ON THE SPIROCHAETAL INFECTION OF ULCERS IN CHINA.*

(A Preliminary Report.)

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The occurrence in China of spirochaete-infected ulcers of serious clinical importance was first observed by Assmy, of Chungking, who in 1909 first called attention to the presence here of tropical ulcer,—that is, of a type of ulcer peculiar clinically, and characterized by the presence of spirochaetes and of fusiform bacilli. His announcement was shortly followed by one by Logan, who reported the frequent occurrence of the disease at Changteh.

The present work was begun in an effort primarily to ascertain the geographical distribution of the disease. China offers a peculiarly favorable field for work of this sort, since it possesses a widely distributed force of medical practitioners, bound together by a common disinterestedness, and by an efficient organization. The writer was fortunate in being able to enlist the help of this organization, by means of the Committee on Research of the C. M. M. A., in the collection of material for his study. As most of you are doubtless aware, the work has been done on material consisting of smears from unselected cases of ulcers of the extremities, sent in from all over China. A word of explanation is necessary as to why the material was limited to ulcers of the extremities, in view of the fact that ulcers of the genitalia of the same general character as tropical ulcer, are known to occur here. This was done for two reasons: 1st, it cannot be regarded as proved that the infection in these cases is the same as in cases of true tropical ulcer, however probable this may be, and it was desirable to keep the subject as free from complications as possible; 2nd, and more important,

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it was feared that by admitting genital ulcers into the field of investigation, a large amount of negative material, in the way of venereal infections, would necessarily be received, and so statistics as to the relative frequency would be altered.

The smears, which were requested to be sent in without fixation, were fixed in methyl alcohol, and were examined after staining over night with Giemsa.

Although the work was primarily intended as a study of tropical ulcer, it was soon found that it would be necessary to broaden it into a study of the subject of the spirochaetal infections of ulcers in general, in view of the interesting diversity observed in the organisms of that sort. In all, six principal types of spirochaetes have been observed in the present stage of the work.

**Type A.** This is a long, very tenuous organism, which typically possesses from three to four complete, regular convolutions, of considerable amplitude. It is on an average about 13 micra long, but varies considerably from this figure in both directions. As a rule it takes, with Giemsa solution, a bluish stain. Occasional smears are found having organisms of this sort stained violet, but this is probably to be ascribed to irregularity in the stain. Individual organisms sometimes show irregularity in staining, parts taking the stain deeply, other parts staining scarcely at all. Again, at times the one organism will be much thicker at one end than at the other. Scattered among the typical forms described above are found spirochaetes with perfectly regular convolutions, but much thicker, and with tapering ends. These were identified by v. Prowachek, who studied the disease in Java, as sexual forms, but it is scarcely necessary to point out that such an identification is largely hypothetical. What v. Prowachek considers as resting forms—spirochaetes with terminal nodules are also observed. Occasional organisms show a terminal flagellum. Bending of these spirochaetes into irregular loops and volutes is not infrequent.

Two principal variants of this type are met with. The first differs in that the convolutions are smaller, more numerous, and more irregular. That this does not constitute a specific variation is shown by finding one instance where an organism of this type was linked end to end with one of the regularly convoluted type. The second variant is practically straight, as if a convoluted form had been subjected to tension. This form occurs as a rule in large numbers in the specimens in which it is present at all. There is little reason to consider this as a separate type, as it is found only in association with the convoluted forms, and has every appearance of being derived from them.
Type B. This organism is both longer and thicker than Type A. It is more finely and irregularly convoluted, and stains red or reddish violet with Giemsa. Its ends taper abruptly.

Type C. Like Type B, this spirochaete stains red or reddish violet. It is a little thicker than Type A, and is much shorter, seldom over 7 micra long. Further, it is characterized as an almost invariable rule, by perfect regularity of convolutions, which are of small amplitude.

Type D. This organism, met in only a few cases, is characterized by extreme tenuousness, bluish violet stain, and the possession of only one or one and a half complete convolutions of perfect regularity and great amplitude.

Type E. Organisms of this type have been met with only once. They are about as long as Type C, very thick, regularly and very finely convoluted, with abruptly tapering ends, and staining an intense blue.

