chu is a man of great courage, very democratic in his spirit and life, and gives great attention to detail. He goes among the people unattended by any guard, often travels in a jinricksha from the street, and is interested in all the affairs of the people.

His eldest son graduated in medicine from Edinburgh University and is now filling a hospital appointment at Portsmouth, England. Another son is taking a commercial course in the United States, and his youngest son is attending a high school in Japan.

Men like Governor Chu are scarce and it is fortunate for China's welfare that they have a chance to exercise their abilities on her behalf. More will yet be heard from the Governor of Kwangtung and all those who attended the conference wish him every success in his enlightened career.

R. C. B.
Joint Conference of the China Medical Missionary Association and the National Medical Association of China.

ADDRESS BY DR. WU LIEN-TEH, President, N. M. A. C.

SOME PROBLEMS BEFORE THE MEDICAL PROFESSION OF CHINA.

I appreciate highly the honour which has been shown me in being asked to deliver the first address before the Joint Conference of the China Medical Missionary Association and the National Medical Association of China. The idea of holding such a Conference was only taken up last year when the National Medical Association held its Conference in Shanghai and received an invitation from the senior Association to fix its next gathering in Canton. Whether this experiment will be successful or not depends much upon the results of the present meeting. Be that as it may, I feel sure that the many delegates who, like myself, are visitors to this city, owe a debt of gratitude to our Canton colleagues for the great care they have taken in preparing a very full programme both of work and entertainment for all concerned. I must not forget to mention the kindness of His Excellency the Civil Governor in taking such a keen interest in our proceedings.

I have chosen as the subject for my address, "Some Problems before the Medical Profession of China," because I believe that with the rapidity with which modern medical science is spreading in all directions it is essential for us to envisage conditions as they exist in this country to-day. It is generally acknowledged in western countries that medicine, beginning as an art in the days of Hippocrates, has in the course of centuries become a very complicated science, in which all the latest inventions of the age are brought into play, wherever possible, for the treatment and prevention of disease. However much progress may have been made, it is not forgotten that the medical profession is a humane one; that it exists primarily for the relief of suffering; and that it binds its members, with or without the intervention of the state, to certain ethics or laws of proper conduct which they are warned not to break on pain of being expelled from the profession. In the East, where some of the long-established customs in medical practice are at variance with the professional code of the West, one of our problems is to overcome this difficulty by introducing a code to which all should willingly conform. As medicine passes from the prescribing to the preventive stage, and becomes freed, as it ought to be, from the mystery it has for centuries been shrouded in, it is hoped that a proper conception of the aims and requirements of the profession may lead to a clearer understanding between the various classes of medical men, between physician and patient, and between one community and another.

The second problem which appears to me as requiring urgent solution is the standard of medical colleges in China. Let me acknowledge at the beginning the debt which medical science in this country owes to the splendid pioneer work of medical missionaries. From the time the first hospital was established in Canton in 1838, their labours have been unceasing and the success achieved, in spite of the conservatism of the people, has been very great. Owing, however, to the absence of a common policy, various schools have in the past adopted different schedules of study, so that their standards vary greatly. As a result, the graduates turned out of these institutions possess mixed ideas of their duties and responsibilities. Fully qualified physicians, trained nurses, semi-educated students and even dispensers are all classed by the Chinese public under the name of "doctor." To add to the confusion, the Central Government and provincial authorities set up standards of their own, each independent of the other, and being unguided by
expert advice make irreparable mistakes. In other words, we are experiencing in China the same difficulties which existed in America for over half a century. Fortunately, owing to the investigations of Abraham Flexner and the leadership of the American Medical Association, these difficulties in America have been settled within the last few years. In China, owing to the lack of leadership by the Central Government, or some such body as a Central Medical Council with official status, the medical profession is still running along disjointed lines. It is my earnest hope that our two sister Associations, which comprise practically all the leading practitioners of China, will unite in tackling this difficult problem. For however necessary modern medicine may be to this country, I would rather see fewer well qualified men and women with high ideals than a great many poorly qualified practitioners with indifferent ambitions. For the one class makes for progress, whilst the other leads to stagnation if not retrogression. I believe the time is ripe for us to show a united front and to solve the many problems which have awaited solution. We must first put our own house in order and carry into effect the resolutions passed in previous years. Let us enumerate all the medical institutions in China, boldly classify them in the grade to which they belong, and submit our findings to the proper authorities. Let us regard as the essentials of an efficient medical college:—a good preliminary education, well-equipped laboratories for the teaching of chemistry, biology, physics, anatomy (including dissection), physiology, and pathology, up-to-date hospitals for clinical instruction, and sufficient teachers. Let us lay stress upon the ethics of the medical profession and modify them, wherever necessary, to meet the special conditions of China. Above all, let us pay more attention to the teaching of public health, for the medical officers of health of the future will exercise in China, as elsewhere, more influence in shaping the destinies of the profession, and indeed of the country they serve, than any other body of men. We have watched with interest and sympathy the activities of the Rockefeller Foundation in China during the last two years, especially in bringing about a more systematic reconstruction of the principal medical colleges. In this respect I am delighted with the prospect of hearing at this Conference from the Resident Director himself (Mr. Roger S. Greene) an account of the aims and objects of that great Foundation in China.

For some years I have advocated the establishment of a Central Medical Council in Peking with functions similar to those of the General Medical Council of Great Britain and Ireland. This Council should consist of an official of the Board of Education and also one representative appointed by each of the medical bodies or institutions approved by the Board of Education. This Council should include among its duties:—

1. The decision of the language or languages to be recognized in the teaching of 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 already recognized by the Board of Education.
6. The recognition of hospitals where students may obtain their clinical teaching.
7. The drawing up of laws and regulations affecting the medical and pharmaceutical professions in China and their enforcement.
8. The issuing of a medical register containing the names of all those qualified to practise medicine in China.
The National Medical Association forwarded a petition embodying the above proposal to the Board of Education last year, but owing to the political troubles no decision has been taken by the Central Government. I entertain strong hopes, however, that by the time our next Conference meets this Central Medical Council will have been formed.

The future before the female medical practitioners of China is very bright. Owing to a somewhat different code of ethics governing Chinese social life, the women of this country, particularly in the south, seem to prefer being attended by their own sex. Our two Associations should encourage rather than discourage this partiality, for there is no doubt that much of the misery, lack of hygiene, and enormous infantile mortality among rich and poor alike, may be traced to the ignorance of the women. Their sanitary conscience requires as much awakening as that of the men, and this task will be more successfully accomplished by women who have received a liberal education and are guided by doctors of the same sex.

While on this subject I must not forget to mention the need of properly trained women nurses in our medical institutions. There seems to be a prevailing opinion that, in China, women should not be employed as nurses in men's wards. They have been successful, in fact indispensable, in Europe, America, and even in Japan where the female sex occupies a more subordinate position socially than it does in China. Why the line should be drawn in the case of China I do not know, beyond the two paradoxical reasons that women are irresponsible when illiterate, and proud when educated. I feel quite convinced that if my colleagues attempt the experiment they will find general nursing by women as attainable as the sanction of dissection by the Government.

Before I conclude I wish with your permission to accede to the request of our colleagues in Canton and refer to the local medical situation. As is well known, the people of Kwangtung are generally more progressive and more prosperous than those of any other province. As in the case of Manchester of England, you may say that what Canton thinks to-day, the rest of China thinks to-morrow. It was in Canton that the first Western hospital was established in China, and there are perhaps more men and women medical practitioners in this province than in any other. But our Canton colleagues, foreign and Chinese, would be the first to acknowledge that all is not as well as it should be. They would agree that there are too many medical schools (I have counted as many as seven as shown on the list), too many standards, and too few up-to-date hospitals. Of these schools, the Kung Yee has a full complement of teachers. The necessary hospital accommodation will be provided for in the new building, the foundation stone of which we shall help to lay next Saturday. The other two leading medical colleges in this city are the Kwang Wa and the Kung Li (Government), both of which have special features of their own. I need not mention the renowned Hackett Medical College for Women which stands in a class by itself. But what I would like to lay emphasis upon is the urgent need of union, for by that means you will practise economy, increase efficiency, and build a higher reputation for medical science in Kwangtung. Surely, with a little give-and-take, a common way will be found by which the Kung Yee, Kung Li, and Kwang Wa Medical Colleges will be able to amalgamate and found the Kwangtung Union Medical College. As soon as you do that, the smaller ones will fall into line and send their students to you. Continue to teach medicine in Chinese as you have hitherto done, for instruction in English has already been provided for in the medical department of Hongkong University. You are fortunate in having as Civil Governor of this Province perhaps the most go-ahead and democratic high official in China, who is keenly alive to the needs of the day. Whatever reasonable proposal you may make to him unitedly on this subject will, I am sure, be favorably considered, as has been shown by his handsome contribution of $10,000 to the Kung Li Hospital, and a subscription of $500 towards the funds of the Public Health campaign.
As the future of this great land as a strong and independent country depends largely upon the united forces of its people, so the progress of medical science in China rests mainly with its own medical profession. We should take the lead supported by the hand of good fellowship which has been so willingly offered to us for over a decade by our missionary colleagues. But the rate of progress will depend largely upon our own efforts. To succeed in this, as in all other spheres of national work, faith, unity, and co-operation are of the utmost importance.

ADDRESS BY DR. VENABLE, President, C. M. M. A.

It becomes my pleasant duty this morning to report to you the progress of the work of our Association in its official capacity during another biennium, to discuss the all-important question of how far this progress has brought us toward the attainment of our aims and ideals and, if possible, to indicate the means by which we may attain those aims and ideals more effectively.

The executive has had the misfortune to lose several of its members, Drs. Maxwell and Cole having left for military service, and Dr. Morris having gone home on furlough. It has held twelve meetings during the biennium, two of them in conjunction with the Council on Medical Education. We have also held joint conferences with representatives of the Nanking and Tsuinan Medical Schools and the China Medical Board, and have corresponded with various organizations and individuals in China, England, and America, on questions concerning the welfare of our work.

Early in the biennium we were very fortunate to secure the services of Dr. Beebe as Executive Secretary. We regard this as one of the most important forward steps taken by the Executive, and we should feel our deep indebtedness as an Association to Dr. Beebe's Board for their generosity in giving us his services. No less should we appreciate the self-sacrifice of Dr. Beebe in giving up his own chosen work to take up this work for the Association.

In conjunction with the Council on Medical Education your executive has made strenuous efforts and brought every possible influence to bear to have at least one strong medical school in East China using the Chinese language as the medium of instruction. Through various means and agencies this end seems at last to have been realized.

An effort was also made to get a physician to give his whole time to the work of hygiene and public health education, but without success.

A good deal of time has been spent agitating the question of securing a candidate secretary for medical missionaries in both England and America, but so far it has not been possible to find any suitable man for these positions.

In the fall of 1915 urgent letters were written to the conferences of Mission Board Secretaries in England and America, putting before them the importance of the work of medical missions and the necessity of doing more to bring this form of work prominently before the Church. A most gratifying reply was received later from Mr. F. H. Hawkins, stating that the Conference of Missionary Societies of Great Britain and Ireland had formed an Advisory Board on medical missionary work. A cordial letter was also received from Dr. Mott, indicating his willingness to do all in his power to carry out the wishes of the Association in this matter.

It is needless to say that your executive has spared no effort in trying to cultivate closer and more cordial relations with the National Medical Association and other representative Chinese medical societies, and it is a cause for congratulation that the National Medical Association has accepted our invitation to hold its meeting here simultaneously with our own.

Another forward step, for which we should all be profoundly grateful, is the co-operation of our Terminology Committee with like committees from the Board.
of Education, the National Medical Association, the Kiangsu Educational Association, and the Chinese Medico-Pharmaceutical Society.

From the consideration of our organized work as an association may we turn for a moment to the work of the individual units, the medical missionaries and their hospitals? It is here that success in our work must be won or lost. The work of army organization counts for little when there is failure in the firing line. This being the case, it behooves us to ask ourselves the most heart-searching questions about our work.

I take it that the question of scientific efficiency will be thoroughly and ably discussed by others at this meeting, and it is therefore unnecessary to take up this question here.

The most important factor in the success of the hospital work is the medical missionary himself, and the characteristic of the medical missionary that is most essential for success is faithfulness. We can never hope to organize our hospitals so thoroughly that they will be able to run themselves without proper supervision on our part. "Eternal vigilance is the price of success." Personal contact with our patients is something we can never afford to give up. If the round of dispensary and hospital work tends to become wearisome and monotonous, there must be heart-searching and self-discipline. We must constantly remind ourselves that this is the work we came out to do, and, if it becomes monotonous, the fault must be in ourselves, and not in the work.

Even looking at the question from the stand-point of self-interest, we cannot afford to give up this personal contact with our patients. If we do so, we shall surely see our patients begin to dwindle in numbers. A large number of our patients come to us because they expect to be treated by the foreign doctor, and while we cannot treat every patient who comes, we can be sufficiently accessible to all to make them feel that we have a real oversight of their cases.

If there are mission hospitals that have been advertised to the public for a sufficient number of years and are still poorly patronized, would it not be safe to guess that the failure of such hospitals is due to lack of personal contact of doctor with patient rather than to want of scientific efficiency in treatment?

Then, do we hide ourselves from the poor, and make ourselves accessible only to the rich? And, if this is the case, have we really the right to call ourselves "medical missionaries"?

We need to school ourselves constantly to treat our patients as individuals rather than as mere patients. We should habitually ask our patients about their home life and other matters of personal interest to them, as well as making inquiries about their symptoms. In our zeal to make our work as perfect as possible from a scientific standpoint, do we ever forget that our success or failure is more apt to be decided by our personal attitude towards our patients than by the scientific perfection of our work? Deliver us from the dead level of machine-made efficiency, with individuality crowded to the wall! A reassuring manner, and the habit of speaking an encouraging word to our patients now and then, will often hold them and make them loyal to us, even at times when our treatment is far from proving a success.

I would not be misunderstood. I would not for a moment try to make personality take the place of scientific efficiency. As scientific men and women we cannot decry the scientific "tithe of mint, anise, and cummin," but as missionaries we must insist on "mercy and judgment," the weightier matters of the law. "These ought ye to have done, and not to have left the other undone."

But personality must be given its rightful place. We may push scientific attainment to its utmost limit, and we may give our patients the benefit of all the latest diagnostic and therapeutic measures, but without this personal contact our work will be as "sounding brass or a clanging cymbal."

After all, our work is just character building, building our own characters, the characters of our assistants, and the characters of all with whom we come in contact.
The next indispensable factor in our hospital work is the nurse. The hospital without a nurse is a poor excuse for a hospital. There is no substitute for a good nurse. The wise doctor is willing to acknowledge that there are many things in a hospital that a nurse can do far better than he can. If there is any place in the world where woman's touch is indispensable, it is in our hospital work, and it is far from rare to meet cases where patients appreciate the services of the nurse far more than those of the doctor.

One of the greatest hindrances to effective and thorough medical work is the large amount of all kinds of non-medical work that is put upon the medical missionary. When a doctor has to be architect, book-keeper, purchaser of supplies, and hospital superintendent, he cannot find time for even the proper routine treatment of his patients, much less the time for studying their cases and for keeping up with the rapid advance of medical science.

Until those who are responsible for the erection and maintenance of mission hospitals are willing to make the proper effort to take this burden of non-medical work from off the shoulders of the medical missionary, we cannot hope to attain the highest efficiency in our hospital work.

As we look back over the work of the past biennium, it is with a deep realization of how far the work accomplished has fallen short of what was planned and hoped for, but it is our earnest hope and prayer that the work of the coming biennium may be far more wide-reaching and fruitful in its results, and that this period may bring the Association nearer than any preceding period has done to a realization of its hopes and aspirations.

As originally arranged the Conference was to have been held from January 20th to the 26th, 1917. Delay in the departure of s.s. "China," with a party of over 50 members of the Association on board, made it necessary to hold the Conference several days later.

On the arrival of this party at Canton on the evening of January 24th, the proceedings at once commenced. All the members present of the two Associations went to the new and beautiful Morrison Memorial Building of the Y.M.C.A., where a reception was held in their honor, which was also attended by a large number of residents of Canton, both foreign and Chinese. The hosts were the members and ladies of the two local branches of the Associations. Altogether, there was an audience of about 600 to hear the addresses of welcome given by H. E. Chu Chin Lan, the Civil Governor of Kwangtung; Dr. A. Cheng, President of the Kwangtung Branch of the National Medical Association; and Dr. Paul Todd, President of the Canton Branch of the C.M.M.A.

On the following day the regular business of the Conference was begun by the two Associations. Joint conferences were held daily, presided over alternately by each of the Presidents, separate meetings being held afterwards by the Associations. The members of the C. M. M. A. who registered were 82: those belonging to the N. M. A., with local practitioners, numbered 88, many of whom were Chinese ladies who took their part in the various discussions.

In connection with the entertainment of the visitors, acknowledgment must be made of the gracious hospitality of the residents of Canton, both Chinese and foreign. In particular, Governor Chu did all in his power to make the visit extremely agreeable. All who attended the Conference will remember it with the greatest pleasure, and the Association is much indebted to its Canton members for all they have done.
The opening session of the Joint Conference, held in the Y.M.C.A., was called to order at 9 a.m., by Dr. Wu Lien-teh, President of the National Medical Association of China. Dr. Venable led in prayer.

Dr. Wu Lien-teh then delivered his presidential address on "Some Problems confronting the Medical Profession in China." (ante, p. 122.)

Dr. Venable, President of the China Medical Missionary Association, followed with an address dealing with work done by the Association during the last biennium, and urging steadfast adherence to its professional and missionary ideals. (ante, p. 125.)

On motion of Dr. Davenport, the Joint Conference sent the following telegram of greeting to the President of the Chinese Republic:

Message sent by Canton Conference to President Li Yuan-hung.

(Pretending your interest, a Joint Conference of the C.N.M.A. and C. M. M. A. met at Canton yesterday for discussion of medical work. Both Chinese and foreign representatives send greetings.

WU LIEN-TEH.
VENABLE.)

Dr. Hume moved that a telegram of fraternal greetings be sent to the Medical Pharmaceutical Association of China for their co-operation. Carried unanimously. The general Report of the Research Committee reviewing the work done during the biennium was presented by Dr. G. Duncan Whyte, the special reports being as follows: "On Pelvic Measurements," by Dr. Garner; "Observations on the Blood Pressure of the Chinese," by Dr. Hume; on "Blood Examinations of the Chinesè," by Dr. Tyau.
The meeting was called to order by the President, Dr. Venable, at 11 a.m.

Drs. A. C. Hutcheson and Mitchell were appointed Recording Secretaries.

Dr. Hume moved the appointment by the Chair of a Business Committee and a Nominating Committee. The following were appointed:


Nominating Committee:—Drs. Cochran, Davenport, Ingram, Hume, Heath, Whyte, Main, Shields, and Hoffman.

Dr. Whyte moved that a Resolution Committee of three be appointed by the Nominating Committee, to receive all resolutions and draft them for permanent inclusion in the minutes of the Conference. Carried.

Report of Committees: The report of the Committee on the Revision of the Constitution was read by Dr. Beebe. It was moved that the proposed alterations of the Constitution be printed and put in the hands of members before further discussion. (This was found to be impracticable.)

Dr. Gillison read the report of the Publication and Terminology Committee, which was adopted. In connection with the work of this Committee, the history and status of the Wellcome Trust Fund was reviewed before the house by Dr. Beebe, who concluded by moving the following resolution:

Resolved: That it is the opinion of the Publication Committee that the restrictions placed on the Committee by the terms of the Wellcome Trust Deed have proved unsatisfactory. We therefore request the Association to give power to this Committee either to make such arrangements with Mr. Wellcome as shall approve themselves to the Committee or, failing this, to take steps to close the Fund.

On motion of Dr. Evans, the Committee on Resolutions was instructed to draw up resolutions expressing thanks to the Publication Committee for its work during the past year, and also expressing gratification at the co-operation which had been attained during the year between the Publication Committee of the China Medical Missionary Association and the co-operating Societies, viz., the National Medical Association; The Medico-Pharmaceutical Society; the Physico-Chemical Society; the Kiangsu Educational Association; and the Board of Education in Peking.
On motion of Dr. Todd, Dr. Talmadge Wilson was elected an honorary member of the Association.