Type F. These organisms are in general of the same tenuousness as Type A, but differ from these in being as a rule irregularly and finely convoluted, violet rather than blue in stain, and of about the same length as Type C. Organisms of this type differ considerably among themselves, and it is quite possible that this type includes more than one entity. It was judged inadvisable, however, to risk undue multiplication of varieties on altogether minor distinctions.

With all spirochaetes that occur in anything like large numbers, it is not unusual to find paired forms, to which reference has already been made, linked together, end to end, by a fine filament. These are the only unquestionable evidences of division that have so far been observed.

Along with the spirochaetes, there occur as a rule, to which, however, there are apparent exceptions, certain distinctive bacilli. As with the spirochaetes, their classification is rather complex, and I shall condense it as much as possible.

1. Fusiform bacilli, violet in stain, with or without metachromatic granules, and varying considerably in length. Probably several different organisms are included in this heading.

2. Fusiform bacilli, much smaller than the foregoing, with clear blue-staining cytoplasm, and reddish sharply defined chromatin granules. (Organisms of the Plaut-Vincent type.) Occasionally long filaments of this description are met with, and as these sometimes form spirochaete-like strands, the writer is of the opinion that these are
what some observers have taken as intermediate stages between the fusiform bacilli and the spirochaetes. In no instance did the writer observe a given specimen regarding the classification of which there could be any reasonable doubt.

3. Short, plump, violet staining organisms, with rounded or ovoid ends. Occasionally these seem to possess a terminal flagellum. Both these and bacilli of Type 1 sometimes show a large spherical central swelling.

Having surveyed, I fear rather tediously, the organisms observed, let us look into their distribution. The present paper is based on the examination of fifteen hundred specimens, and of these 115, or 7 2/3%, have shown the presence of spirochaetes of one or more types. Of these, Type A is the most frequent, occurring in 92 specimens. Type B was found in 26, C, D, and E occur infrequently, in 4, 3, and 1 cases respectively, and F is second in frequency only to Type A, being found in 49 cases.

It must be noted that in only 47 of the specimens were two or more types of spirochaetes found in the same specimen. Not much stress can be laid on this, for although the specimens were gone over carefully, the majority on several separate occasions, not infrequently one spirochaete of a certain type would be found in from two to four hundred fields, and when the search is complicated by the presence of overwhelming numbers of one type, as sometimes occurs, overlooking of the associated organisms may readily happen.

As to the numbers in which the spirochaetes occur when present, the greatest variation is shown by Type A, which in some specimens occurs only once in several hundred fields, and in others is so numerous as to form a felted mass, with all intermediate stages of frequency. Type B also shows much variation in this respect, but is never as abundant as is Type A in some specimens. C, D, and E occur only in comparatively small numbers. F usually is infrequent, at times is present in fairly large numbers, but never presents the striking picture that Types A and B sometimes show.

As to the fusiform bacilli, nothing definite can be said. The different types vary in frequency in different specimens, apparently without rule. Occasionally one or more types will be absent from a given specimen, and in two smears, both from Hankow, the writer could discover no fusiform bacilli whatever, although spirochaetes of Type A were present in fairly large numbers. On the other hand, fusiform bacilli of all three types, and especially of Type 2, have been found in a number of specimens in which the most careful search failed to show the presence of spirochaetes.
At the outset of this work, it was decided not to request clinical data as a regular thing, in the fear that the amount of extra work involved would result merely in the curtailment of the amount of material received. For this reason, little can be said of the clinical significance of the different types of spirochaetes, assuming, as seems probable, that the various morphological types represent different species. Enough data were obtained, however, to show that typical tropical ulcer is usually, at least, associated with large numbers of organisms of Type A. This is in accordance with the results of study of this disease in other regions. Of the remaining types, B was found as a predominating organism in enough cases to warrant the suspicion that this organism has pathogenic properties. While F at times occurs in larger numbers, as a rule it is associated with a plentiful and diverse flora, and its pathogenicity is less probable. The remaining types of spirochaetes occur in too small numbers to warrant any conclusions as to pathogenicity.