The meeting closed at 12.30 with devotional exercises led by Dr. Selden.

JOINT CONFERENCE. AFTERNOON SESSION.

The Joint Conference met at 2 p.m. Dr. Wu Lieu-teh presided.

The Report of the Joint Council on Public Health was read by Dr. W. W. Peter, its Secretary. He gave a vivid account of the work done by the Council since the last Conference, illustrating his remarks with a series of lantern slides.

Mr. Roger S. Greene, Resident Director of the Rockefeller Foundation in China, sent a most interesting paper on “The Work of the Foundation.” It was read by Dr. Hume. Mr. Greene outlined the work in various educational centres, including the two medical schools in Peking and Shanghai, and the considerable financial support accorded to Tsinanfu Medical College, Red Cross Hospital (Shanghai) and to institutions in Changsha and Canton, as well as the foundation of fellowships in medicine to Chinese and foreign doctors, nurses, and pharmacists. He had no doubt that a medical secretary would soon be appointed to look after the medical work of the Foundation.

Dr. H. G. Earle, of Hongkong University, then read a paper on *Diabetes mellitus.* He dealt with the two views prevailing regarding this disease, and the new method of treatment based upon complete starvation for several days, over one week if necessary. Very encouraging results have been observed. He emphasized that proteid food is as bad as carbo-hydrate food for such patients.

In the discussion which followed, Dr. Hume said that Dr. Reed of Changsha had sent out a questionnaire and had published the information received. This showed that diabetes was much more common in China than was generally supposed.

Dr. Gaston considered that diabetes was common in Shantung.

Dr. Russell reported a case of ovarian cyst in a patient with diabetes, in which the diabetes disappeared just before the operation for the removal of the cyst.

Dr. Cadbury told of some cases he had seen in Boston recently, in which excellent results followed from the Allen treatment. He described the method of treatment in the dispensary where the patients mutually tested each other’s urine for sugar, in order to stimulate interest in their own progress toward improvement or cure.

Dr. Smyly asked Dr. Earle concerning a case now under his care whether, in an elderly patient, the heroic measures of the Allen treatment were justifiable.

Dr. Li Hsu Feng regarded diabetes as being rather common in China, especially among the well-to-do Chinese, and suggested that this might be accounted for by the larger proportion of Western food consumed by the wealthy Chinese.
Joint Medical Conference, Canton.

Dr. Main spoke of the difficulty in China of maintaining a rigid diet in diabetes.

Dr. Hayes stated that he had been successful with patients by placing them on a vegetable diet.

Dr. Whyte agreed that diabetes was more common among the wealthier Chinese, and recommended that examinations for this condition be made a routine procedure in our hospitals.

Dr. Dobson has found Benedict's test very practical and useful, and thought that diabetes in South China was probably as common as in America.

In closing the discussion, Dr. Earle said that in the case of an elderly patient, much depends on the patient’s wishes. Certainly the best result can be obtained by the Allen treatment, but he would allow the patient to choose whether to undertake the treatment or not. As to Western food being the cause of diabetes in well-to-do Chinese, that question must be left to the Research Committee to decide. Temperament was important, as evidenced by the relative prevalence of the disease in Hindoos and Chinese. The upper classes in China probably have more diabetes among them because they eat more of all kinds of food than the poorer classes. The starvation method is not very disagreeable after the first 24 to 48 hours, for after this the patient really feels better. There must be no irresoluteness with the Allen treatment; the patients must be made to undergo real starvation. The meeting then adjourned.

Later in the afternoon, from 4.30 to 5.30, a tea party was held at the Kwong Wa Medical College and Hospital, where over thirty Chinese ladies helped to entertain the guests and to conduct them through the buildings.

In the evening His Excellency the Governor and the Tuchu (Lu Yung Ting) entertained the leading foreign and Chinese delegates (men and women), numbering 180 persons, at a banquet on the Roof Garden of the Oriental Hotel, which was beautifully decorated with electric lights and flowers. Governor Chu received the guests, and was attended by his military guard.

Friday, January 26, 1917.

JOINT CONFERENCE.

At 9 a.m. the Joint Conference was called to order by Dr. Venable. Dr. Gillison led in prayer.

Dr. Houghton read a paper on "Standardization in Mission Hospital Work."

A paper by Dr. Eberson, Bacteriologist of the Manchurian Plague Preventive Service, "On the Nature of Plague Proteotoxines," was read by Dr. Wu Lien-teh.

Dr. Gibson next read a paper on "Placenta Prævia," which gave rise to an interesting discussion.

Dr. Russell favored early Cesarean section in many cases of placenta prævia.

Dr. Young held that from a pharmacological standpoint, pituitrin was indicated in uterine inertia with low blood pressure.

Dr. Hayes was of opinion that the action of the drug was too evanescent where prolonged action was desired, but it was very good where rapid and safe action was required. He had never used it in placenta prævia.
Dr. Garner had used pituitrin in uterine inertia, but had never used it in placenta praevia to any extent.

Dr. Balme asked Dr. Gibson if he had statistics of the gestation dates of his cases, as these would be interesting to know.

Dr. Branch thought that if the patients had not been tampered with and there was no great probability of infection, Cesarean section, if patient was in hospital, and especially if she was a primipara, was indicated in many cases of placenta praevia. In his opinion the average physician did not use large enough doses of pituitrin. It is perfectly safe to repeat the dose several times until the desired effect is obtained.

Dr. Gibson spoke of the practical difficulty in clinics of getting the consent of the patient for the performance of Cesarean section.

**Meeting of C. M. M. A.**

At 11 a.m. the meeting was called to order by the President.

The minutes of the last session of the China Medical Missionary Association were read and approved.

Dr. Russell moved that an abstract of the discussions of all papers read before Conference be included in the printed minutes of the Conference. Carried.

Dr. Cochran read the report of the Nominating Committee, in which the following appointments were recommended:

**Research Committee:** Drs. Whyte, Hutcheson, Eich, Hadden, Garner, C. W. Young. Elected.

**Committee on Drafting of Resolutions:** Drs. Hume, Whyte, and Young. Elected.

The following resolution was moved by Dr. Houghton:

*Resolved:* That upon the Executive Committee be laid the duty of formulating (a) standardized mission hospital statistics; (b) a standardized system of hospital accounting; and (c) that the Executive Committee be authorized to organize and carry on a purchasing agency for mission hospitals, if practicable.

After devotional exercises led by Dr. Kirk, the meeting adjourned.

**Afternoon Proceedings.**

In the afternoon about eighty visitors inspected Dr. Kerr's Asylum for the Insane. Cases were shown by Drs. Selden, Ross, and Hofman. His Excellency, Governor Chu, also honoured the institution with a surprise visit and took great interest in all the patients and buildings. One of the patients was once Chinese consul at Honolulu. The Asylum was very full, the number of inmates at present being 500, of whom 230 are women.

From the Asylum the delegates proceeded by launch to the Hackett Medical College for Women. In the hospital connected with the College there is accommodation for fifty patients. There are 28 women students and several women nurses.
Saturday, January 27, 1917.

On this day the Joint Conference assembled in Swasey Hall, Canton Christian College.

The chair was taken by Dr. Wu Lien-teh. Prayer was offered by Dr. Anderson.

Dr. Digby read a paper entitled "Notes on Sub-epithelial Lymphatic Glands." Later, during the course of the meeting, he stated that he had been specially delegated by the President and Council of the British Medical Association at Hongkong to express their great pleasure at the attendance of so many eminent members of the medical profession in Conference at Canton, and their hopes that it will be crowned with every success.

Dr. Cheng, Superintendent of the Kwong Wa Hospital, Canton, read a paper on "Spinal Anaesthesia with Propococain." He dealt with the technique of this operation, which is quite simple, and enumerated a number of major operations in which this method had been used with success. He recommended its general use in cases where general anaesthesia was dangerous, such as in heart lesions and lung diseases.

Dr. Mary L. James read a well-considered paper on "Problems connected with the Training of Nurses in China."

Dr. H. F. Chau read some notes on "A Case of Pyonephrosis due to Impacted Stone." The disease was not diagnosed before operation because the patient smoked opium to relieve his pain and misled the doctors about the symptoms. However, on operation by Dr. Chan, pints of pus were withdrawn and a large stone was removed.

The last paper read at this session was by Dr. W. G. Reynolds on "Gunshot Injuries." The discussion of the papers read was regretfully omitted owing to lack of time.

The Joint Conference then adjourned.

MEETING OF THE C.M.M.A.

At 11 a.m. Dr. Venable called the meeting to order.

The minutes of the previous session of the China Medical Missionary Association were read and approved.

Dr. Houghton read the report of the Council on Public Health and introduced the following preamble and resolution which were passed as presented:

INASMUCH as there is a deplorable absence of intelligent appreciation in China of the laws which govern the communication of disease and the preservation of health, resulting in the lamentably unsanitary conditions prevailing in cities, villages, and homes of the people; and
In view of the increasing interest shown by the educated classes in many parts of China in recent health education campaigns conducted under missionary auspices, and a wide-spread conviction among the medical missionary body that the Christian Church should assume direct responsibility for the promotion of public health education;

In view, further, of the value of health education campaigns as an agency for securing an effective point of contact with the cultured classes, paving the way for direct evangelistic effort among a large and influential group, and of their value as a practical demonstration in applied Christianity, which serves as a powerful apologetic; and

Since many of the most gifted and highly trained Chinese Christian leaders have suffered early incapacitation or death through preventable causes, resulting in a financial and spiritual loss to the Church which might in the future be prevented by an adequate public health propaganda;

In view, moreover, of the impracticability of conducting an extensive and thorough program of this nature without a central unifying agency, and since no other organization is likely within the near future to be in a position to assume this responsibility in the name of our common Christianity, as well as the China Medical Missionary Association, if the men and money could be provided,

Be it therefore, resolved: That the China Medical Missionary Association appeal to the missionary societies now at work in China to send out or allocate men of the necessary qualifications to undertake under the direction of the China Medical Missionary Association the leadership in a nation-wide campaign of public health education, and to provide the financial support needed.

Dr. W. W. Peter, Secretary of the Joint Council on Public Health Education, was next invited to speak. He outlined the work of the past years and emphasized the need of extension. He appealed for an Associate Chinese Secretary to carry on the work during his absence in America. A sum of $3,000 was required every year for two years, of which the C. M. M. A. had promised $1,500. The N. M. A. then passed a resolution undertaking to find the other $1,500, the President (Dr. Wu Lien-teh) promising to provide $300 himself.

After some discussion, Dr. Woods moved the following resolution:

Resolved: That the Conference heartily recommends to generous Chinese the plan of securing an associate secretary to the Joint Council on Public Health and instructs the Committee on Public Health Education to select suitable men as the agents of the C. M. M. A. in each important centre of China to give publicity to the need and to secure pledges of support.

Drs. Christie and Balme were delegated to attend the business session of the N. M. A. to express their appreciation of the splendid co-operation shown by its members, and also the hope that they might arrange a joint business session on Monday evening. This was agreed to unanimously.

Dr. Hume read the report of the Council on Medical Education with annexed resolutions.

On request of Dr. Eich, Dr. Cadbury was substituted for him on the Research Committee.
Dr. Young moved that the Executive Committee be instructed to provide, if possible, hospital surveys when such services are requested.

Dr. Balme introduced the following resolution:

Resolved: That in the interests of Public Health and the prevention of vermin-carried disease, as well as for the protection of medical missionary workers, the Conference urges that every mission hospital be provided with a sufficient supply of hospital bedding and clothing and adequate laundry facilities for all patients admitted to the wards.

The devotional exercises were led by Dr. Kathryn McBurney, after which the meeting adjourned.

Afternoon Proceedings.

Luncheon was kindly provided by the staff of the Canton Christian College. The grounds of this college cover 100 English acres, and contain many fine up-to-date buildings with beautiful green-tiled Chinese roofs.

From the College, the delegates were conveyed to the grounds of the new Kung Yee Medical School and Hospital. The foundation-stone was laid by a representative of the Military Governor.

At 4.45 p.m. a tea party was given at the Government Hospital, presided over by H. E. the Civil Governor. The Medical Superintendent, Dr. Heugh (Chinese graduate of an American college) said that in the past year they had over 2,000 inpatients and performed many operations.

The Governor welcomed the delegates and asked the several doctors present to point out any deficiencies they noticed, so that these might be remedied. He was anxious to take the best advice.

Dr. E. H. Hume responded, and heartily congratulated the authorities on possessing the most picturesque and cleanest government hospital they had ever seen in China.

In the evening a banquet was given, the hosts being the local branches of the two Associations. Covers were laid for 240 guests. During the banquet, Dr. Cheng read a telegram containing the reply of the President to the message of greeting from the Conference:

(Your telegram received. Wish you all success in your united efforts. Greetings from Li Yuen-hung).

The message was received with applause, all standing.

Speeches were made during the course of the evening by Drs. Todd, Cheng, Christie, Wu Lien-teh, Dr. Liang (a lady physician), Dr. Duncan Main, and Drs. Peter and Evans contributed to the pleasure of the meeting by their singing.
The China Medical Journal.

Monday, January 29, 1917.

The fifth day's proceedings of the Joint Medical Conference began with separate sessions of the Associations.

MEETING OF C. M. M. A.

The meeting was called to order by Dr. Venable at 9 a.m. Prayer was offered by Dr. Balme.

The minutes of the preceding meeting of the C. M. M. A. were read and approved.

The revision of the Constitution and By-laws of the Association was the first item of business. Some of the clauses were deferred for further consideration.

Dr. Gillison moved that the meeting hear the Report of Dr. Hume of his "Survey of Medical Educational Work in South China," to be received as information.

In his paper, Dr. Hume classified the medical colleges according to provinces, cities, date of foundation, and language taught. He enumerated 26 colleges altogether, some missionary, some under the Chinese Government, some private, some joint foreign and Chinese, and two purely female institutions. The largest in point of numbers was the Army Medical College, Tientsin, with nearly 350 students, whilst the best equipped (with the exception of Hongkong University, which he had not yet visited) was the German Medical College in Shanghai. The total number of medical students in China at present was under 1,500, of whom 136 were women.

Dr. Ross moved a rising vote of thanks to Dr. Hume for his excellent paper, which was carried unanimously.

Dr. Houghton then moved that the resolution of the Council on Medical Education be re-read and that the items be considered seriatim. Carried.

After much discussion, the first four resolutions were passed, the fifth being referred back to the Committee for a subsequent report after it had consulted further with certain members of the Association.

The session concluded with devotional exercises led by Dr. McCracken.

In the afternoon a public meeting was held to hear a lecture by Dr. W. W. Peter on Public Health, illustrated by numerous and interesting exhibits. Among the audience were the Governor and many local officials. The medical students of the various colleges volunteered to conduct small parties to see and explain to them the exhibits. About 900 people were present.
The Governor spoke first and thanked the doctors from all parts of China for having come to show them new methods and impart new ideas. No country could exist without public health work, and he would personally do all in his power to raise the Province up to the level it was entitled to occupy in this respect.

The lecture was then delivered and was much appreciated.

**JOINT EVENING SESSION.**

A Joint Session was held in the evening, the meeting being called to order by Dr. Venable at 8 p.m.

Dr. Wu Lien-teh read his paper, in English, on "The Menace of Morphine." He drew attention to the enormous increase of the export of morphine from Great Britain from 5½ tons in 1911, to 14 tons in 1914, and perhaps 16 tons in 1916. The usual dose for an average person was half a grain. Japan was the largest importer of this drug, but she re-exported it again to China by way of Autung, Dalny, and Formosa. The profit made by Japanese dealers on 6½ tons in the year 1913 was £640,000. Fortunately, if Great Britain forbade its export very little of the drug could be procured. For this the Hague Opium Convention of 1912 had provided, and it only required ratification to enable the provisions passed by it to be enforced as laws by the signatory powers.

Dr. Gillison proposed, and Dr. Russell seconded, that a resolution should be passed drawing the attention of the authorities to this serious state of affairs. This was passed unanimously.

Dr. Hume was invited to deliver a résumé of his paper on "Medical Schools in China" in Chinese. Dr. Li Shu-fung interpreted.

Dr. Houghton's paper on "Standardization in Hospitals" was read by Dr. Balme. He laid emphasis upon proper management and staffing, proper records, and proper nursing as essentials.

The President of the National Medical Association appointed the following committee to act with a similar committee of the C. M. M. A., in any joint business which may arise: Drs. Li Shu-fung, E. S. Tyau, Holt A. Cheng.

The question of approaching the Government with regard to the establishment of a Central Medical Council in Peking based on Dr. Wu's memorandum was next discussed.

Dr. Beebe moved that the Conference express its approval of the plan to approach the Chinese Government asking for the appointment of a Central Medical Council, and that the incoming Executive be empowered to help the N. M. A. in this effort in any and every way feasible.
The Resolution Committee was accordingly instructed to meet with the Business Committee of the N. M. A. to draft a joint resolution for presentation to the Chinese Government.

**Tuesday, January 30, 1917.**

The meeting of the C. M. M. A. was called to order at 9 a.m. by Dr. Venable. Prayer by Dr. MacWillie.

The minutes of the previous meeting of the C. M. M. A. were read and adopted. Dr. Mary L. James moved that the following resolution be sent to all Mission Boards represented in the C. M. M. A.:

> **Resolved:** That, in view of the fact that a new era of medical science is dawning in China, it is the earnest desire of the C. M. M. A. that all Mission Boards so reconstruct their policy towards hospital work in this land as to meet adequately the requirements of the present day. Not only for medical efficiency is it most urgent that adequate staffs, and modern, sanitary, well-equipped buildings be provided, but also that mission hospitals may grasp the present unique opportunity to impress upon the rising (medical and) nursing professions of China the distinctive stamp of Christianity.

Dr. James also moved the following resolution:

> **Whereas,** owing to the close co-operation which exists between doctors and nurses, and their common ideals, and owing also to the fact that so much of the teaching of nurses will be done by physicians, at the request of members of the Nurses’ Association of China:

> **Be it resolved by the China Medical Missionary Association:** That a committee of five be appointed to discuss fully the curriculum and other important matters connected with the training of nurses in China. One of the primary purposes of this curriculum shall be the promotion of co-operation between the C. M. M. A. and the Nurses’ Association of China. To this end the committee shall confer with the Executive Committee of the Nurses’ Association of China, and shall report to the Executive Committee of the C. M. M. A.

The report of the editor of the **China Medical Journal** was read and adopted, with a vote of thanks of the Association to him for his excellent work in the conduct of the **Journal**.

Moved by Dr. McCracken:

> **Resolved:** That a committee be appointed consisting of the Editor of the **Journal** and two departmental editors to collect information concerning new publications, to review those thought to be most useful, and at the end of the year to publish in the **Journal** a list of the new publications which are thought by the committee to be most helpful to readers of the **Journal**. Carried.

Dr. Balme introduced the following resolution:

> **Resolved:** That the Organizing Committee of the next Biennial Conference be asked to arrange that a certain number of days be distinctly allotted to the reading and discussion of scientific papers, the business matters of the Conference being relegated to the later sessions.

Dr. MacWillie moved that a department of Hospital Economies be established in the **Journal**.
Dr. Bryan moved that Mr. Lobenstine be elected an honorary member of the Association. Elected by acclamation.

Dr. Houghton moved the adoption of the following resolution, which was carried unanimously:

Resolved: That the Conference extends its thanks to the following for their kindly interest in and services to the Association:

To His Excellency, the President of the Chinese Republic, for his warm interest in the work of Public Health Education, as expressed in his letter of January 10th, 1917.

To the American Medical Association for sending to China the Patent Medicine and Medical Education sections of its exhibit at the Pacific-Panama Exposition. (On display in the gymnasium.)

To the U. S. Public Health Service, through Surgeon-General Rupert Blue, for their offer to make an exception in the case of China and place at our disposal any part of their collection of 2,500 lantern slides on health subjects we may wish.

To the State Board of Health of Pennsylvania for sending out a large number of blue prints on health education subjects. (On exhibition in the gymnasium.)

To those members of the Association who at this time of unusual financial strain pledged money, as well as interest, to the work of Public Health Education.

To Parke Davis & Co., for four sets of slides and an electric lantern, and to Burroughs Wellcome & Co., for miscellaneous slides.

Dr. Whyte moved the following resolution:

Resolved: That the China Medical Missionary Association, having received with gratification the fraternal greetings of the Hongkong and China Branch of the British Medical Association, desires to extend to it the heartiest good wishes, and looks forward to continued service with that Association in the promotion of modern Medicine in China.

Dr. Smyly introduced the following statement as a resolution which was received as information by the House:

That, in the alternate year of the biennium, between the meetings of the General Conference of the C. M. M. A., it is advisable that sectional conferences be held in different parts of China. We think a conference is needed for North China to include all China north of the Yangtse. The aim should be to get a comprehensive view of this field in more detail than can be dealt with in a general conference.

Dr. Whyte moved that the Conference reiterate its disapproval, as expressed in former Conferences, of any mission forcing or allowing a medical missionary to undertake medical responsibility before the missionary has had two years for language study.

Dr. Patton then read a paper on "Medical Evangelism."

In the discussion that followed he was asked how many of the Chinese were linked to the Church by these services. Dr. Patton replied that generally from 20 to 30 persons per annum were added.

Dr. Venable said he was glad to hear of co-operation of the helpers in this evangelistic work.

Dr. Balme referred to a book which had detachable leaves for follow-up work of patients.
Dr. Hayes said that he knew of one medical missionary who always said that he did not want the fee to be so high that it covered the message.

Dr. Young said the valuable part of the paper was the description of the follow-up work. We must put our energy more on this phase of the work.

Dr. Hume again brought forward the resolutions of the Council on Medical Education. There was a very earnest, animated discussion in which nearly all who were engaged in the work of medical education joined. On certain points there were differences of opinion, but there was an unmistakable desire on the part of all to establish medical education on a basis that would be most conducive to the welfare of the Chinese.

Finally, the sixth, seventh, and eighth resolutions were passed, after which the Report was adopted as a whole, as follows:

RESOLUTIONS OF THE COUNCIL ON MEDICAL EDUCATION.

1. That this Council notes with approval the fact that no new medical colleges have been started during the last biennium. This is not only in line with the modern spirit which insists that every possible step should be taken in the direction of consolidation, of strengthening the staff, and of improving the equipment of existing institutions before launching new ones; but is also in accordance with the resolutions of the Peking Conference, 1913, and of the Curriculum Committee of the Shanghai Conference, 1915, with reference to the minimum staff of every college. No college as yet possesses this minimum staff giving full time; the Council continues, therefore, to urge intensive strengthening. Under present conditions in China, if missionary societies are to remain in the field of medical education, they should be represented only by efficient schools. Anything less, in comparison with the schools to be established by other agencies, will bring Western medicine and Christianity into disrepute in the eyes of the Chinese and of the world. The Council would again draw attention to the resolutions of the 1913 Peking Conference urging that the staffing and equipment of medical schools should take precedence over new work. It believes that societies should even be ready to provide that such individuals as are needed for teaching work in medical colleges may be released from hospitals and their places taken by new recruits. Unless missionary societies and stations are prepared to sacrifice in this way their own local needs and desires, it will be difficult to make adequate provision for the staffing of the medical schools needed.

2. That this Council records its deep appreciation and hearty endorsement of the action of the Board of Managers of the University of Nanking in closing their medical school in order to further the movement for co-ordination and co-operation. Only by such willingness to sacrifice local plans can Mandarin medical education be given the impulse it deserves. While English is, at least for the present, a desirable medium of instruction in some of the colleges, it ought to be possible to develop one Mandarin-taught school of the first rank for East and Central China. To accomplish this, the only sound course is for the forces in this area to concentrate on one institution. In view of this fact we reaffirm our opinion that Tsinan should be the first school to be thus strengthened.

3. That this Council records its satisfaction at the attitude of the St. John's-Pen nsylvania trustees in being prepared to close when adequate provision has been made for medical education in English in Shanghai.

4. That this Council has heard with satisfaction of the progress already made at Tsinan, in securing teachers from the faculties of other medical schools, and in
receiving a large student accession from Peking, as well as in the plan for still other missions to enter the union work of Shantung Christian University. The attention of missionary societies is, however, called to the difficulties that Tsinan is still having in assembling an adequate faculty and again points to the need for willing co-operation at this centre.

5. That this Council, while it desires to re-emphasize the need for centralizing at Tsinan in order to make certain the success of one college taught in Mandarin, believes that Manchuria, Szechwan, and South China form special fields. It has heard with satisfaction of the progress already made in the Mukden Medical College, of the prospects of further advance, and of the strong friendships formed with the local authorities; and urges the Mission Societies concerned to give the College all necessary support in order to bring it up to the standards of staff and equipment laid down by the C.M.M.A. in 1913 and 1915. It has heard with satisfaction of the promising beginning made by the Union Medical School at Chengtu. It believes that there is need and opportunity for the development under Christian auspices of one strong medical school in South China of the standards already approved by the C.M.M.A. It believes that medical education may have to be developed in other centres teaching in Chinese later on; but insists that the best method whereby the number of such schools may be promoted in the future is by limiting their number at present.

6. That this Council endorses the movement to secure medical education for women under Christian control. It asks the three colleges now teaching women to consider whether further co-operation and concentration are not possible; and commends this question to the consideration of the incoming Council in consultation with those engaged in the medical education of women.

7. That this Council has heard with satisfaction of the action of the Conference of British Missionary Societies in June, 1916, in bringing into existence a British Medical Advisory Board and in asking that Board to make search for suitable candidates for foreign service.

8. That this Council records its satisfaction at the interest taken by the Committee of Reference and Counsel of Board Secretaries of North America in the request for a candidate secretary made by the Executive Committee of the C.M.M.A. It desires to reaffirm its sense of the urgency of securing such a man for work in North America; and places upon the Executive Committee of the C.M.M.A. the responsibility of keeping this matter constantly before the American Committee.

The meeting concluded with devotional exercises led by Dr. Boyd.

In the afternoon, the delegates, numbering over 120, were invited to a picnic party at Whampoa. Two gunboats and three launches conveyed them down the river, His Excellency the Governor himself attending the excursion. The weather was fine, and the visitors, most of whom were seeing Canton for the first time, enjoyed the relaxation from work. At five o'clock, tea was served in the beautifully laid-out gardens of the Naval Academy. On the return trip, the Governor gave his photo with autograph to more than forty of the delegates.

JOINT EVENING SESSION.

The Joint Conference was called to order at 8 p.m., by Dr. Venable. At the request of Dr. Wu Lien-teh, Mr. Lobenstine led in prayer.

The Resolution Committee submitted the following resolution:

WHEREAS, The National Medical Association and the China Medical Missionary Association, in joint conference assembled, have heard with deep concern, of the enormous and rapidly increasing importation into China of morphine and,
WHEREAS, Such importation is largely surreptitious,

Therefore, be it resolved: That the National Medical Association and the China Medical Missionary Association, place on record their conviction that the uncontrolled use of this drug will do far more harm to the nation than was ever done by opium and believe that this imminent danger can only be averted by the Chinese Government enforcing, without delay, the provisions of the Hague Opium Convention of January 23, 1912 (including adequate pharmacy laws) so as to confine the employment of morphine to legitimate medicinal uses.

The resolution was carried unanimously. On the motion of Dr. Patterson, it was also resolved to send the above resolution to the British, Japanese, German, and American Medical Associations, and such other bodies as may be considered advisable.

Dr. Young, for the Committee on Resolutions, also introduced the following resolution regarding a Central Medical Council:

WHEREAS, During the Joint Conference of the National Medical Association and the China Medical Missionary Association, great emphasis has been laid by the President of the National Medical Association on the need for a central organisation which shall regulate the curricula and standards of medical schools throughout China, and shall control admission to the practice of Western medicine in this country;

AND WHEREAS, The experience of other countries has clearly shown that only by such centralized organization can orderly progress be attained;

AND WHEREAS, The National Medical Association has expressed its belief that joint action in the matter is desirable at this time;

Therefore, be it resolved: That this Joint Conference of the National Medical Association and the China Medical Missionary Association record its belief that only by the creation of a Central Medical Council can the needed regulation and control be effectively secured. Such Council should include among its duties:

1. The fixation of a minimum standard of general education required of students before entering upon medical studies.
2. The maintenance of a student register on which the names of all who, having complied with the entrance requirements, have commenced the study of medicine, shall be recorded.
3. The fixation of a minimum medical curriculum.
4. The supervision of examinations.
5. The recognition of hospitals where medical students and graduates may obtain clinical teaching.
6. The drawing up of laws and regulations affecting the medical profession in China, and their enforcement.
7. The issuing of a medical register containing the names of all those qualified to practise Western medicine in China.
8. The adoption of a general nomenclature of medical terms in Chinese.

And be it further resolved: That in view of the rapid increase in the number of students and practitioners of Western medicine in China, this Conference requests the National Medical Association to approach the Board of Education with a view to the formation of such a Council at an early date.

The resolution was passed unanimously.

Dr. Duncan Whyte proposed that, in view of the great kindness which had been shown them by the Civil Governor, the Conference
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members should show their appreciation by presenting His Excellency with some silver memento suitably inscribed in English and Chinese. All those present heartily supported the proposal, which was carried. The C. M. M. A. elected the Governor as an Honorary Member, and it was directed that his photograph should appear in the next issue of the JOURNAL.

The proceedings terminated at 10 p.m. after Dr. Venable had expressed his appreciation of the co-operation and hospitality of the Canton members of the National Medical Association. Dr. Wu Lien-teh made an appropriate reply.

Wednesday, January 31st, 1917.

The meeting of the C. M. M. A. was called to order by Dr. Venable at 9 a.m. Prayer by Dr. Davenport.

The minutes of the preceding meeting of the C. M. M. A. were read and approved.

The Committee on Resolutions presented the following resolution on hospital work:

Resolved: That this Conference, while mindful of the present urgency of concentration in medical educational work, records its conviction of the fundamental importance of mission hospitals established for carrying the Gospel through healing to all parts of China, and its appreciation of the work already accomplished in China, and commends their work to the continued liberality of the Christian Church in the home lands.

Dr. Beebe brought forward the Constitution and By-laws for further discussion and amendment. Eventually the Constitution and By-laws were passed unanimously as amended. The question as to the number necessary to constitute a quorum at meetings of the C. M. M. A. was referred to the Executive Committee with authority to insert their decision in the By-laws.

Dr. Beebe moved the following vote of thanks to the Continuation Committee:

Resolved: That the Association express to the China Continuation Committee its thanks for the financial assistance it has thus far given the Association, and requests the China Continuation Committee to continue its assistance during the next biennium.

Dr. Beebe also moved the following resolution:

Resolved: That the drawing up of a budget for the work of the C. M. M. A. and of its special committees be entrusted to the Executive Committee and that it be made responsible for raising same. That in case the Executive finds it necessary to raise additional funds from the regular missionary constituencies of the societies in Europe and America, it do so in co-operation with the China Continuation Committee.
Dr. Bryan moved the following resolution which was referred to the Executive Committee:

Resolved: That the China Medical Missionary Association recommend to the Home Boards that they have a systematic physical examination at stated intervals of all their missionaries, with a view to the prevention of avoidable illness.

Dr. Balme, for the Business Committee, moved that the next Conference be held in Peking, date to be determined later. On the invitation of the two members from Peking, and after much discussion which brought out the fact that the members of the National Medical Association were very anxious for a joint conference in Peking, the motion was passed.

Dr. Beebe read his report as Executive Secretary which was adopted with a rising vote of thanks.

The meeting concluded with devotional exercises led by Dr. Hume.

**Afternoon Session.**

The meeting was called to order by Dr. Venable at 2.30 p.m. Dr. Cochran led in prayer.

The Nominating Committee presented its report of nominations which, after a few alterations, resulted in the following election of officers:

*President*: Dr. Davenport, Shanghai.

*Vice-president*: Dr. Cochran, Hwaiyuau, An.

*Recording Secretary* and *Treasurer*: Dr. Morris, Shanghai.

*Executive Secretary*: Dr. Beebe, Shanghai.

*Editor of Journal*: Dr. Merrins, Shanghai.

*Associate Editor*: Dr. Hutcheson, Kashing, Che.

As members of the Executive Committee, in addition to members ex officio: Dr. Main, of Hangchow; Dr. Garner, of Shanghai; Dr. Venable, of Kashing; Dr. Christie, of Moukden; Dr. Kirk, of Canton; Dr. Gillison, of Hankow.

*Committee on Publication and Translation*: Drs. MacAll, Cousland Neal, Cormack, Ingram, Gillison, Shields, Beebe.


*Research Committee*: Drs. Whyte, Hutcheson, Young, Garner, Hadden, Cadbury.

*Committee to Consult with Nurses' Association*: Drs. Main, McCracken, James, Venable, Fullerton.
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With regard to the Council on Medical Education, Dr. Hume moved that Dr. Christie of Moukden, if unable to be present, be allowed to send a delegate to be present at the meetings, but this delegate or substitute to have no vote. Motion passed.

Dr. Cochran presented the following recommendation from the Nominating Committee:

The Nominating Committee suggests that at the next Biennial Meeting the Association appoint its standing committees and councils early in its sessions in order that they may select their representatives on the Executive Committee.

The suggestion was adopted by the Conference.

A rising vote of thanks was extended by the Conference to the local Canton Committee, and to the chairman of this Committee, Dr. Kirk; to our hosts and hostesses in Canton; to the Y. M. C. A. for its several courtesies, and to Dr. H. A. Cheng, president of the Canton branch of the N. M. A.

Dr. Christie moved that the Association appoint Drs. Todd and Kirk to act with the National Medical Association in selecting a suitable inscription for the silver cup which the two Associations had decided to present to the Governor, H. E. Chu Chin Lan.

Votes of thanks to the retiring president and to the recording secretary were passed. The Conference then terminated.

Among the interesting features of the Conference were the Public Health exhibits of Dr. W. W. Peter, and the commercial exhibits of Messrs. Parke, Davis & Co., Burroughs, Wellcome & Co., Evans & Sons (books), Chinese American Publishing Co. (books), and the Standard Oil Company (stoves and lamps). An exhibit which attracted considerable attention was the hygienic dining-table introduced by Dr. Wu Lien-teh for the eating of Chinese food in a sanitary manner.

General Remarks.

It seemed to be the general opinion among the members present that the Joint Conference in Canton has been, perhaps, the most successful meeting that has been held by either medical Association. The comradeship displayed by the foreign and Chinese delegates and between senior and junior members was remarkable, and bids fair to mark a new stage in the medical progress of this country. It would be superfluous to lay emphasis on any particular point deserving of special mention, but the following particularly interesting features of the Conference may be enumerated:

1. It is the first joint Medical Conference of its kind in China.
2. The Presidents of the two Associations presided at alternate sessions.
3. There were sessions for English and Chinese papers.
4. The Civil Governor and local officials showed the utmost interest in all its proceedings.
5. The marked number of Chinese medical men present, at least forty being members. The ladies did their full share in reading papers and entertaining.
6. The enthusiasm with which the proposal for finding the means to appoint a Chinese Associate Secretary for the Public Health Council was received.
Members of C. M. M. A. and Visitors Present at the Canton Conference,
1917.

Dr. W. J. Webb Anderson
Dr. Harold Balme
Dr. Nina H. Beath
Dr. Robert C. Beebe
Dr. W. L. Berst
Dr. J. R. B. Branch
Dr. Herman Bryan
Miss Mary Chaney
Dr. and Mrs. Dugald Christie
Dr. and Mrs. S. Cochran
Dr. Frances Cunningham
Dr. James F. Cooper
Dr. and Mrs. C. J. Davenport
Miss Denison
Dr. E. J. M. Dickson
Dr. K. H. Digby
Dr. W. H. Dobson
Dr. L. G. Dyer
Dr. P. S. Evans, Jr.
Mr. E. Evans, Jr.
Dr. Earle
Dr. G. Eich
Dr. Emily Garner
Dr. J. M. Gaston
Dr. and Mrs. R. M. Gibson
Dr. Thomas Gillison
Dr. A. N. Hooker
Dr. Lena M. Hatfield
Dr. and Mrs. Chas. A. Hayes
Dr. F. J. Heath
Dr. H. S. Houghton
Dr. A. C. Hutchison
Dr. Edward H. Hume
Dr. J. H. Ingram
Dr. Mary L. James
Dr. Kilgore
Dr. John Kirk
Dr. and Mrs. G. W. Leavell
Dr. S. C. Lewis
Rev. E. C. Lobenstine
Dr. Hattie F. Love
Dr. Jessie A. MacBean
Dr. John MacWillie
Dr. and Mrs. D. Duncan Main
Dr. Kate H. McBurney
Dr. J. C. McCracken

Dr. J. A. McDonald
Dr. Margaret E. McNeill
Dr. J. E. Mitchell
Dr. and Mrs. Frank Oldt
Dr. R. E. Patterson
Dr. and Mrs. C. E. Patton
Dr. W. W. Peter
Dr. Ethel M. Polk
Dr. Catherine Porter
Dr. W. B. Russell
Dr. R. T. Shields
Dr. Jocelyn Smylie
Dr. J. H. Snoke
Dr. F. J. Tooker
Dr. and Mrs. W. H. Venable
Dr. Vickers
Dr. G. D. Whyte
Dr. J. M. Wright
Dr. C. W. Young

Local Members.

Dr. R. M. Ross
Dr. Chas E. Selden
Dr. Joseph L. Harvey
Dr. E. C. Machle
Dr. H. W. Boyd
Dr. Martha Hackett
Dr. Harriet Allyn
Dr. Wm. W. Cadbury
Dr. Andrew H. Woods
Dr. J. O. Thomson
Dr. Paul J. Todd
Dr. J. Allen Hofmann
Dr. W. Reynolds
Dr. Talmage Wilson
Dr. John M. Swan
Dr. C. A. Swan
Dr. Regina M. Bigler

Nurses.

Miss Lucile Withers
Miss Helen I. Stockton
Mrs. J. L. Harvey
Miss Margaret S. Todd
Miss W. M. Stubbs
Cecil J. Davenport, F.R.C.S., L.R.C.P. (Eng.).
President, China Medical Missionary Association. 1917-1919.
The China Medical Journal.

Vol. XXXI. MARCH, 1917. No. 2

All communications on Editorial Matters, Articles, Letters, Exchanges, and Books for Review should be addressed to the Editor of the Journal.

Changes of address, departures and arrivals of members of the Association should be notified to the Business Manager, Dr. R. C. Beebe, 5 Quinsan Gardens, Shanghai. Members are requested to invite all missionary physicians who come to China and other parts of the East to join the Association.

Every member of the China Medical Association, who has paid his dues for the current year, is entitled to a copy of the China Medical Journal for the year, postage free. To those not members, the subscription to the Journal is $4 Mex., per annum. In remitting by cheque please specify "Shanghai currency."

Editorial.

OUR NEW PRESIDENT.

At the recent Conference in Canton, Dr. Cecil J. Davenport of the Shantung Road Hospital, Shanghai, was elected President of the China Medical Missionary Association for the customary period of two years. He is so well known to the members of the Association, having been appointed by them at various times to offices which he has filled to their entire satisfaction, that it is only necessary to refer briefly to his general services as a medical missionary.

Dr. Davenport was appointed by the London Missionary Society in 1889, and arrived on the field in the same year. After a year's preparation in Hankow he was sent to Chungking, Szechwan, to commence medical work for his Society, where he was joined in 1891 by Mrs. Davenport. In 1894 he went home on furlough. On his return in 1895, he was sent to Wuchang to continue the work begun by Dr. Mackay. At the end of 1904, he was transferred to Shanghai, to take the Superintendency of the Shantung Road Hospital, which is the oldest British hospital in China, having been established in 1843 by Dr. Lockhart. This hospital is now owned and supported by the foreign and Chinese communities, but he continues to retain the Superintendency. Dr. Davenport has filled the offices of Secretary, Treasurer, Associate Editor, and Vice-president of the Association.
In this manner it is easy to summarize nearly thirty years continuous medical work, but only those engaged in similar service and who have witnessed the long, and at times desperate, struggle between Chinese conservatism and all that the Christian medical missionary represents, can estimate the work he has done at its proper value. It this critical period the Association is fortunate in having as its President, one with such long and varied experience and who is gifted with sound judgment.