While typical cases of tropical ulcer are readily recognized under the microscope, what is to be said of the cases in which the organisms of Type A occur only in small numbers, and of the whole train of specimens in which it is present in gradually increasing numbers? From some such cases clinical records were obtained which make it improbable, from the clinical side at least, that they are to be regarded as cases of tropical ulcer. From this it would appear probable that tropical ulcer, as a pathologic entity, results only when the characteristic organisms are present in a certain degree of profusion, and that the same, or very similar, organisms may occur in less abundance without producing any distinctive symptoms. A possible explanation is that the organisms of Type A, as found in specimens containing few of them, are really a distinct organism from that associated with tropical ulcer. Spirochaeta Refringens differs from the type described here principally in being much less tenuous, and, in the absence of direct comparisons, which have not been made at this stage of the work, it seems very probable that we can exclude the possibility of the spirochaetes under discussion belonging to this species, at least in the great majority of cases. There is, moreover, a considerable amount of indirect evidence, which I shall not cite in detail here, to favor the view that some, at least, of these infrequent spirochaetes are really the same as those associated with tropical ulcer.

As regards the geographical distribution of these infections, the material at hand reveals some interesting and rather surprising information. For the sake of convenience, let us divide China into
three zones of approximately eight degrees of latitude each. To aid in visualizing these zones, I shall state that the northern extends from Kirin to Weihwei inclusive, the central from Hwaking, Honan, to Nanchang (Kiangsi) inclusive, the southern from Changsha to Hoihow, Hainan. In breadth, practically the entire country is covered, at least in the central and southern zones. From the northernmost of these no cases of spirochaetal infection have as yet presented themselves. True, only 103 of the fifteen hundred cases, from eleven centers, have come from this northern region, but it is inherently improbable that more than occasional cases are to be met with there, where ulcers of all sorts appear to be very rare. The central zone, corresponding very roughly with the valley of the Yangtse, has contributed eleven hundred and fifty specimens, from thirty-four centers. Of these specimens, 100, or 8.8%, contained spirochaetes, 82, or 7.2% contained spirochaetes of Type A, with about 50, or 4.4%, of these of a character warranting the diagnosis of tropical ulcer by microscopic examination alone. Of the thirty-four centers, practically all from which a representative lot of material was obtained, showed cases of spirochaetal infection. In some, such infections were much more frequent than in others. For instance, Chiangteh, which leads in frequency, showed 15 cases of spirochaetal infection in a total of 44 specimens, the majority being of Type A, with 10 undoubted cases of tropical ulcer. The southern zone has contributed 275 specimens, from nineteen centers, with 15, or 5.5%, showing the presence of spirochaetes, 10, or 3.6% of these of Type A, and with 4 specimens, or 1.5%, that could with some degree of probability be diagnosed as tropical ulcer. It will be seen that viewed by any criterion, central China appears to be a richer field for spirochaetal infections, and especially for tropical ulcer, than southern China.

It is greatly to be regretted that the material from the north and south is so scanty, and it is to be hoped that with the progress of the work, this will remedy itself so as to place the results here indicated on a firmer basis.

The writer has purposely abstained from a discussion of the clinical aspects of tropical ulcer. His opportunity for observation in this field has been very limited, and it is preferable that this phase of the subject be taken up in the discussion by those more familiar with it.

To summarize the findings to date:

1. Some six different morphological types of spirochaetes have been found in leg ulcers from China.
Of these, one is known to be associated with a disease of fairly distinct clinical features. The pathogenic significance of the others is more doubtful, but one or two of them are quite possibly disease producers.

2. No constant relationship could be shown between the spirochaetes and fusiform bacilli, but apparently both may occur independently of each other.

3. Spirochaetes of the morphological type of those associated with tropical ulcer have been found in all degrees of abundance in smears from ulcers. When present in small numbers, the lesion apparently presents no distinctive clinical features.

4. As regards geographical distribution, the north, as nearly as may be judged from a very limited amount of material, seems to be free from spirochaetal infections. They appear to be particularly frequent in central China, and less frequent, though present, in southern China. The same remark holds even to a greater degree, of the distribution of tropical ulcer. Hence this term, at least as applied to China, appears to be something of a misnomer.