DR. DAVENPORT'S PRESIDENTIAL LETTER.

Dear Fellow Members:

Your Conference, just concluded at Canton, has conferred upon me the honour of being President of the China Medical Missionary Association during the coming biennium. In accepting the office, I feel keenly my limitations, and my unfitness in many respects to fill this responsible position. I ask for your sympathy, forbearance, and prayers on my behalf. At the same time I pledge myself, with God's help, to further the interests of the Association as far as lies in my power.

The Association is now a force wielding considerable and widespread influence and I appeal to you all, as each one is able, to contribute his part toward the work of the whole. In the first place, our Association is exercising an influence in the deliberations and plans of our home Mission Boards. This is a cause for thankfulness, and we trust its services in this direction may continue to be wise and helpful.

In the second place, we are exerting much influence in the guidance and stimulation of our young sister society—the National Medical Association of China. This is most important and far-reaching. If we can imprint noble, pure, Christian characteristics upon this infant organization, which should be the central ruling medical force in China when it reaches maturity, then we are engaged in no mean undertaking.

Lastly, as medical missionaries, we have still the opportunity for a few years more—perhaps fifteen or twenty—to be leaders and patterns, and through the daily round and common task, done in love and characterised by fitness, to preach the Word and commend the Gospel of our Lord and Master.

At the recent Conference in Canton, three clear notes seemed to me to predominate:

(1) The imperative need of "efficiency" in all our work.

(2) The urgent call for co-operation and concentration, to secure a few well-staffed union medical schools.

(3) The opportunity to propagate and promote Public Health Education.

(i) Hospital Efficiency. Until quite recently medical missions have been alone in leading and "setting the pace" in medical affairs in China. But it is not so to-day. Government and other institutions have been established which in some cases are doing better work than we are. In "quantity" we cannot expect to rival them, but in "quality" we should. Efficiency and progress must be our aim. Changing China impels us to move forward with the times, or the name of our Master will suffer, and the aim of our work be unaccomplished. The cleanliness of the wards and of the clothing and bedding of the patients, the methods
of treatment in mission hospitals and dispensaries and their general management, should be in no respect inferior to the conditions and methods found in non-missionary institutions. Education and competition call for a much higher type of work in the future than has been done in the past. Let us energetically respond to this call! As well as excellence in treatment and in the general organization of our hospitals, we need uniformity in statistical returns and methods of registration, greater care in note-taking and reporting cases, and the adoption of whatever else is necessary to make thoroughly efficient hospitals.

In this connection I would urge that accommodation in private wards for paying patients of the better class should be developed alongside our charity work. Such an arrangement helps to provide support; it brings the work for the poor to the notice of the rich; it gives us an entrance amongst better-class families, and it meets a distinct and much appreciated need.

Another important matter we must always have before us is the duty of all to take part in the work of research. Scattered all over this great land, we have a unique opportunity, and we should one and all do something to advance our intensely interesting and humane vocation. Whenever and wherever permissible, autopsies should be done to investigate all possible forms and foci of disease, to verify our diagnoses, and to afford instruction to Chinese colleagues and assistants.

(2) Medical Training.—Much time was spent at the Conference in efforts to promote in the best possible way the medical training of the Chinese. During the past biennium many plans and hopes have been shattered or modified. We have to-day to build so as to meet the conditions of to-day. Recognizing the urgent need and great opportunity for Christian medical education in Mandarin, the Conference expects those in the field and the various home mission Boards to unite in performing this great service for China and her suffering people, by rallying round the Union Medical Schools now being established.

(3) Public Health Education.—In the great campaign which has been already initiated on behalf of Public Health Education, every single member of the C. M. M. A. should have his or her part. By bringing together officials, merchants, gentry, and influential citizens to confer on this subject, and organizing meetings for men and women, interest can be roused and a great movement started which may sweep away the ignorance and superstitions of the past and bring in modern preventive and beneficent health measures. In this great work we can heartily co-operate with the National Medical Association of China and uphold it in its efforts to stir the central and local governing bodies to establish a Board of Health, a Central Medical Council, sanitary boards, etc. This is one of China's great needs and the call comes to us to help to meet it.

While not forgetting that our first and highest calling is to preach the Gospel and to witness for our Master, we may yet concurrently perform these and others valuable services for those around us. Our recent gathering was a stimulus and inspiration, and we would fain pass on the help received to all who were unable to be present. All honour be to you, far-distant and isolated fellow workers, who are daily bearing the burden and fighting the fight amidst most trying and difficult conditions! In sympathy and prayer we join in with your work, and ask you to do the same with us, that together we may advance the great cause God has put into our hands, and bring the inestimable blessings with which He has blessed us to the land and people to whom we have consecrated our lives.

Yours in His service,

CECIL J. DAVENPORT.
REPORT OF EXECUTIVE SECRETARY.

The Executive Secretary undertook his work in a tentative way during April 1915, and later, having been released by his mission from other duties, removed his residence to Shanghai in December of the same year and has given his whole time to the work since.

A generous appropriation from the China Continuation Committee has covered office rent and the general expenses of travel, printing, and work. This should be recognized by some action of this Conference. In collecting information and getting in touch with missions and mission problems, the two organizations are mutually helpful.

Soon after our office was opened in Shanghai, the business management of the Journal, and the work of Treasurer of the Publication Committee were added to the duties of the Executive Secretary and, as the Secretary and Treasurer of the Association had to go home on furlough, his work was also taken over.

The Executive Secretary's office being in Shanghai has afforded a convenient place for the meeting of the Executive Committee, Publication Committee, and Council on Medical Education. Some important meetings with representatives of the China Medical Board were also held here.

The coming to China of this last organization with its extensive plans for furthering medical education and mission hospital work brings a unique opportunity to the cause of missions, that should be thoroughly appreciated and energetically utilized. As it is the avowed purpose of the Rockefeller Foundation that their work in China shall be "a distinct contribution to missionary endeavor" it is important that the medical missionary body carefully consider how they can co-operate with this body so as to secure the largest result for missions. To this end the Executive Committee, recognizing that the Christian value of the medical schools and the hospitals aided will depend largely on the personnel of the staffs of these institutions, sent a communication to the Conference of Foreign Missions of North America, and to the similar body of Great Britain and Ireland, urging the appointment of a special Candidate Secretary both in Great Britain and the United States.

This resulted in the formation of the British Advisory Medical Board with two Secretaries, which is taking up the problems proposed and all matters relating to medical missionary work and is working in direct co-operation with the China Medical Missionary Association.
We have not heard that matters have been taken up as energetically in the United States, although the proposition is now in the hands of the Committee on Reference and Council, and we hope for some definite action later. A serious difficulty is to find a man well fitted for such work, who is willing to give up other work and go among the colleges and find suitable candidates.

However, it is a matter of the greatest concern that men of the highest Christian ideals and the highest professional training be secured for these positions of transcendent importance and influence.

That the overworked doctors may not be troubled with too many requests and questionnaires, it has been decided to co-operate with the China Continuation Committee and through their statistical department secure such information as will serve both organizations.

For the information of students of our field and home organizations, and for the solution of all missionary problems it is important to secure all the information possible. The opening of a new hospital or starting of a new medical centre, or development of any special feature of medical work or additions to staff, plant, or equipment, if reported to the Executive Secretary will greatly aid us in serving the general cause of missions as well as the medical work.

We are very fortunate in securing Dr. Merrins as Editor of the Journal. His long connection with medical missionary work and his successful literary experience render him exceptionally capable for this position.

The last list of medical missionaries issued in 1915 contained the names of 502 members and of 48 who are not members of the Association. During the past year 38 new members have joined. Four of our members have been removed by death, twenty-eight have gone to defend their country. Every qualified physician who is a medical missionary in China should be a member of our Association, and each member should make it his concern to secure these 48 physicians as members of our Association and readers of our Journal.

Members of the Association should also be alert to propose the names of new arrivals for membership, so that every medical missionary, from the time of his arrival on the field, shall have a vital interest in our Association.

The rising cost of all materials seriously affected the finances of the Journal during the past two years. Had it not been for a balance in the treasury from profits of previous years, there have been several times when we would have been obliged to borrow money. Fortunately,
this has not been necessary and we still have a credit balance at the bank. If all membership fees, subscriptions, and advertising were promptly paid the Journal at present rate could meet all expenses and have a small margin of profit. It is desired to improve the Journal and to make it cost more because of these improvements. Will not every member of the Association help to make this possible by contributing articles and sending in news items for publication?

The financial statement is as follows:

**China Medical Journal.**


<table>
<thead>
<tr>
<th>Expenditures</th>
<th>Receipts</th>
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</thead>
<tbody>
<tr>
<td>Balance from 1915</td>
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<tr>
<td>Sundry</td>
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<td>Subscriptions</td>
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<td>Advertisements</td>
<td>1,136.18</td>
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<tr>
<td>Interest</td>
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<tr>
<td>Printing and Mailing of Journal</td>
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<td>Office Stationery and Printing</td>
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<td>Office Postage</td>
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<td>Executive Committee Meetings</td>
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<td>Loss in Exchange</td>
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<td>To Balance</td>
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$5,963.44

By Balance January 1st, 1917 $2,428.66

To this credit balance may be added:

- Accounts due for advertising $676.50
- Accounts due for subscriptions $700.02

$1,376.52

The amount due for advertisements is all good and will be collected during the current year.

The delinquent subscribers number one hundred and forty; twenty-nine of these are doubtful, but the remaining one hundred and eleven will probably send in their subscriptions in due time.

Respectfully submitted,

Robert C. Beebe.
Report of Executive Secretary.

Executive Secretary's Account.

1915 and 1916

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<th>By Amount Received</th>
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<tr>
<td>China Continuation Committee</td>
<td>$3,585.00</td>
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<td>For Health Council</td>
<td>195.00</td>
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<table>
<thead>
<tr>
<th>To Expenditures</th>
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<tbody>
<tr>
<td>To Travel Expenses</td>
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</table>

$3,780.00 $3,780.00

January 1st, 1917, By Balance ... ... $625.24

Publication Committee's Account,

Receipts.

Dec. 31st, 1915, By Bank Balance ... ... $4,095.03
|  |
| Mission Book Co. Sales | 1,582.95 |
| Peking Sales | 600.00 |
| Dr. McAll contribution | 70.00 |
| American Church Grant | 225.00 |
| Mission Book Co. Sales | 3,229.89 |
| Interest Deposit Receipts | 317.96 |
| Interest Current Account | 30.38 |
| Mission Book Co. Sales (2nd quarter) | 1,221.21 |
| Presbyterian Board Grant | 225.00 |
| Baptist Board Grant | 186.00 |
| Mission Book Co. Sales (3rd quarter) | 2,168.84 |
| Hankow Sales | 27.50 |

January 1st, 1917, By Balance ... ... $731.53

Expenditures.

To publication of following medical works:
|  |
| Roller Bandaging | 404.20 |
| Hare's Therapeutics | 2,330.00 |
| Clinical Methods | 1,775.30 |
| Toxicology | 544.31 |
| Essentials of Anatomy | 100.00 |
| Diseases of Skin | 100.00 |
| Care of Infants | 274.00 |
| Holt's Diseases of Infants | 240.00 |
| Manual of Nursing | 751.00 |
| Surgical Nursing | 456.37 |
| To Committee Meeting | 842.37 |
| Yokohama Draft, Yen 1,000 | 946.75 |
| London Draft $12,10.7 | 1,000.00 |
| Books purchased | 128.57 |
| Advance to Presbyterian Press | 1,000.00 |
| Pundits | 826.00 |
| Advance to Fukuin Printing Co. | 1,000.00 |
| Rent and Office Expenses | 442.92 |
| Loss in Exchange | 231.36 |
| Bank Debit Balance | 1.08 |
| Balance | 231.53 |

$13,959.76
REPORT OF EDITOR OF CHINA MEDICAL JOURNAL.

At the last Conference, Dr. Allen C. Hutcheson having resigned the editorship of Journal prior to going home on furlough, Dr. Arthur F. Cole was elected editor with the writer of this report as his associate. Two numbers were brought out jointly, and then Dr. Cole resigned as he had volunteered for military service and the present editor succeeded him.

Under each of the preceding editors the Journal has made steady progress and we must all hope this will be maintained. If there has been any advance in the last two years it is largely due to the willing co-operation of contributors, departmental editors, of good friends who have helped in various ways and of Dr. Beebe particularly, upon whom fall the duties of every office temporarily vacant, who is therefore acting now as treasurer and business manager of the Journal. A recent addition to the Journal of great value is the abstract of Japanese medical literature contributed by Dr. Ralph G. Mills of the Severance Union Medical College, Seoul, Korea. One or two other editors have cast longing eyes on this material but we are assured that it will be sent to us regularly.

Besides the original papers which were read at the last Conference, others have been sent in but hardly as many as are required. We have just managed to make both ends meet by utilizing contributions relating to the diseases of China gathered from all sources. The editor is obliged to look ahead, and as he has not the robust faith which enables a man to live from hand to mouth without the least anxiety, he cannot but feel dismay when the editorial drawer is almost empty. About one hundred original papers are required annually to give the paper distinction. It should not be difficult to obtain these from an Association which has nearly six hundred members, and the editor is always glad to receive papers sent in by members of our sister Association. Of course, everyone is very busy and it is not easy to write papers of a certain description without access to a large medical library. But it is in the power of every member to make a contribution of some kind. Notes, which need not be elaborate, of interesting medical and surgical cases, of unusual or peculiarly difficult operations, of epidemics prevalent in the district, of superstitious and strange customs which bear more or less upon the practice of medicine, will all be very welcome. In the interest of the public health the accounts of strange epidemic diseases sent by lay correspondents to the newspapers should certainly
be investigated. Even the local commotion produced by the sudden appearance of chickens with supernumerary toes—an occurrence believed by the Chinese to presage dire events—is worth notice as it may shed a little light on the working of Mendelian law. In all these ways many can help to advance the cause of medical science and at the same time make the Journal more instructive and interesting. There will probably be quite a number of high class medical journals published in the East in the near future and we shall only be able to hold our own by working together with a will. In this connection the editor is obliged to confess that he has looked very wistfully at the papers sent from China to be published in England or America without first being sent to the Journal. It serves to bring the authors to the remembrance of old professional friends and has other advantages, but the Journal can only be strengthened, as it should be, by everyone doing his best for it even if it means some self-sacrifice.

Personal matters are very interesting and important and should appear in our Journal—such as the departure and return of medical missionaries, and other personal matters that would increase our knowledge of and interest in each other.

The expenses of printing and publishing are very much greater than they were three or four years ago, partly owing to the increase in size of the Journal, partly to the war having caused a great advance in the cost of printing material. Fortunately, our business managers, past and present, have steadily increased the income from advertisements and other sources, notwithstanding that some very profitable advertisements have been declined because they were not in conformity with the rules laid down by the Council on Pharmacy of the American Medical Association in such matters. These rules were adopted by the Executive Committee as there is no other available guide.

In conclusion, the editor regrets very much that various hindrances, including a strike in the printing department which has delayed the appearance of the current number of the Journal, have prevented him from attending the Conference.

Respectfully submitted,

Edward M. Merrins.

As in previous years your committee has been at work revising old books, preparing new ones, and trying to improve the terminology employed. Dr. Cousland, the Editorial Secretary, in spite of prolonged absence from China, has taken a leading part in the work. Dr. Neal has acted as Associate Editorial Secretary, and Dr. Beebe, who was co-opted at the beginning of 1916, has acted as Treasurer since April last. The committee is extremely glad to have the advantage of his mature help and counsel.

The books issued during the last two years are: Bruce's Materia Medica (Volume 2); Stengel's Pathology (Volume 2); Holt's Diseases of Children (Volume 1); On First Aid; Medical Lexicon (reprint); Roller Bandaging (revised); Hare's Therapeutics (revised); Essentials of Anatomy (revised); Hygiene and Public Health; Holt's Care and Feeding of Infants; Surgical Nursing (revised); Toxicology; Central China Manual of Nursing (revised); Hutchison and Rainy's Clinical Methods; Lists of Basal Terms for the Joint Terminology Committee.

The following books are in the press:

Obstetrics (revised); Holt's Diseases of Children (Volume 2); Kerr's Practice of Medicine (revised); Rose and Carless' Surgery (revised); Osler's Medicine (revised); Medical Lexicon (reprint) with appendix; Principles of Medical Ethics.

Books in preparation:

Heath's Anatomy (revision); Waring's Operative Surgery; Packard's Ear, Nose, and Throat; Histology; Skin Diseases (revision); Physiology (revision); Roys' Pharmacy (revision).

Books, the translation and publication of which are contemplated:

Index of Treatment; Psychiatry; Larger Physiology; Larger Bacteriology; Surgical Handbook (revision); May and Worth's Eye Diseases; Physiological Chemistry; Shorter Surgery; Embryology; Luff's Chemistry (revision).

Of perhaps greater importance has been our co-operation with leading Chinese medical and educational bodies in terminology work. This is an object we have long had in view, and we have at length, with the help of the officials of the Kiangsu Educational Association (especially Messrs. Hwang and Yui), succeeded in establishing a Joint Terminology Committee. On this committee were representatives from The Kiangsu Educational Association, The National Medical Association, The Medical Pharmaceutical Association, The Physico-
Chemical Association, and our own Association, also a representative (Dr. T'ang Erh Ho) from the Board of Education in Peking. The first meeting was held in August, 1916, and has been fully reported in the *Journal*. The terms in Anatomy were then begun. A second meeting has just been held, when another section in Anatomy and the first section of Chemistry have been considered. The terms selected are soon to be submitted for criticism to doctors all over China and the list will be revised accordingly, and finally submitted for acceptance to the Board of Education. While many of the selected terms do not commend themselves to us, we nevertheless realize the privilege of being permitted to co-operate with these Associations and the courtesy with which they have met our advance.

The accounts of the committee for 1916 are almost complete and awaiting the auditor. They show balances in hand of over $3,000 on the Wellcome Fund and over $10,000 on the General Fund.

The estimated value of our stock of books is over $11,000 on Wellcome Fund, and over $21,000 on the General Fund. We have experienced no little difficulty in administering the Wellcome Fund and a special resolution on this point will be laid before the Association.

In conclusion we would heartily welcome more help from other competent Chinese and foreign translators and urgently request all who use our books to send in suggestions and criticisms as to how they can be improved.

P. L. McAll (*Chairman*).

January 18, 1917.

REPORT OF THE COUNCIL ON MEDICAL EDUCATION.

Organization of the Council.—The Council on Medical Education was brought into being by vote of the Biennial Conference of the C. M. M. A., February 5th, 1915. Early in the Conference the question of the location and number of medical schools had been discussed and a special committee consisting of Drs. Davenport, Whyte, Maxwell, Wu, Roys, Tooker and Mr. Lohenstine was chosen and instructed to bring in a report on this matter. The Curriculum Committee of the C. M. M. A. also met for deliberation during the Conference (Drs. Balme, Chairman, Cormack, McAll, Gossard, Dilley, Houghton, McCracken, Woods, Todd, Brown, and Hume) to prepare a report on matters relating to the curriculum of medical schools.
Dr. Maxwell reported for his committee and it was agreed to postpone voting till after the report of the Curriculum Committee had been read.

Dr. Balme presented the report of the Curriculum Committee which included resolutions on three topics:

A Council on Medical Education
The Standards for Schools to be Approved by the C. M. M. A.
The Recognition of other Schools.

The first recommendation was to the effect that the C. M. M. A. should create a permanent Council on Medical Education to be composed of four physicians connected with medical schools and two not so connected in addition to the Executive Secretary of the C. M. M. A., with power to add to their number. The duties of the Council were to be:

1. To outline acceptable standards for Medical Schools.
2. To act as a central body of reference in matters concerning the adequate occupation of the field.
3. To keep in touch with all medical schools through the Executive Secretary of the C. M. M. A.
4. To keep in touch with the Board of Education and other national and provincial educational institutions.

This report was adopted without modification and later in the day, on motion of the Nominating Committee, the following members were elected as members of the Council:—Drs. Cochran, Cormack, Davenport, Shields, Woods, and Hume.

On motion of Dr. Maxwell, the conference voted "that questions arising in connection with the location of medical schools and the language used therein as a medium for teaching, should be referred to the Council on Medical Education, with a view to the consideration of the problem of co-ordination by the same of existing schools, and the prevention of further schools being established at other than selected centres."

Entrusted with these duties the Council met for organization and chose Dr. Hume for Chairman and Dr. Shields for Secretary. It was evident that problems dealing with the location, standards, and co-ordination of medical schools as well as with relationships with other organizations interested in education had been referred to it, not for legislative action but for constructive thought and recommendation. It was determined as a first step to prepare an adequate survey of the medical educational field in China so soon as funds should be provided; and the secretary was requested to proceed at once with correspondence which should bring together the essential facts about all the colleges.
WHAT THE COUNCIL HAS DONE.—Shortly after the adjournment of the Shanghai Conference the report of the China Medical Commission of the Rockefeller Foundation, which had visited China during 1914, reached this country. While the Council, together with nearly all others taking an active interest in medical education in China, found itself in general agreement with many of the conclusions of the Commission, correspondence between its members made it evident that the Council was strongly of the opinion that teaching in Mandarin should be encouraged by the C. M. M. A., even though it were not to be undertaken by the China Medical Board. To this end, a joint meeting of the Executive Committee and the Council on Medical Education was held in Shanghai on April 15th, 1915. This joint meeting was confronted with the problem of how to safeguard and strengthen medical education in Chinese. The discussion brought out the following points:—

(1) That medical education properly conducted is too expensive to permit of missionary institutions undertaking it except to a very limited extent.

(2) That not more than two or three schools can hope for sufficient support from missionary sources to enable adequate medical education to be provided for, so far as the centre and east of China are concerned.

(3) That one Mandarin-teaching school should be shown to be successful before others should be developed.

(4) That Hankow, Nanking, and Tsinan are the only three Union Mission institutions teaching in Mandarin in the area under discussion. While not making any commitment about the future, the wise course at present would be to recommend one of these for strengthening and for bringing up to the standards approved by the C. M. M. A.

(5) That Hankow, while possessing geographical advantages, suffers by comparison with Nanking and Tsinan in several particulars:

a. There is no comprehensive working union in medical education between the strong missionary societies at this centre.

b. The missions back of the Union Medical College here are giving only half-hearted support to the staffing and financing of that institution.

c. The group of feeders, consisting of Primary and Middle Mission Schools, in this district, is more limited than in the area around Nanking or Tsinan.
(6) That as between Nanking and Tsinan the choice is at first difficult to make, but the following points are in favor of Tsinan:

a. The Union at Tsinan includes workers of more than one nationality while at Nanking the entire group is American.

b. The Christian constituency around Tsinan is larger than that around Nanking. This is of significance as the schools are supposed to be training doctors largely for work in Christian institutions and communities.

c. The Tsinan School has stood out against teaching in English as opposed to the prevalent tendency towards the use of English as a medium of instruction in the lower Yangtsze Valley.

d. The tendency in the Nanking group of feeders, as well as in the University of Nanking itself, is to do science teaching in English. This makes it difficult to believe that students whose preparatory science work has been done in English will be willing to study medicine in Mandarin.

e. Nanking, from its proximity to Shanghai, would necessarily suffer more from competition with the strong school to be established in Shanghai by the China Medical Board.

After a full consideration of the problem to be faced and of the relative claims of the centres under consideration, the following vote was unanimously passed:

"Having received the report of the proposed plans of the Rockefeller Foundation for the establishment and assistance of medical schools in China, we desire to express our deep gratification in the prospect of such substantial resources of experience and funds being made available for medical education in China, and we record our desire to co-operate heartily in the proposed undertakings.

"We further wish to express our appreciation of the attitude of the China Medical Commission towards medical mission work, and the expressed purpose of co-operating with existing medical missionary institutions.

"Resolved: That in regard to the proposed medical schools we heartily approve of the plans to establish or assist, on the lines proposed in the Commission's Report, in the support of schools in the four centres of Peking, Shanghai, Changsha, and Canton. We believe, however, that it is a matter of great importance that education through the medium of the Chinese language be continued and developed.

"Be it therefore resolved: That we strongly urge the China Medical Board to establish or help support at least one medical college teaching in Chinese, and that we express our belief that under present circumstances the school most suitable for development is that at Tsinanfu."

Dr. Hume, who was to sail for America on the following day, was asked to lay before the China Medical Board with all urgency the conviction of the joint meeting that Mandarin medical education should be pushed forward.
While certain information was collected by correspondence, it was impossible, through lack of funds, to call any further meeting of the Council until June 15th, 1916, at which time a special meeting, consisting of representatives of the Executive Committee and of the Council on Medical Education was held in Shanghai. The action of this special meeting regarding the developments at Tsinan is given as follows:—

"This meeting of representatives of the Executive Committee and the Council on Medical Education has heard with great satisfaction of the negotiations which have been concluded between the China Medical Board and the Union Medical College, Tsinanfu, and of the excellent prospects which that college now possesses for obtaining suitable building accommodation and laboratory equipment for the efficient development of its work.

"They recognize that a unique opportunity has now been placed before the Missions to demonstrate the possibility of providing a first-class medical education in Mandarin, under purely missionary auspices; but would remind the Mission Boards that the hope of success in this enterprise depends entirely upon the efficient staffing of the institution.

"They would therefore ask the careful attention of all missions interested in the maintenance of medical education in the vernacular to the following points:—

1. That unless the Mission Boards, by a concerted effort, can succeed in establishing and maintaining one thoroughly efficient Mandarin medical college, their influence in the cause of medical education will rapidly decline and the teaching of medicine in Mandarin will prove a failure.

2. That in view of the urgent need of well-trained Chinese assistants for mission hospitals, and of the time which must necessarily elapse before the graduates of the China Medical Board Colleges will be sufficiently numerous to meet that need, the immediate development of a strong Mandarin medical college is the more desirable.

3. That only by the provision of an ample faculty can professional efficiency be maintained on the part of the individual teacher, or sufficient time secured for the essential task of keeping up the translation and preparation of an adequate medical literature in Chinese.

4. That the number of men qualified to act as teachers of modern medicine in the Chinese language is very limited, and that the task of getting together a sufficient and suitable faculty will prove impossible unless the Missions will be prepared to set aside for this work such members of their medical staff as are invited by the Tsinanfu Faculty.

5. That in order to release suitable teachers, and to safeguard the standard of Mandarin medical education, it is their opinion that the other Mandarin medical schools in Central and East China, now being conducted on an inadequate basis, should be given up, even at the sacrifice of local aims and interests, and their support transferred to the college at Tsinanfu.

"In view of the above facts, this joint meeting of representatives of the Executive Committee and the Council on Medical Education of the China Medical Missionary Association hereby unanimously resolves that every effort be made to lay before the Missions in China, and Mission Boards at home, the primary importance of concentrating all their strength upon the maintenance and efficient development of the Union Medical College, Tsinanfu."

It was borne in mind that the C. M. M. A. would not consent to any arrangement whereby Mandarin medical education was not em-
phasized, and the special meeting felt that the strengthening of the Tsinan school would be the best way to forward this cause, so far as the centre and east of China were concerned.

Mr. Roger Greene, Resident Director for China of the China Medical Board, met with the representatives by special invitation and cleared away certain misapprehensions regarding the aims of the China Medical Board and its desire for missionary co-operation.

Dr. Hume was asked to give three months, before the Canton Conference, to travel among the medical colleges for the purpose of making a personal survey. This proving impossible he was asked to give as much time as possible for a preliminary survey of the central and northern China field.

The survey called for was commenced in December, 1916. Dr. Hume has given one month out of the winter to this work and his report will be presented to the Conference separately.

The field of medical education in China is constantly changing, and this Council believes that medical missionary educators should be on the alert to adapt themselves to changing conditions. The advent of the China Medical Board, of foreign government schools, and, quite as important as either of these, the development of medical education under government control, modify the situation very greatly. It cannot be the same as before these began their work. We must marshal our forces anew and press forward to the accomplishment of what we believe to be vital and reasonably attainable.

Presented January 27th, 1917.

The report was presented accompanied by the Resolutions of the Council on Medical Education (see p. 140).

GENERAL REPORT OF THE RESEARCH COMMITTEE.

The Research Committee, in submitting this general report on the work of the last two years, would like in the first place to impress upon the Association that it is indebted for the results achieved, not so much to the committee itself, as to those hard worked members of the Association who have devoted time and energy to the collection of the data on which the reports of the committee are based.

It may seem strange that, with so many interesting and imperfectly understood diseases around us, the Research Committee selected the somewhat uninteresting subjects of anatomy and physiology as those
that most urgently called for careful study; but the reason is not far to seek. It is because the "normal" for Chinese differs from the standards in the foreign text-books that the study of the anatomy and physiology of the Chinese is a necessary prelude to a full understanding of their diseases.

Why, for instance, is aneurism so rare when the two most important causes thereof—syphilis and strain—are so abundantly present? Why are gall-stones so rarely met with? Is it because—as in the Javanese—the bile of healthy Chinese contains a much smaller percentage of cholesterin than does European bile? We shall only be in a position to answer these and many similar questions when we have much fuller information as to the points wherein the "normal" for a Chinese differs from the "normal" for a European or American.

Unfortunately, many workers, while recognizing the importance of these elementary points, find them to be lacking in interest; so the Research Committee took advantage of its position to direct attention especially to this fundamental study of the anatomy and physiology of the Chinese.

We were aware that we were leaving untouched an enormous field of most interesting diseases—there is, for example, thrombo-angiitis obliterans (non-syphilitic arteritis obliterans of Hebrews) the disease described by Leo Buerger and supposed to occur only amongst Jews, but which does undoubtedly occur amongst the Chinese; and there are Sokudu (rat-bite fever), phlebotomus (or sandfly) fever and many other fevers as yet unclassified,—but we felt that we could trust members of the Association who met with these conditions to study them carefully and report them in the Medical Journals, so we made it our business to obtain data on the physiology of the Chinese, which is essential as a basis to the study of pathology in this country.

Reports will be presented to this Conference by Dr. Garner, Dr. Huine, Dr. Tyau, and myself, showing in more or less detail what has been learned as to (1) the measurements of the female pelvis and of the foetal head; (2) the physiology of the circulation; (3) the physiology of the blood, and (4) the average height, weight, and chest measurements of healthy Chinese.

Some years ago Dr. Bolt of Pekin suggested that we should secure anatomical and physiological data based on "say 5,000 cases from each province." That is certainly a fine ideal to put before our Association, but we are a long way from realizing it yet. In the meantime, however, the data that Dr. Garner has secured, based on the careful measurement of 1,837 adult female pelves and 1,558 foetal
skulls is certainly the most magnificent contribution that our Association has yet made to a scientific study of the people amongst whom and for whom we work. Dr. Garner has opened up a path through the jungle of ignorance that has hitherto so encumbered our midwifery work amongst the Chinese; she has blazed a path along which we trust many investigators will follow her: she has discovered facts which no obstetrician can henceforth afford to disregard.

More would have been done but for various misfortunes that befell us. Out of the seven members of the committee two have returned to America since their appointment and so far as we know have not made any arrangements for carrying on the investigations in the two departments for which they were responsible, viz., the state of the urine of healthy Chinese and the different varieties of splenomegaly. In regard to the study of the gastro-intestinal system, too, there seems to have been some hiatus for no data have yet come to hand on either of these subjects.

This may suggest that the committee attempted too much, but we believe with Henry Drummond that "unless a man undertakes to do more than he possibly can do, he will never do all that he can do."

In conclusion we can only lament how much still requires to be done. Out of the 473 members of the Association not 25 have taken part in this most important work of research, which is essential if diagnosis and prognosis are to be established on a really scientific basis.

As this committee fades out of the view of the Association and the names of its members cease to appear on the pages of the Journal, we would make a very strong appeal to every member to contribute one little bit to the careful study of the anatomy and physiology of the Chinese. It is good for us doctors to do the work, the patients are grateful for the carefulness of our examination, and, far more important, we are helping to lay that foundation on which alone scientific medicine can be established, namely, a full knowledge of the bodies of the patients we treat.

VALUE OF NOTE-TAKING.—In the very beginning of his career he had contracted the habit from his master, Dr. Puche, of minutely taking notes of each visit of each patient; this custom enabled him to accumulate in his forty years of active practice a veritable pathological treasure. He often said "I am a collector of syphilis, just as other men are collectors of antiques, of pictures, of autographs, etc. It is by means of these notes that I have been enabled to convince myself and in turn to convince my colleagues of the truth of the connection of syphilis to tabes, to paresis, to leukoplakia and to the heredo-specific dystrophies."—Darier, on Fournier, The Medical Fortnightly.
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.

Hifukwa, Hitsunyokikwa Zassi
(Japan. Zeitschr. f. Derm. u. Urol.)

This preparation is said to be a tar-like preparation made from rice, rye, and wheat bran and is especially valuable in all forms of eczema. A long list of other skin lesions is given in which wonderful results are claimed.

(143) LACQUER POISONING, CONTRIBUTION TO THE PATHOGENESIS OF. Pp. 7-10. I. Toyama and T. Kayaba.
Similar to certain cases of poisoning with ivy or sumac are those which are especially sensitive to the influence of the lacquer or varnish used so much in the arts in the Orient. Predisposed individuals have been known to be affected by passing near a varnish tree, walking through a store containing lacquered articles or wearing a horse-hair hat finished with the varnish. It has been supposed that some volatile substance was responsible for this phenomenon. (The reviewer, who is practically immune to ivy and poisonous sumac, having rubbed the leaves of both over his hands freely, has done the same with the varnish tree leaves but without effect.) The following incident suggests that something else may also have an effect. During the repairing of the house of a Japanese investigator there was reported as having been found in the ground a pot containing some black hard material. Its apparent age led him to have it examined by an expert, who pronounced it lacquer. It was assumed that during the centuries it had been buried, all volatile substances would have disappeared, but its toxic properties were found to be still present.

The chief ingredient of lacquer is "urushiol" (sp. ?) which is blackened from oxidation by laccase contained in the juice of the plant. Various derivatives of this substance are found in the lacquer, a hydrated and a methylated urushiol which are also toxic, and two non-toxic forms, i.e., the dimethylated and hydrodimethylated urushiol. The formula of the chief poison is given as

![Chemical Structure](image)

Hifukwa, Hitsunyokikwa Zassi
(Japan. Zeitschr. f. Derm. u. Urol.)

(144) COPPER SALTS IN THE TREATMENT OF TUBERCULOSIS AND LEPROSY, especially "Kupfercyanurocyanalkali" (see article no. 36), fluorescein-copper-potassium cyanide, etc. Pp. 1-34. T. Sugai.
The lethal dose of copper-cyanuro-potassium cyanide for the rabbit is given as 5 mg. per kg. of body weight. The addition of chlorides to this mixture does not
influence its toxicity. In the use of this remedy for tuberculosis, if the reaction persists too long, he recommends the intravenous use of 15-20 cc. of a 3%-5% solution of calcium chloride.

Tokyo Igakkwai Zassi


Examinations were made of 50 Japanese whose gastric secretions were found to be normal, using a test meal of buckwheat meal paste and barium sulphate. The meal was eaten while under observation to note the time of reception by the stomach which was from 20 seconds to 5 minutes after the ingestion of the food. The average time was 2 minutes and 22 seconds. The time in a given individual varied from day to day. In the standing position the peristalsis in the middle portion began in 15-25 seconds, and when lying down in from 15-22 seconds. In the standing position the hook-shaped stomach was observed in 91.9% of the examinations and the cow-horn form in 8.1%; while supine, the hooked form was noted in 10% and the cow-horn type in 90%. In the upright position the lower end of the stomach was 1-3 finger breadths below the navel, and in the reclining posture 2-5 finger breadths above. In the standing position the fundus moves most during respiration, the lower pole being the least movable; in the reclining position the fundus still shows the most motion, then the lower pole and least of all the antrum. The time for emptying the stomach varied somewhat with the character of the meal. With a rice-soup-barium meal the time was 1 hour 15 minutes to 2 hours and 40 minutes; with rice paste-barium meal it was 2 hours 15 minutes to 4 hours; with cooked rice-barium meal it was 3 hours and 15 minutes to 4 hours and 45 minutes; and with the buckwheat meal paste-barium meal it varied from 2 hours and 50 minutes to 5 hours and 11 minutes. The authors did not notice that position exercised any special influence over the motility of the stomach except that lying on the back or left side delayed it somewhat. The time was the same whether sitting or lying on the right side. The so-called terminal contraction varied with each individual. (Reviewer's note. In all rice-eating countries the bulk of the food ingested is considerably greater than in other lands which makes itself noticeable in the number of children that are pot-bellied and in the symptoms of enteroptosis in adults. Any information leading to the establishment of physiological standards for these conditions will aid in the detection of abnormalities of form or motility.)

Taiwan Igakkai Zassi

(Journal of Formosa Medical Society)


In a recent number of the Tokyo Medical News there was reported the finding of a "strange tape worm" passed by a little child. The author has found other
specimens of the same description in Formosa, the detailed description of which he
gives in a comparative table:

<table>
<thead>
<tr>
<th></th>
<th>Davainea formosana, nov. sp.</th>
<th>Davainea Madagascarensis.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Length of body</strong></td>
<td>43 cm.</td>
<td>25-35 cm.</td>
</tr>
<tr>
<td><strong>2. No. of joints</strong></td>
<td>Over 700</td>
<td>500-700</td>
</tr>
<tr>
<td><strong>3. Suckers</strong></td>
<td>Four</td>
<td>Four</td>
</tr>
<tr>
<td><strong>4. Hooks on suckers</strong></td>
<td>None</td>
<td>Armed</td>
</tr>
<tr>
<td><strong>5. Rostellum</strong></td>
<td>Two lines of hooks, number</td>
<td>Two lines of hooks, to the</td>
</tr>
<tr>
<td></td>
<td>uncertain</td>
<td>number of 90</td>
</tr>
<tr>
<td><strong>6. Adult segment</strong></td>
<td>2.0-2.5 by 1.0 mm.</td>
<td>2.0 by 1.4 mm.</td>
</tr>
<tr>
<td><strong>7. Genital pore</strong></td>
<td>Unilateral, near upper end</td>
<td>Unilateral, in middle</td>
</tr>
<tr>
<td><strong>8. Testes</strong></td>
<td>Number uncertain</td>
<td>Number about 90, (50?)</td>
</tr>
<tr>
<td><strong>9. Uterus</strong></td>
<td>Loops, rolled up like a</td>
<td>Same</td>
</tr>
<tr>
<td></td>
<td>ball</td>
<td></td>
</tr>
<tr>
<td><strong>10. Egg masses</strong></td>
<td>300-400</td>
<td>120-150</td>
</tr>
<tr>
<td><strong>11. No. of eggs in a mass</strong></td>
<td>1-2-3</td>
<td>300-400</td>
</tr>
<tr>
<td><strong>12. Disposition of egg masses</strong></td>
<td>Closely packed</td>
<td>Ultimately fill segment</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>13. Size of egg masses</strong></td>
<td>.26 by .13 mm.</td>
<td>.3 mm.</td>
</tr>
<tr>
<td><strong>14. Size of eggs</strong></td>
<td>.099 by .046 mm.</td>
<td>.04 mm.</td>
</tr>
<tr>
<td><strong>15. Size of onchosphere</strong></td>
<td>.012-0.014 mm.</td>
<td>.015 mm.</td>
</tr>
</tbody>
</table>

In addition, the following data are given in the general discussion. The head
is globular, 0.4 mm. in diameter and 0.5 mm. long. The rostellum is hemispheri-
cal, concave on the top and bears two rows of numerous hooks that are likened in
form to rose thorns. The suckers are round, unarmed, and measure 0.12 mm. in
diameter. The neck is 3.0 mm. in length by 0.12-0.2 mm. in breadth. An efferent
duct (?) was found running from the head to the "tail." The size of the segments
increased progressively caudalward, the length and breadth having a constant
relation to each other in the upper half of the worm, but in the terminal fourth the
length considerably exceeded the breadth. In the upper 2/3 the segments were
about 1 mm. in length and 2 mm. in width, while in the lower 1/4 the length was
2.0-2.5 mm. and the width only 1.0 (? mm. The last segments were shaped like a
cement barrel. These joints were passed in the stools with the eggs still inside,
and moved about over the feces for a considerable time. When they became
quiescent they resembled grains of polished rice or white sesame seeds. The color
of the worm was in general white, but the head and neck were more flesh-colored.
The round testes are connected with vasa efferentia which in turn empty into a
muscular vas deferens. The egg masses were often irregular in shape, sometimes
polygonal, composed of cylindrical cells at the edges and irregular shaped ones in
the center filled with granules. The onchospheres have six hooks each. Whether or
not the presence of the worms caused any special symptoms was not mentioned.
The worms were passed spontaneously from the hosts within a year and could
sometimes be removed by calomel treatment.

(148) MOSQUITOES AND MALARIA IN FORMOSA. Pp. 803-808.

In February, 1916, the following forms were collected in Sankakuyu district,
Formosa:—*Myzorhynchus sinensis*, *Culex mimicus*, and *Culex sitiens*. In the
examination of the blood of patients in the district there were five cases of
subtertian, three of tertian, and four of quartan malaria. In June, 1916, in the blood
of 700 cases, malaria was found as follows: benign tertian, 14; quartan, 5. In July,
in the blood of persons under 20 years of age there were seven cases of benign
tertian and two of quartan. *Myzorhynchus* larvae were common in the pools of the
district.

In eastern Formosa between May and July, 1916, there were found at Pinankai,
Taito *Myzorhynchus sinensis*, 1 male and 32 females; *Anopheles maculipennis*, 5.
females; "Taiito" anopheles, 2 females. Near the ponds of the Chimoto hot springs there were found Myzorhynchus sinensis, 2 females; "Taiito" anopheles, 15 females; Neocellia Willomori, 6 males and 5 females. Larvae were found near the sugar factory at Kano village, of Myzorhynchus sinensis, 26 females; Myzomyia listoni, one female; "Taiito" anopheles, one female; Neocellai Willomori, two females; Slegomyia scutellaris was collected in Whasaw Island. (For other mosquitoes reported from Formosa see Article No. 54.)

Kyoto Igaku Zassi
(Kyoto Journal of Medical Science)


In 1891, Toisou and Lenoble discovered in the fluid obtained from the ventricles of the brain a "zymase that was feebly active toward starch," but since that time the subject has been almost forgotten. The author prepared equal amounts of four mixtures, to wit: (1) fresh spinal fluid and 1% starch paste solution; (2) inactivated fluid and starch paste solution; (3) fresh fluid and sterile water; (4) starch paste solution and sterile water. After a few days' incubation the amount of reducing substance was determined by Bertrand's method with iodine-potassium iodide color controls. The cellular content was determined by the Fuchs-Rosenthal method. The total albumen according to Nissl and the Phase 1 reaction of Nonne-Apelt (also the so-called "globulin" method of the author).

One hundred and sixty tests were made on 82 cases of mental disease, including 34 of dementia paralytica, 15 of dementia praecox, 7 of cerebro-spinal syphilis, 9 of epilepsy, and 7 of senile dementia. On the basis of this experience the author draws the following conclusions:

1. A diastatic ferment is always demonstrable.
2. Its amount is variable, hence gives no index of diagnostic value.
3. The fluid has no glycolytic action.
4. The amount of reducing substances is different in the various diseases but is of no determined diagnostic value.
5. In dementia paralytica, in the earliest stages, Nonne's reactions were positive and the albumen content was increased.
6. The ferment can disappear in dementia paralytica without antisypililitic treatment. After specific treatment there is often observed not only a diminution of the enzyme but also a diminution in the albumen, the disappearance of the Phase 1 reaction and the Wassermann reaction. The presence or intensity of these reactions seems to bear no relation to the severity of the symptoms.
7. One case of juvenile dementia paralytica was observed with increase in the albumen, weakly positive ferment test, and negative results with the Phase 1 and Wassermann reactions.
8. In cerebral syphilis a definite decrease in the ferment can take place without the institution of antisypililitic treatment.
9. In a case of brain tumor the author found, in spite of the lack of the enzyme, an increase in the albumen and a definite Phase 1 reaction in a colorless, clear, and coagulable fluid.


A 5-15% aqueous solution of tobacco leaves was introduced into the stomach of a dog systematically and the anatomical changes noted. The commonest
pathological change was stasis and interlobular round-cell infiltration. This stasis was at times trifling, at others of high grade and always affected the central portions of the lobules. Fibroblasts were common in the interlobular infiltration. In addition retrogressive changes of the parenchyma (karyolysis, karyorrhexis, discoloration or hyalin changes in the liver columns, necrosis and calcification) were commonly found in the central portions. In a few cases regeneration of the parenchyma in the central zone was noted, and in the neighborhood were formed rather numerous giant cells, apparently produced by the confluence of the Kupfer cells. As to the connective tissue there was found in most cases a definite increase by which the parenchyma was divided into islands almost as in Laennec's cirrhosis.


In Japan, where cremation is almost universal, the detection of poisons in the charred remains is quite important in forensic medicine. The author had the opportunity of examining chemically the remains of six cremated persons who were definitely known to have lost their lives through arsenical poisoning or in whom a great probability of this existed. Of these, three cases were positive, and another which was undoubtedly an arsenical death, was negative because of the use of too small an amount of test material (40 gms.) In the intestines and excreta of Japanese in whom no arsenical medicine or material had been used, no arsenic can be detected chemically if only the minimal amount of test material has been used, i.e., about 100 gms. If more than this amount is used, a minimal quantity of arsenic can often be detected, due to contamination from the coffin or fuel material. This extraneous arsenic is usually found as an accumulation on the outside of completely disintegrated bones or fragments, but if well preserved bones are chosen and carefully cleansed on the outside this source of error may be eliminated. The arsenical mirror which forms from a possible contamination in 70 gms of material is very slight and is equivalent to about 0.01 mg, while that from an equal weight of bones from a person who during life took a quantity of arsenic is as bright as a control representing 0.5 mg. This difference is very noticeable if the materials used in the test are carefully tested previously for their freedom from arsenic.

Tokyo Igakkwai Zassi

(153) MYOTONIA ATROPHICA. Pp. 1-20. K. Yokomori. Said to be the first case reported from Japan. Details given in author's abstract in German.

(154) ALLANTOIN EXCRETION, IN DOGS ON PURIN-FREE DIET. Pp. 21-27. H. Yanagawa.

The proteolytic function of the liver was found to be uninfluenced by the sensitization of the animal with serum, and the spleen had no apparent function as a purin-splitting activator.

Chosen Igakkwai Zassi
(Journal of the Korea Medical Society)
No. vii. October 12th, 1913.

(155) CULTURE MEDIA FOR BACTERIA PREPARED FROM THE POLLACH. (Gadus pollachius f) Pp. 18-25. D. Tanaka.

In his search for a beef substitute the author has used a broth prepared from the pollach, a dried fish procurable in even the most remote parts of Korea, and
perhaps also in other parts of the Orient. The broth does not change its reaction, contains more nutriment than that from beef, the precipitate forms readily and is easily filtered out. The cost is not more than 1/4 that of beef and the dried fish can be conveniently carried about on investigating trips in the interior. [Possibly other sorts of dried fish may prove of similar value elsewhere. Rev.,]

(156) ANNUAL REPORT ON REFORMS AND PROGRESS IN CHOSEN (KOREA) (1914-15), COMPILED BY THE GOVERNMENT GENERAL OF CHOSEN, SEOUL, JULY, 1916.

For a population of more than thirteen millions of people there are to be found the following institutions and practitioners for its care: 1 Government general hospital and 18 provincial charity hospitals; 145 public and private hospitals (including missionary hospitals); 641 fully qualified physicians and 91 whose practice is limited; 20 dentists; 323 qualified midwives and 74 more with limited practice; 5,827 Korean practitioners of the old school of Oriental medicine.

The Government Medical School in Seoul has 42 teachers and 160 students. 24 students graduated in the year covered by the review.

The Government general hospital and the 18 charity hospitals give the following statistics: 104 physicians, 45 pharmacists, 358 nurses. During the year this staff treated 443,868 different patients who received a total of 2,770,806 treatments.

Compulsory notification and quarantine of certain contagious and infectious diseases have enabled the authorities to collect the figures for some of these diseases over a period of five years.*

<table>
<thead>
<tr>
<th>Disease</th>
<th>1910</th>
<th>1911</th>
<th>1912</th>
<th>1913</th>
<th>1914</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cases</td>
<td>Deaths</td>
<td>Cases</td>
<td>Deaths</td>
<td>Cases</td>
</tr>
<tr>
<td>Cholera</td>
<td>486</td>
<td>382</td>
<td>122</td>
<td>78</td>
<td>1</td>
</tr>
<tr>
<td>Typhoid fever</td>
<td>285</td>
<td>1,258</td>
<td>2</td>
<td>4</td>
<td>2,868</td>
</tr>
<tr>
<td>Para-typhoid fever</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Dysentery</td>
<td>67</td>
<td>75</td>
<td>90</td>
<td>37</td>
<td>53</td>
</tr>
<tr>
<td>Typhus fever</td>
<td>25</td>
<td>37</td>
<td>153</td>
<td>49</td>
<td>153</td>
</tr>
<tr>
<td>Small-pox</td>
<td>2,536</td>
<td>481</td>
<td>1,142</td>
<td>154</td>
<td>235</td>
</tr>
<tr>
<td>Scarlet fever</td>
<td>31</td>
<td>12</td>
<td>39</td>
<td>7</td>
<td>29</td>
</tr>
</tbody>
</table>

The sudden increase in the cases of scarlet fever was due to various epidemics that occurred in the larger towns, especially among the Japanese. The great reduction in the number of cases of small-pox is undoubtedly due to the immense number of vaccinations given to the people all over the country by public vaccinators, both men and women. During the year under review there were 1,794,438 vaccinations reported. Undoubtedly, a considerable number should be added to each of the figures representing cases of epidemic disease because of the fact that many mild cases go unnoticed, and the great tendency for the Korean to conceal the sick for fear of the inconvenience of quarantine. The figures for dysentery cover both the amebic and bacillary forms, a large proportion of both of which are mild and easily overlooked, and do not include the chronic carriers in whom there are few or no symptoms.

*The figures given in the accompanying table are copied exactly from MS. but plainly a mistake has been made in those relating to diphtheria and dysentery, and there is uncertainty about the figures for scarlet fever in 1914. Unfortunately, it was not possible to obtain corrections before going to press. These will be given in next number.—Ed.
(157) 


This Gram positive organism was isolated by lumbar puncture and cultivated on various kinds of media, its possible relationships constituting a reason for its report at length.

**Morphology.** The shape was typical of *Diplococcus crassus*, somewhat larger, but no exact figures are given. After three months' cultivation the size was found to be four times the original, but this was restored to normal by one generation on egg yolk. The typical arrangement was in pairs, but tetrads or chains of 3-8 individuals occasionally occurred. There was very little irregularity in the size of the individuals in an aggregation, but irregular splitting has occasionally produced clover-leaf shaped groups. Any variation in size was apparently due to the number of the generation rather than to the age of the culture.

**Staining reactions.** All the basic aniline dyes stain it readily. The Gram phenomenon is positive with the ordinary technic, as well as with the modification of Heudner or Lingelsheim and the use of aniline oil-xylol instead of the alcohol or acetone alcohol. It is not always positive but may become negative on unfavorable media, or one or more individuals of an aggregate may lose the stain to some extent.

**Resistance.** It does not die out easily on culture media, remaining alive for as long as nineteen weeks in a single tube. It resists a temperature of 7-50°C for thirty days but is killed by thirty minutes' exposure to 60°C.

**Culture.** It grows easily on most albuminous media and on agar to which glycerin or glucose has been added. On solid media the colonies are often dew-drop or hemispherical, sometimes iridescent, or grayish-white, even citron-yellow. It is a facultative anaerobe. In Barsiekow's media, acid was formed from dextrose, levulose, galactose, lactose, saccharose, and maltose, but not from mannite or inulin.

**Agglutination.** This took place in a dilution of 1-100 in 24 hours at 37°C, and 1-120 at 55°C., the controls being only 1-10.

**Complement deviation.** Using a watery suspension of the diplococcus as antigen, the inactivated patient's serum was potent at 0.01.

**Bacteriolysis.** *In vivo*, with Pfeiffer's reaction, one loop of the diplococcus neutralized 0.02 cc. of patient's serum. *In vitro*, negative.

**Opsonic index.** By the method of Bine and Lissner, after 30 minutes the index was 0.25 and after 1 hour it was 0.23.

**Immune serum in a dog.** Five injections at five-day intervals of a suspension of the diplococci heated for 2 hours at 60°C were given to dogs, and the agglutination at the end of 24 hours at 37°C and 55°C was 1-500-1000. (Controls of antimeningococcus serum, Merck, and healthy dog serum, gave 1-20 as the highest titre.)

**Precipitation test.** Negative.

**Complement binding,** positive, .00075-.0005.

**Antitryptic ferment.** This was not increased above the figures for normal dog serum. The Marcus method modified by Muller and Jochmann, and also that of Bergmann and Meyers, were employed.
Pathogenicity. This was quite active for the guinea-pig but was easily lost on repeated cultivation. The dog is immune, but the mouse succumbs to a subcutaneous as well as to an intraperitoneal dose of the broth culture. The filtered broth culture was also toxic to the mouse but did not affect the dog or guinea-pig.

Immunization. The results of the injections of the vaccines on the dogs whose serum was tested as above were studied, and the observation made that five days after the first injection the red cells and pseudo-eosinophilic leucocytes were decreased, while the lymphocytes and neutrophiles were increased. The eosinophiles and mast cells were decreased in dogs and increased in guinea-pigs. The intensity of the immunization was in proportion to the reaction fever and leucocytosis.

Tokyo Igakukai Zassi
(Mitteil. d. Gesellsch. z. Tokio)

Z. Akamatzu.
The occurrence of numerous leprosy bacilli in the nasal secretions of those patients with ulceration of the nose is a condition to be expected, but there are cases in which they occur in considerable numbers in the absence of such visible lesions. This has been attributed to the excretion of the organisms from the mucus glands, but the author has demonstrated the fact that they escape through the interstices between the intact epithelial covering of the mucous membrane. Furthermore, the apparently intact mucosa really contains numerous leprous infiltrations which are crowded with the bacilli. The pigmentation of this portion of the mucous membrane he attributes to the extravasation of blood, incident to the infiltrations involving the walls of the smaller blood vessels.


After a careful and critical survey of the literature and classification of Leishmaniasis, the author recounts his unsuccessful attempts to transmit the organism of L. donovani into various experimental animals. Finally, after two years of work, he succeeded in infecting a mouse by means of 1.5 cc. of an undiluted fluid culture given by abdominal puncture. Within a month, emaciation, falling of the hair, and dyspnea marked the beginning of the disease, to which it finally succumbed after another month. The post-mortem findings were positive for the organisms in the spleen, liver, and bone marrow as well as in blood smears. He believes that a medium more fluid than the N. N.—Agar of Novy, or the N. N. Agar of Nicolle, would yield a larger per cent of positive results, if a rather large number of the organisms can be injected at one time. The infection of the mouse is evidently regarded as new, for the author does not seem to be acquainted with the work of Donovan and Patton on the dog, and of Gonder on the mouse, though the writings of these men are mentioned in his bibliography.

Jikwa Zassi
(Journal of Pediatrics)


Among a juvenile population of 121 in the village of Dairi, there were seven whose blood contained filariae, five boys and two girls, or 7.24% and 3.86% respectively. The youngest was a boy of two years. In another village, Yosa, there were
PLATE II. Non-pathogenic Entamoeba tetragena. (Continuation of figures in PLATE II.)
19-26. Cysts, showing stages in formation of. 39-42. Fully developed cysts with four nuclei.
nine carriers out of a total of ninety-seven children examined. Out of fifty-three boys there were seven infected, but only two girls out of forty-four. The youngest of these was a girl of two years. In Takane village, which is noted as not containing as many elephantiasis cases as the surrounding towns, there were only sixteen filaria-carrying children out of 218 examined. The frequency of filarial infection seemed to be inversely proportionate to the state of the sanitation, those which were the cleanest suffering the least.

Among the male population of these islands the cases of filariasis and elephantiasis are compared. Seven districts had from 27.3% to 50% of the people infected with filaria, with a general average for the seven of 37.8%. The elephantiasis cases in the same district varied from 0.12 to 0.54% with a general average of 0.27%. The children of five districts (not the same ones) gave an average of 13% infected with filaria and 0.58% with elephantiasis.


Owing to the expense of certain chemicals required in the well-known methods of collecting the eggs of parasites from faeces, the author proposes a simple and inexpensive method which he highly recommends. A small test-tube is poured 9/10 full of saturated salt solution and a bit of the faeces is introduced with a slender glass rod. This is mixed as thoroughly as possible, and the remaining space in the tube is filled up with the same solution. The eggs are said to float on top and much of the other material goes to the bottom.

Hifukwa, Hitsunyokwa Zassi
(Japan. Zeitschr. f. Derm. u. Urol.)


The multiplicity of salvarsan-like preparations that have appeared since the war cut off the original source of supply has induced the authors to test clinically and experimentally the characteristics of each kind. The principal kinds are Arsamionol and Sodiumarsaminol, produced by Prof. U. Suzuki; Ehramisol and Neoehramisol by Dr. K. Iwatari; Tanvarsan and Neotanvarsan by Prof. K. Tamba and Dr. K. Hattori; and Arsemin by Dr. K. Keimatsu. These were all tried out on all sorts of syphilitic cases, including latent and cerebro-spinal lesions, with a total of 379 injections. Experimentally they were all tried on rats and dogs with some of Ehrlich's original salvarsan as control. The toxicity of all preparations was noticeably less than the German one, although the possibility is allowed that the latter may have changed somewhat with age. The Japanese preparations seemed to have fully as much value as the original and yet lacked much of the reaction that usually accompanied the injections of the latter.

Tokyo Igakukai Zassi
(Mitteil. d. Gesellsch. z. Tokio)


During the course of the study of the stools of healthy individuals the author encountered some specimens of typical (?) dysentery amoeba but which in those
particular cases were apparently not producing any symptoms. The absolute lack of symptoms and the proctoscopic examination of every case indicated that, so far as determinable, there were no associated intestinal lesions, except a chronic colitis in one individual. Repeated examinations were made over a period of eight months, sometimes with salts and sometimes without, and the results were constantly the same—the vegetative form in the liquid stool and the cysts in the formed ones. There are, however, a few points in which this non-pathogenic form is different from the ordinary pathogenic species. The vegetative form ranges in size between 15—25 μ, and the so-called small vegetative form between 6—19 μ, on an average smaller than the corresponding forms of the pathogenic variety. The movement is sluggish, the rounded transparent pseudopodia being pushed out at any desired position. During rest the ectoplasm is with difficulty distinguished from the endoplasm. The protoplasm never contains erythrocytes, but numerous bacteria and nutrient particles. The change in form is not rapid and the protoplasmic streaming is correspondingly slow. The nucleus is decidedly vesicular, 1.5—4 μ, in diameter, contains a nucleolus, a zone of nucleoplasm, and is surrounded by a thick nuclear membrane with abundant peripherally arranged chromatin. The cyst formation is typical, there is the decrease in size from the discharge of all foreign matter, the extrusion of some small chromatids, and finally the breaking up into four—never into eight—daughter nuclei. There are apparently about four different ways in which the nucleus makes this division.

Experimentally also, these non-pathogenic amoebae were distinguished from the dysentery-producing ones. The cysts were somewhat concentrated by thorough emulsification of the faeces and straining through gauze. The filtrate was then centrifuged, washed with saline solution and again concentrated. This sediment, rich in cysts, was injected into young cats per rectum and some fed to others by mouth. Three cats were successfully infected by the latter method and passed the vegetative forms in the stools, which were never diarrhetic and indicated no intestinal disturbance. The controls given the dysentery-producing form were infected with dysentery symptoms in 91% of the injected cats, and 50% in those given the sediment by mouth. The animals infected with the non-pathogenic type were finally killed and the intestine examined macroscopically and microscopically, but no lesion could be found.


The author, by the use of Bang's micro-method, reached the following conclusions: the average sugar content of the blood in nursing infants suffering from beri-beri is 0.0808% and this hypoglycemia is practically a constant feature irrespective of the type of the disease, its stage, or the state of nutrition. The blood in the corresponding mothers was normal, except in two cases in which there was a slight hyperglycemia. Experimentally, the fat content of the food was able to produce a hyperglycemia after sufficient administration of carbohydrate. He determined also to his own satisfaction that malnutrition, under-nourishment, dyspepsia, alimentary intoxication, deficient feeding, atrophy, or nephritis, had nothing to do with the causation of the condition. A series of animal experiments designed to have a bearing on the subject gave the following results:

1. The injection of thymus emulsion had no influence upon the sugar content of the blood in dogs.
2. The injection of thymus emulsion had no influence upon adrenalin hyperglycemia.
3. A hypoglycemia of severe grade followed the extirpation of the adrenals in dogs.
4. In adrenalectomized dogs the hyperglycemia was markedly reduced by the injection of thymus emulsion.

Therefore the author feels that the hypoglycemia of nursing beri-beri infants is based upon an insufficiency of the adrenal function.
PLATE III. Trombidium akamushi. Fig. 1. Nymph, dorsal view (X 112).
Fig. 2. Nymph, moulting stage (X 54). Fig. 3. Adult, ventral view (X 51). Fig. 4. Larva, artificially reared (X 168).
Japanese Medical Literature.

Saikingaku Zassi
(Journal of Bacteriology)


The authors, the senior of whom has evidently been engaged in the development of this subject for several years, give a summary of their important contributions and then proceed to add the three results of their more mature work. The larval form, under the name of Trombidium akamushi, has been well-known for many years and is figured in most textbooks on the subject, but the other stages in the life-history are apparently unknown outside of Japan. Various articles during the last three years by Kawamura, Nagayo, Miyakawa, Mitamura, Imamura in Japan, and by Hatori in Formosa, have described quite fully the adult stage and the egg. Then Dr. Nagayo and his associates made some corrections in their former report and claimed that a female adult of this species was the cause of the "Flood fever." On August 25th, 1916, Nagayo and the other three associates announced the discovery of the nymph stage. Shortly afterwards Kawamura and Yamaguchi reported on September 9th, 1916, that they had carried the nymph stage over through a moult to the adult form. One week later the present authors announced that they too had reared the adult form from the immature stages.

In 1904, Miyajima announced his belief that the disease was not produced by the bite of the mite per se, but that the bite was the means of transmission of a virus which develops in the body of the wild rat (or mouse?). Furthermore the rearing of the nymph apart from the rat had not been accomplished, owing to the fact that the means of sustenance were unknown.

As to the classification of the mite the earlier works of Tanaka, Ukai, Kitashima, Miyajima, Hayashi, Ishihara, and others have been somewhat erroneous, owing to the confusion of the supposed earlier stages of the mite in the rat with certain other parasites commonly found there. The later writings of Kawamura and Nagayo have clarified this to some extent. Hirst, an English physician, examining specimens sent to Nuttall by Miyajima compared them to corresponding stages in the life-history of Leptus (or Microtrombidium) autumnalis, the European harvest mite, but no definite conclusions could be drawn owing to the lack of full details of the early stages of Leptus and the non-recognition at that time of the adult form of Tromb. akamushi. On the basis of the recent discovery of the adult form, Nagayo et al, have named it Leptotrombidium akamushi.

In 1910, Kitashima and Miyajima writing their 4th report on "Kedani Fever," record the attempt to find the eggs of this mite. They collected all the mites of various kinds they could find in the infected districts and put them in captivity on sandy soil. They found in a few days some eggs that were yellowish-red, and noted that they did not change their color for at least ten days. The eggs finally hatched out on April 24th of the following year and produced forms identical in appearance with those found on man and on mice, and similar to the T. holose-ricuem L., mentioned by several writers as having a deep red square body, stalked-eyes, and a hooked claw attached to the end of the pedipalp. The eggs from this form were afterwards shown to hatch into the adult form known as Leptus autumnalis, and the authors, by analogy, suspected a similar relation between the eggs found and hatched and the adult T. akamushi.

These same men attempted the further development of the mite by separating the larval forms from the ears of wild rats and keeping them in moist sand that was accessible to the sun's rays. The larvae were found to penetrate the sand where they became inactive and in from 8-15 days they changed into the nymph
condition by the shedding of a thin skin. The nymphs had four pairs of legs instead of the three pairs of the larval stage.

In 1910, Hayashi reported the finding of adult forms, reared from the nymphs such as were discovered by Kitashima and Miyajima, that were in general similar to the nymphs, differing only in minor details. These adult forms had taken 4-6 weeks to undergo the change and were light yellowish in color. The body was covered with feather-shaped hairs especially long at the posterior end of the body. The first pair of the four legs was distinctly longer than the other three pairs; the terminal joint was armed with a pair of curved spines; the mouth parts closely resembled those of *Leptus*, and the terminal segment of the chelicera was curved and edged with saw teeth. He observed also that the nymphs became inactive as winter approached and emerged as the adult form in the spring.

On May 25, 1916, the authors repeated this experiment of rearing the nymphs in sand in order to determine some of the conditions under which the change took place. Those in sand which was moist and protected from the direct action of the sun's rays changed into the adults in a few days; while the controls, in open bottles, without moisture, and kept in the cellar, showed no evidence of change. The amount of previous feeding made a considerable difference in the size of the adult mite. The length varied from 0.32-0.43 mm. and the breadth from 0.23-0.28 mm. Moreover, it was observed that a certain percentage of the larvae did not leave the ears of the rats in order to undergo the change to nymphs but remained still attached. The temperature was found to exert an influence on the rate of internal metamorphosis from the larval stage to the nymph, requiring about three weeks in June, but only 6-8 days in August. The young nymphs were very susceptible to drying and it was found that moisture was absolutely necessary for continued development. A satisfactory method was to put sand into a bottle, add sufficient water to make it very moist and put on the top a piece of potato. The latter afforded sufficient protection against drying for they would collect under it and it was also a source of food. Cucumber, water-melon, musk-melon, turnip, sweet potato, egg-plant, and taro were also useful for this purpose. In this way, nymphs that hatched on June 18 were changed to adults on August 28 and in this time had grown almost to twice the original size. The length was from 0.84-0.98 mm., the breadth across the cephalothorax was 0.505-0.62 mm, and across the abdomen 0.54-0.725 mm. An ovum measuring 0.148 mm. was found in one of the adults. The points of noticeable change in the transformation from nymph to adult are summarized as follows:

1. Increase in size in all parts of the body.
2. Development of the anterior portion of the cephalothorax.
3. Increase in the number of stiff hairs on the fourth joint of the pedipalp.
4. Completion of the formation of the genital opening.
5. Ripening of the ovum and spermatozoa.

**PLATE IV**

**STRUCTURAL DETAILS OF NYMPH STAGE OF Trombidium akamushi.**

Fig. I. Entire body, dorsal view (×140). (a) Cephalothorax; (b) Abdomen; (c) Chelicera; (d) Pedipalp.

Fig. II. Anterior portion of the Cephalothorax (×530). (a) Sensory protuberance; (b) Dorsal groove; (c) Sensory hair; (d) Collar-shaped portion.

Fig. III. Pedipalp (×530). i-v, Segments of pedipalp; (a) Hooked terminal spine; (b) Stiff hairs.

Fig. IV. Chelicera (×530). (a) Basal segment; (b) Serrated hook.

Fig. V. (a) Basal segment; (b) Serrated hook.

Fig. VI. Feathery hairs (×315).
PLATE IV. Trombidium akamushi. Nymph stage.
(For description, see page 176.)
PLATE V. Trombidium akamushi. Adult stage.
(For description, see page 177.)
The points of obvious difference by which this adult mite is distinguished from the other species mentioned or which might be confused with it are as follows:

1. The general shape of the body which is gourd-shaped, the sharp distinction between the cephalothorax and abdomen, and the stalked eyes.

2. The thinness of the covering of the body and its light peach color.

3. The feathery hairs of uniform diameter and long filaments.

4. The coxal plates, three in number, the anterior bearing the two anterior legs, and the posterior plates one each.

5. Eyes, incompletely developed.


7. Pedipalp. The fifth joint shaped like a staff and the fourth bearing a curved appendage with a row of spines on the lower portion.

The attempt was then made to find the adults under natural conditions by means of placing pieces of potato, banana, and pear in the fields where their presence would be expected. This was unsuccessful, but on examining the soil near and just under piles of manure and other fertilizing refuse they were found in considerable numbers. A few nymphs were also found and some adults of other species of *Trombidium*. The size of the adults was seen to be quite variable, the largest being 1.13 mm. long, 0.57 mm. across the cephalothorax, and 0.73 across the abdomen. They were mostly females distended with eggs in various stages of maturity and more brownish than red for that reason. Externally, the sexes were hard to distinguish except for the eggs and consequent coloration.

In one of the culture bottles some eggs were found in the soil on September 28, 1916. These were nearly ready to hatch and were light pink in color. They were 0.23-0.31 mm. in length and 0.20-0.31 in breadth; three pairs of legs and other gross structures were visible through the thin shell. The eggs were allowed to hatch and the larvae were transferred to the ear of a wild rat, where they attached themselves to the skin between the hairs and rapidly increased in size.

(169) **Cyanokuprol, Clinical Experience with.** Pp. 17-62. Y. Inoue and W. Hanaoka.

The drug seemed to have a specific affinity for the T. B. focus and in some cases of pulmonary and lymphatic cases caused definite improvement, yet it is found lacking in some respects that possibly more study will eventually rectify.


The author repeated the experiments upon which was based the claim of the existence of this toxin in the blood of beri-beri patients. He found the symptoms of ascending paralysis, etc., that followed the intraspinal injection of the blood, but was convinced that they were due to pressure and the introduction of a foreign protein.

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**PLATE V**

**Structural Details of Adult Stage of Trombidium akamushi.**

**Fig. I.** Entire body, ventral view (X83). (a) Cephalothorax; (b) Abdomen; (c) Labium; (d) Hyphostome; (e) Pedipalp; (f) Anterior coxal plate; (g) Genital opening; (h) Anus.

**Fig. II.** Anterior portion of the cephalothorax (X240). (a) Sensory protuberance; (b) Dorsal groove; (c) Sensory hair; (d) Collar-shaped portion.

**Fig. III.** Pedipalp (X450). i-v, Segments of pedipalp; (a) Hooked terminal spine; (b) Stiff hairs; (c) Stiff hairs.

**Fig. IV.** Feathery hair of posterior margin of abdomen.

**Fig. V.** Egg about to hatch (X126). (a) Shell; (b) Projection; (c) Loose shell.

**Fig. VI.** First Moul (X110). (a) Old skin; (b) Transforming larva.
The China Medical Journal.

Jikwa Zassi
(Journal of Pediatrics)
No. 197. October 20th, 1916.

This is a slight amplification of the method described in the author's article as reported under paragraph No. 134. Some miscellaneous experiments were also conducted which are here reported. The shaved bellies of guinea-pigs were rubbed with cultures of the organisms, in some cases after all possible scratches had healed, and in others in the presence of intentional abrasions. There was a much heavier percentage of infection in the latter cases, suggesting that the unbroken skin is a good barrier to the entrance of the organism. In the infected cases the regional lymph glands were early involved. Guinea-pigs caused to drink a saline suspension of the organisms were infected in most of the cases, indicating the possibility of the penetration of the healthy mucous membrane.

In Chiba, a province in Japan, and its vicinity, there were 200 patients in 1914, and 300 in 1915, afflicted with Weil's disease. The case incidence was noticeably increased in August, September, and October, and adults were much more commonly affected than children. Fully 80% of the patients were farmers, or boys and girls above the age of thirteen years who were able to go into the rice fields, streams, or ditches for farming or fishing. Among sixteen children affected, twelve were above the age of ten years. As to sex, among the adults there were four times as many men infected as women, and among the children the girls outnumbered the boys by two to one. As to symptoms, there was very little difference between adults and children except that chills and convulsions were more common among the latter. The death rate for adults was 19.6% and for children 12.5%.

Taiwan Igakukai Zassi
(Journal of the Formosa Medical Society)

This disease has been reported from Formosa since 1897 and manifests itself in a spinal and a cerebral form. Japau is said to have been also affected. The author reports 11 cases, of which both arms and both legs were involved in one case; the right arm and both legs in two cases; both legs in three cases; the right leg only, in two cases, and the left leg only, in three cases.

The frog, *Rana tigrina Daudin*, was found to resist well a dose of the organisms equivalent to three slants per 90 gms. of body weight. This extreme resistance was found to be due to the phagocytic action of the polymuclear leucocytes. A guinea-pig died in 2-4 days after an injection of only 1/50 of a loop full of the same culture.

The military authorities of South Manchuria had made the observation that apparently there was a decided difference between the incidence of certain of the
infectious diseases among the two races living side by side under their jurisdiction. In order to put the matter on a scientific basis, they ordered a canvass of 10,000 people of each race with the result that they found 100 Japanese suffering from one or another of the infectious diseases, and 92 Chinese. Plague, relapsing fever, and typhus were more common among the Chinese; while typhoid fever, paratyphoid fever, dysentery, diphtheria, and scarlet fever were more common among the Japanese.

The blood serum of ninety persons of each race was tested by agglutination against six different kinds of organisms, viz., those of dysentery, typical and abnormal forms 1 and 2; typhoid and paratyphoid, A and B. The results were practically identical in the two races. The experiments appear to indicate that these infections, approximately, are equally common among the two races, and any observed difference should properly be attributed to a reluctance on the part of the Chinese to come to the foreign hospital to be treated for these diseases. Possibly, the more unsanitary conditions in which the Chinese live may favor the contraction in early life of these diseases before the minimum age limit set for the census.

(176) Bothriocephalus latus, CONTRIBUTION TO THE LIFE HISTORY OF. P. 858. S. Yamata.

The author reports the finding of a strap-shaped worm in the abdominal wall of a woman, aged forty-seven years. He introduced the worm into the stomach of a small dog. After thirteen days there were found in the faeces some eggs, described as having a thin shell, slightly pointed at one end, and measuring 0.0363-0.0685 mm. Within the egg were 3-5 globular bodies, and the yolk was granular and yellowish-brown. In a few days the eggs greatly increased in number and after two months the dog was killed and the intestine examined. The mucosa was ulcerated in several spots the size of a large bean and a large Bothriocephalus extended from the lower part of the ileum to the rectum. From the parasite were taken eggs that corresponded exactly with those observed in the faeces. No figures or specific description of the original worm are given as this is apparently an unacknowledged abstract from some other journal.

(177) TSUTSUGAMUSHI (RIVER FEVER OF JAPAN), NOTES ON THE MITE PRODUCING. P. 859. B. Miyakawa, I. Nagayo, D. Mitamura, and H. Imamura.

In the cages in which the adult mites had been kept there were found some young worms whose shape was identical but which were considered to be nymphs. As to the name, they refer to a review in the Ishinbun, No. 938, September, 1916, in which the grounds for changing it to Leptotrombidium akamushi are given, as well as details of the structure of the larva, nymph, and adult. This article will be reviewed later if obtainable.

(178) TSUTSUGAMUSHI (RIVER FEVER OF JAPAN), the probable finding of the nymph stage of the mite producing the disease. Pp. 359-360. R. Kawamura and S. Yamaguchi.

The authors made a zinc-lined box of medium size, filled it partly full of sandy earth from an infected district and buried it in the ground so that the soil inside and out would correspond. The bottom was sufficiently perforated to allow for adequate drainage. In the box were caged a number of infested mice, and a screen cover was placed to retain the animals but admit the sunlight. A month later the soil was dug out and examined. The adult parasites had entirely disappeared from the mice and in the earth were to be found eight-legged mites similar to the adults, but different in structure from the nymph form previously reported by Dr. Nagayo.
In the numerous Christian communities scattered over China there must be many Chinese afflicted with tuberculosis, some of them valued workers whose friends are willing to do all that is possible to restore them to health. Then in hospital and dispensary work there are the consumptives who have the means to undertake whatever form of treatment may be directed. To order medicines and yet leave these patients in their own homes is unsatisfactory. It is equally unsatisfactory to send them away to the hills or the country where they will not be under proper medical supervision. Hitherto there has been no other course open. Dr. Smyly described the situation accurately in a recent report of the Union Medical College Hospital, Peking, when he wrote: "A review of a year's medical work in China leaves one with the strong impression that, of medical diseases, two stand out as of first importance in gravity and numbers—tuberculosis and syphilis. For the first of these diseases it must be confessed we are doing nothing of value beyond diagnosis. A sanatorium is an outstanding and urgent need. An army of young men come to us with phthisis, and we have hitherto done next to nothing to save them from an early grave." As inquiries are constantly being received from medical men all over the country concerning the sanatorium in Kuling for Chinese with tuberculosis, attention is drawn to the following communication:—

"The very latest and approved methods for the open-air treatment of consumption are in use at the Kuling Tuberculosis Sanatorium for Chinese patients. The institution is under the direction of a foreign physician and is open throughout the year. The treatment of tuberculosis by the open-air method has been very successful there, as practically all patients in the early stages of the disease recover, and, with few exceptions, advanced cases improve while they remain at the institution. Seventy-six patients were treated during the past year with an unusually good record of cures.

"Kuling is situated in the mountains of Kiangsi, 3,500 feet above the sea level. The air is dry, invigorating, and has a very beneficial effect upon lung diseases. Even in the depth of winter and during the stormy season, patients react to the cold, dry temperature and experience much less discomfort than in the damp atmosphere of the plains and valleys. Undoubtedly, the cures effected here are largely due to the healthy surroundings, fine air, and bracing winter climate.

"The charges in both the men's and women's departments are thirty dollars per month. This sum covers all expenses. There are
no extra charges. Special rates are given to mission workers. Patients desiring to take treatment at the Sanatorium should provide themselves with plenty of warm clothing and bedding. They should also write in advance to the medical officer in charge in order to have accommodation reserved for them."

Book Reviews.


In the United States this has long been a standard work. It has now reached its eighth edition, sufficient evidence of the high appreciation in which it is held. Several new operations are given. For the purpose of relieving the increased intra-ocular tension in glaucoma, sclerectomy with punch forceps (Holth's operation), and corneo-scleral trephining (Elliot's operation) are fully described. The ingenuity of ophthalmic surgeons is ever being exercised in devising new methods for dealing with cataract, particularly in India where this affection is so common. As to Henry Smith's mode of extracting the cataract in the capsule, it is the author's impression, based on a very limited experience and upon his observation of certain operators familiar with the Smith technique, that while this operation will retain a place in ophthalmic surgery, especially in the extraction of unripe cataracts, it is not likely to drive from the field those procedures which have for years been firmly and favorably established. Stanculean's and Arthur Knapp's methods of extraction of cataract in the capsule after subluxation of the lens with capsule forceps, are also described.

The entire work has been reset and appears in a new and greatly improved form. Its chapters have been revised thoroughly in an endeavor to include due reference to the important ophthalmic observations and therapeutic measures which have been made and recommended since the last edition. To surgeons in China, where eye diseases of many kinds are extremely common, it may be commended as a full and thoroughly reliable guide.


Originally written as a small handbook for the use of practitioners taking courses in tropical medicine, this work has grown to such an extent in the effort to cover completely such large subjects as bacteriology, parasitology, hematology, not to speak of miscellaneous matters including diseases of doubtful etiology, descriptions of poisonous snakes, etc., that we fear it will soon be either a very large text-book or the author will be compelled to deal with some of the subjects separately. However, we can only be thankful that so much serviceable and very accurate information, abounding with practical hints and useful tables, is brought within the compass of a handbook which is still convenient.

A few criticisms may be made. Not all the species of Filaria are mentioned. The life-history of Paragonimus westermanii has now been completely worked out by the Japanese. In view of Stewart's work on the development of Ascaris, the statement that an intermediate host is not needed in the life-history of this family is somewhat too dogmatic. In all illustrations the magnification should certainly be given.

Every physician in tropical climates who uses his microscope and does laboratory work should have this volume by him as his constant companion.

Of the making of compendia and outlines of physiology for the benefit of medical students there is no end. In the days when the teaching of physiology was mainly didactic, compendia summarizing our knowledge of this subject without much reference to experimental work were far more useful than they are now when physiology in medical schools is mainly taught in the laboratory. The small book under review is of this description. Brief as outlines must necessarily be, it is hardly comprehensive enough for the medical student. But it is clearly and pleasantly written and should be very useful as an introduction to the study of physiology in high schools and colleges.


This excellent monograph begins with a clearly written and not too lengthy chapter on the surgical anatomy of the vertebral column and spinal cord. There are also good chapters on symptomatology, localization of functions, and X-ray diagnosis.

Five chapters are devoted to operations upon the spine, spinal cord, and nerve roots, and eight chapters to the surgical diseases of the spinal cord and membranes, and their treatment.

One cannot resist the impression that operable diseases of the spinal cord are often passed by unrecognized, and the reading and digesting of such a monograph as this should reduce such regrettable incidents to a minimum.

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.

Auto-therapy.

To the Editor, C. M. J.

Dear Sir:—Do you know of any physicians out here who are trying out the method of auto-therapy as advocated by Dr. Charles H. Duncan of New York City? We have been experimenting along this line for some months now, and in many cases have reasons to believe there is something in his contentions.

Yours truly,

G. Glass Davitt.

Yachow, Szechwan.

Autogenous Vaccines: Native Surgery.

To the Editor, C. M. J.

Dear Sir:—Recently I have had two little experiences which may be of interest to others. The first was the case of a foreign lady missionary, who had been suffering from a nervous breakdown, in the course of which her teeth had begun to give her a lot of trouble. When she came to me she had a very bad case of pyorrhoea alveolaris. I tried hypodermics of emetine, and also intramuscular injections of mercury succinimid. The latter caused great pain and a good deal of induration, though most carefully given. Mouth washes and local applications did not seem to help. After a month of treatment she was pretty blue about her teeth, though much improved as to general health. As there was such a great amount of pus I thought it might be wise to try some autogenous vaccine, so I sent some pus to the Shanghai Board of Health, and began to use it as soon as the vaccine was received. At the same time I had her get her teeth
Correspondence.

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thoroughly scraped again. (She had had it done several times before.) The improvement was marked within one week, and before two weeks had passed all symptoms had disappeared. I continued the injections for a few more days, then let her go home. She has kept well ever since. The Board of Health reported the organism as *staphylococcus aureus*. They sent 12 ampules, two of each strength, from (I think) 5 million to 100 hundred million. I gave two injections of No. 1, then one each from Nos. 2 to 6. It is more than likely that others have tried autogenous vaccine for this troublesome disease. I had never heard of it, and as it is possible some others have not known of it I would suggest it as worth trying, at least.

The other case was an instance of a rather unusual method of treatment by native practitioners. An old man came to us suffering from an acute attack of amebic dysentery. He said he had been given a mixture, which he was told to put in a bottle and insert, bottle and all, into his rectum. He had done so, and now could not get the bottle out. It had been in two days when he came to us. He was very insistent that he wished only to have the bottle removed, and did not wish any treatment. He was in pretty bad shape, and very much frightened. I gave him a good dose of morphine and atropine, and made a slow manual dilatation of the sphincter ani. I could get a slight hold on the bottle, and get it to the anus easily, but it was hard to handle since it was inserted (naturally) neck inwards, and no instrument was able to grasp the large base. The thing was done by getting an assistant to make gentle pressure above, to keep the bottle in place close to the anus, and getting the old man to strain as well as he could; then by holding the anus well dilated I led the bottle out, getting a small grasp with the tips of my fingers. I am keeping the bottle as a specimen. It measures 6½ inches high, 4½ inches in circumference, and is shaped like a small Worcestershire sauce bottle. The old man left the hospital almost at once, despite our urging.

Yours sincerely,

PHILIP S. EVANS, JR.

Guide to the Purchase of Medical Books.

To the Editor of the C. M. J.

DEAR SIR:—Cannot a selected list of the latest and best medical books be published annually in the JOURNAL for the guidance of physicians in the interior unable to examine such works for themselves. All of us have books on our shelves that would never have been there had such a practical, helpful guide been issued. The list need not be exhaustive, but it should include both British and American publications. May I be permitted to suggest also that pressure should be brought to bear on our Home Boards to make a definite annual grant to medical missionaries for the purchase of medical books as a necessary part of their equipment.

Yours truly,

H.

**At the recent Canton Conference a committee was appointed, consisting of the editor and two departmental editors of the JOURNAL, to collect information concerning new publications, to review those thought to be most useful, and at the end of the year to publish in the JOURNAL a list of the new publications which are thought by the committee to be most helpful to readers of the JOURNAL. This is a delicate and rather difficult task. In the event of such a list not being satisfactory, we trust the old adage will be remembered, "de gustibus non est disputandum."—Ed.

A Co-operative Store and Purchasing Agency.

To the Editor, C. M. J.

DEAR SIR:—It would be a great advantage to missionaries in the interior if some way could be found by which all the necessary supplies for a hospital could be obtained at one central agency,—not only drugs and surgical instruments, but also telephones, temperature charts, paper files, system cabinets, card indices, ledgers, and everything else needed for the full equipment of a hospital. At present many of these things are extremely difficult to obtain. Co-operative stores usually work very well and are profitable to all concerned. Why cannot one be established in Shanghai?

Yours truly,

G. H.

**At the recent Canton Conference a resolution was passed authorizing the Executive Committee "to organize and carry on a purchasing agency for mission hospitals, if practicable." Any helpful suggestions will be welcomed by the Executive Committee.—Ed.
PRELIMINARY LIST OF HEALTH PUBLICATIONS, NO. 1.

A large number of inquiries having come to the Joint Council on Public Health Education asking for English and Chinese books on the various departments of Public Health Education, and as it is often impossible to answer these questions satisfactorily by giving a full list of such books, since there are so many of them, the following list, numbered for convenience and as far as possible complete to date, is issued as a guide to those interested in this important subject.

Published in Chinese by Presbyterian Mission Press, Shanghai.

1. Kellogg's The Living Temple 延壽通論.
2. 衛生要旨.
3. 敦人買方.
4. 醫生衛生提要.
5. 全體入門問答.
6. Gulick's The Efficient Life (in English).

Published in English by Christian Literature Society, Shanghai.

7. Ritchie's Primer of Sanitation.
8. Ritchie's Primer of Hygiene.

In Chinese.

10. Ritchie's Primer of Sanitation 衛生學初階.
11. Ritchie's Physiology and Hygiene 生理衛生學.
12. Fryer's Health for Little Folks for Primary Grades 筷童衛生編.
14. Kellogg's First Book in Physiology and Hygiene for Primary Grades 初學衛生編.
15. Caton's How to Live 初級衛生講義.
16. Fryer's Anatomy and Physiology 全體須知.

Published in Chinese by Central China Religious Tract Society, Hankow.

17. McAll's Catechism of Health 衛生學入門問答.
18. 韓曜衛生三字經.

Published in Chinese by Signs of the Times Publishing House, Shanghai.

19. Selmon's First Book in Physiology and Hygiene 生理衛生學.

Published in Chinese by Association Press of China, Shanghai.


Zia's SOCIAL SERVICE SERIES:

21. (1) Personal Hygiene 個人衛生.
22. (2) Public Hygiene 公衆衛生.
Public Health Education in China.

23. (3) Cleanliness 清潔之要.
24. (4) Prevention of Disease 防病傳染簡說.
25. (5) Prevention of Tuberculosis 治療善法.

Published in Chinese by Commercial Press, Shanghai.

27. Physiology and Hygiene 生理及衛生學.
28. School Hygiene 學校衛生學.
29. New Hygienic Physiology 生理衛生新教科書.
30. Elements of Physiology 中學生理學教科書.
31. Physiology 生理學.
32. Anatomical Physiology 最新解剖生理衛生學.
33. Steele's Physiology 師範學校生理衛生學.
34. A Brief Course of Hygienic Physiology 師範學堂生理衛生學.

The following works in English are issued by various publishers, but they can be obtained from the Chinese-American Publishing Co., Shanghai, and from Edward Evans and Sons, Shanghai.

35. Rosenau's Preventive Medicine and Hygiene.
37. Harrington's Practical Hygiene.
38. Howard's The House Fly.
40. Jewett's The Body at Work.
41. Ross' Mosquito Brigades and How to Organize Them.
42. Doty's The Mosquito: Its Relation to Disease and Its Extermination.
43. Ross' The Reduction of Domestic Mosquitos.
44. Wallace's The Prevention of Common Diseases in Childhood.
45. Ledingham's The Carrier Problem in Infectious Diseases.
46. Jewett's Town and City.
47. Jewett's Control of Body and Mind.
48. Starr's Hygiene of the Nursery.
49. Parkes' Practical Hygiene.
51. Gresswell's Health Morals and Longevity.
52. Hutchison's Exercise and Health.
54. Harman's Preventable Blindness.
55. Ross' The Reduction of Domestic Flies.
56. Boelter's The Rat Problem.
57. Ames' Elementary Hygiene for the Tropics.
58. Hough and Sedgwick's Elements of Hygiene and Sanitation.
NEWS AND COMMENT.

BIRTH.

Hardy.—On October 27, 1916, to Dr. and Mrs. William Moore Hardy, of Batang, Sze., a son (William Palmer).

MARRIAGES.

Booth-Taylor.—At Anking, January 31, 1917, Miss Alma Booth to Dr. H. B. Taylor, of the American Church Mission, Anking.

Lide-Louthian.—At Chengchow, Honan, February 7, 1917, Miss Pauline Lide to A. D. Louthian, M.D., both S.B.C.

DEATHS.

Anderson.—In the Medico-Chirurgical Hospital, Philadelphia, Pa., U. S. A., Elizabeth Esther Anderson of the Central China Mission of the American Presbyterian Church.

The American Presbyterian Mission Board, on being informed of the death of Dr. Anderson, adopted the following Minute: “The Board was informed of the death, in the Medico-Chirurgical Hospital in Philadelphia, on November 1, 1916, of Dr. Elizabeth Esther Anderson of the Central China Mission. Dr. Anderson went to China in 1907 to the Tooker Memorial Hospital in Soochow, and there all her years of missionary service have been spent. She was a woman of purest spirit and of whole-hearted devotion, capable and efficient, gentle and unselfish, who loved her work and her Master, and whom all who knew her loved. For some time she had suffered from a heart affection and advancing sarcoma, but had clung to her work and gone resolutely on with its duties. In September, however, the physicians ordered her to return to America, and she reluctantly came. Her health failed rapidly and although she was brought at once to the hospital she was beyond any help that the most skillful attendance could give and was mercifully delivered from all her pain to enter the free and painless service of high. The Board desires to record its grateful appreciation of her beautiful character and faithful ministry; and to extend its sympathy to her father and to other friends, and to the station which is sorely bereaved in her death.”

Laning.—Dr. Henry Laning (Albany Medical College, N.Y., 1864) who had spent the greater part of his life since 1873 in Osaka, Japan, where he was for forty years the head of St. Barnabas’ Hospital, Osaka, died at the home of his son in Chevy Chase, Md., on January 1, 1917, from cerebral hemorrhage, aged 73 years.

The Executive Committee of the Domestic and Foreign Missionary Society of the Protestant Episcopal Church in the United States, at its meeting on January 9, 1917, adopted the following Minute: “On January 1, 1917, Dr. Henry Laning entered into rest. Going to Japan in 1873, at a time when Japan knew but little of modern medical science, Dr. Laning served for more than forty years as a medical missionary. Saint Barnabas’ Hospital, Osaka, with its long record of blessed service to the sick and suffering, is his monument. “He was an ideal missionary physician, modest and generous, and skillful in his profession, successful in winning the confidence and affection of the Japanese, and untiring in evangelistic work. The Japanese of Osaka hold him in the same affectionate regard that they did Bishop Williams. “The Board of Missions records its gratitude to God for the life and work of this devoted servant of men. “In assuring Dr. Laning’s children of the sincere sympathy of its members, the Board of Missions also congratulates them upon the heritage of an honored name, and an inspiring example of self-sacrificing service.”

MEDICAL MISSIONARIES ON WAR SERVICE.—News has been received from Drs. A. F. Cole and B. Score-Browne, who left Ningpo for work at the front. The former is occupying an important surgical appointment at a large hospital in Bombay and, incidentally, seems to be having the time of his life. Dr. Score-Browne is somewhere on the Salonika front, which he prefers to the Western front.

Dr. Edward J. Stuckey of the Union Medical College, Peking, has enlisted in the Royal Army Medical Corps for service as Medical Officer with one of the Labour Battalions of Chinese coolies.
who are being recruited in North China for service behind the British lines in France. He has received indefinite leave of absence from the College to enable him to take up this work. Mrs. Stuckey and the children are remaining in Peking.

Dr. William Hamilton Jefferys, formerly of St. Luke's Hospital, Shanghai, and for seven years editor of the China Medical Journal, has been appointed superintendent of the Protestant Episcopal City Mission of Philadelphia.

Epidemics in Shansi.—A serious epidemic of scarlet fever has been raging in the city of Fenchow and its suburbs, causing the death of at least two hundred young children and quite a number of adults. In the city of Taiyuanfu and some districts to the south of it there have been many deaths from diphtheria. This disease is endemic in certain villages, and only such extreme measures as razing and removing the entire village would be really effective.

The official remedy prescribed—a concoction of five strange herbs with liquorice and peppermint—whatever pharmacologists of other schools may say—has the virtue of popularity.—N. C. Daily News.

Tsinanfu Medical College.—Dr. W. McClure, B.A., M.D., of the Canadian Presbyterian Mission in Honan, and Dr. R. T. Shields, M.D., of the Union Medical College in Nanking, have joined the staff of the Medical College and others are expected to join later.

Medical Education for Women in China.—At the recent meeting of the Board of Trustees of the new Union Medical College of the China Medical Board of the Rockefeller Foundation, held in New York, the following action was taken:

"It was resolved that while the Board of Trustees is not prepared at this time to make detailed plans for the medical education of women, it is the purpose of the Board to admit in due time qualified women students to the Medical College on the same basis as men."

Lime with Prisoners' Rice.—The official mission to inquire into the state of prisoners in Szechwan reports that the practice of mixing lime with the prisoners' rice and porridge is common among the gaolers in order to save the cost of feeding them and results in many deaths.

The Government has now ordered all magistrates in future to prevent such inhuman practices.—Reuter.

Osaka Medical College and Hospital.—On February 19, 1917, a great fire broke out in Osaka and, fanned by a strong wind, it extended to the Osaka Medical College, the largest hospital in Central Japan, and completely destroyed it. There were 470 patients in the hospital at the time of the outbreak and it is reported that they were all safely removed, but it is impossible at present to say whether there was loss of life or not.

Hangchow Medical School.—In December, 1916, five students graduated from the C. M. S. School of Pharmacy, after a course of four years' study. The Governor of the province who had promised to attend and present the diplomas was prevented from coming by trouble among the officials.

Science and War.—At a meeting of American scientists in Boston, Mass., November, 1916, a lofty plea was made by one of the speakers, that after the close of the war scientists of all the world should unite in the demand that science should not be prostituted to the destruction of life, but should be kept upon the high plane of medicine, which knows no enemy.

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.
The China Medical Journal.

Nurses' Association of China.

OFFICERS, 1916 to 1918.

President:—Miss Powell, M.E.M., Peking.
Vice-president:—Miss Baldwin, C.M.S., Foochow.
Treasurer:—Miss Chisholm, A.C.M., Shanghai.
General Secretary:—Miss Batty, C.I.M., Shanghai.
Assistant Secretary:—Miss Ogden, A.C.M., Aukiug.
Editorial Secretary:—Deaconess Wells, A.C.M., Shanghai.

DIET KITCHEN METHODS OF INSTRUCTION.

E. S. Chisholm, St. Luke's Hospital, Shanghai.

Having read a very able paper on the above subject in the American Journal of Nursing, I am struck with the idea that dietetics is a very weak point in our hospitals in China,—in fact, so weak that at times it seems to be almost invisible.

Most hospitals seem to have been built with a door to admit the patient, an operating room of sorts, a few wards. As to the kitchen and suitable quarters for preparing food, it seems to have been an afterthought—long after. Manna from Heaven must have been expected for food.

But with the arrival of the foreign nurse and her attending train of pros and cons, desiring to train nurses, etc., things are changing. The day has passed when a proper diet kitchen can or will be done without if we are going to teach pupil nurses the importance and value of good and well-cooked food and how much it means in the recovery of a patient. The only way this can be done is by giving them a regular course of instruction in the actual preparation of food.

This brings us to the question as to whether it would not be better for the nurse to have a preliminary course in cookery before she enters the diet kitchen to actually prepare food for the patients. If we are provided with a special diet kitchen, classes may be held there at convenient times without upsetting the routine work of the general hospital kitchen.

About eight or ten lectures ought to cover a good outline of work. Classes of five or six seem to be most successful. If one has more pupils, then it is more difficult to keep a close supervision on individual work.
With Chinese food as with other food, there is most surely a right and a wrong way of preparing it. Will any reader who has found a suitable and attractive way of preparing certain Chinese foods of value as special dishes, send the recipes to the Editorial Secretary? These recipes will be published for the benefit of those who are not advanced in this line of work.

Questions.

Is it advisable or necessary for our Chinese nurses to go on duty before having their morning meal?

What provisions are made by the different schools for their night nurses' midnight meal?

All superintendents of hospitals who are preparing students for the next examinations of the N.A.C., are asked to send in the names of their candidates to Miss Ogden, A.C.M., Anking, as soon as possible.

Your attention is called to a book just prepared by Miss Tomlinson, A.C.M., Anking. It is an Anatomy, written in the form of a catechism. Like all Miss Tomlinson's productions, it is both practical and interesting. As an introduction to the subject of Anatomy for Chinese nurses it ought to prove of great benefit. It can be had at the publisher's, Theodore Leslie, 445 Honan Road, Shanghai. The price is twelve cents per copy.

A course of lectures in bacteriology by Miss Gage, Changsha, is now in the hands of the publishers and will soon be on sale at the above address.

Practical Points in Nursing. For Nurses in Private Practice. With an appendix containing Rules for Feeding the Sick; Recipes for Invalid Food and Beverages; Weights and Measures; Dose List; and a full Glossary of Medical Terms and Nursing Treatment. By Emily A. M. Stoney, Revised by Lucy Cornelia Catlin, R. N., Director of Social Service and Executive Director of the Out-patient Department, Youngstown Hospital, Ohio. Fifth Edition. Price G. $1.75 net. Publishers: W. B. Saunders & Co., Philadelphia and London.

This is a useful reference book for the foreign nurse in China, and that it has reached the fifth edition is evidence of its popularity in the States. The question may be asked, Is it sufficiently distinctive to
make its translation into Chinese worth while? Some of the illustrations would, no doubt, prove helpful in the teaching of practical nursing to our Chinese students. But, on the whole, it does not treat the most important subjects profoundly enough to make it valuable as a textbook for translation.—E. S. C.


In writing a book for pupil nurses, the author is confronted with the problem which is still unsettled, as to how much a nurse should be taught. No two people will agree on the question when it comes to details. Miss Aikens has made an honest effort to gather into one volume matter previously scattered in several books, to grade and to systematize and to simplify the problem of teaching nurses. Her aim has been to include the main points about the common diseases and their management, which nurses ought to know in order to intelligently care for the sick. The chapters on nursing in mental diseases are exceptionally good. The plates and illustrations are excellent. Nurses in China would find this book exceedingly helpful as a reference book to use in preparing lectures for their Chinese pupils.—L. W.