Before closing, I wish to thank all of you for the contributions of material on which this work is based. The medical practitioners of the Yangtse Valley have been especially faithful in this matter, as the results here presented indicate, and their willingness to co-operate has been a real inspiration. I hope, however, that it will not be taken amiss if I add that even more help will be appreciated. We desire to base the final report on at least three thousand specimens, and if any of you will be able to give us more than you already have, we shall be very grateful. Even greater will be our obligation if you can interest some of the members of the Association in the north or south into sending more material, and so filling up the defects in our present data.

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TETANY, WITH REPORT OF CASE CURED BY GASTROENTEROSTOMY.*

By J. Preston Maxwell, M.D., F. R. C. S., Yungchun.

Tetany or carpopedal spasm is a curious and as yet ill understood affection, generally attacking the individual, but occasionally appearing in epidemic form.

Some places seem to manifest the disease more frequently than others, but this is probably due to a racial rather than a place difference. One can differentiate several classes of this affection.

There is a form belonging to childhood, and one to adult life. In the one of childhood the majority of cases occur amongst males, and, save in the case of laryngismus stridulus, which is probably only laryngeal tetany, the disease is rarely fatal.

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The patients are generally suffering from rickets, diarrhoea, or worms; or, as is common, a combination of the first two. Certainly worms plays a very minor part, for in spite of having seen thousands of children with diarrhoea and worms, the writer has only seen the disease once in a Chinese child, and in that case the attack was a slight one. But rickets is absent, and probably this accounts for the rarity of the trouble amongst Chinese children. And, where connected with rickets, if this latter disease is treated, although the tetany may give a good deal of pain, and clear up slowly, it is rarely serious.

In the form of adult life the majority of attacks are amongst females, and the disease is not one that can be despised.

Attempts have been made to divide the disease in adults into various forms: a stomach one; an intestinal one; thyroid one; one associated with cerebral tumour; and one with pregnancy and lactation. But one cannot differentiate these forms by any real difference of symptoms.

In the epidemic form it sometimes appears in the cold weather in prisons, asylums, schools and workmen engaged in sedentary work.

As to the pathology of the disease little is known. Nothing definite has been found post mortem which would clearly guide to the nature of the poison; which, however, undoubtedly affects the anterior ganglion cells of the spinal cord and the peripheral motor nerves.

The affection has been defined by Drummond as "a group of symptoms, produced by the action on the nervous system of a toxic substance or substances, which arise under different conditions, and whose nature is unknown."

The most prominent symptom is the presence of tonic muscular spasm attacking both hands and less frequently the feet. Rarely the facial muscles are affected, and also the abdominal wall. If the neck muscles are involved, there may be opisthotonos; but in this case generally the head is flexed on the chest, and there may be spasm of the chest muscles and diaphragm causing lividity.

As a rule the spasm lasts only a few minutes, and is succeeded by relaxation, but it may last for hours, and if the patient is carefully examined during the intervals a little continuous spasm may be found which even chloroform may not relax. This is a practical point which is not unimportant in considering the question of operative interference. Sometimes, and this is more often the case in children, the spasm is continuous, but as a rule these cases are not severe.
If the patient sleeps, generally the spasm becomes less, but does not entirely pass away, and rarely the spasm may commence during sleep. Three signs are considered by writers to be of great diagnostic value, but as a rule the diagnosis is perfectly plain without them.

These are Trousseau's sign:—Pressure over the main vessels of the limb during the intervals of relaxation will bring on a spasm.

Chovstek's sign:—Tapping over one of the nerves supplying one of the limb muscles during the intervals of relaxation will bring on a spasm.

Erb's sign:—Increased irritability of the limb muscles to the galvanic current; especially on anodal opening, which will bring on a prolonged tetanic spasm.

The constitutional symptoms are generally slight; the breathing and pulse are quickened, and in the epidemic form there is said to be a little fever. Occasionally there is a trace of albumen in the urine. There is a slight solid oedema of the dorsum of the hands and feet; and a little redness in these parts, not present during the paroxysms, but during the intervals of relaxation.

Sometimes the pain is severe and usually more so in the muscles and joints than elsewhere.

The progress of the disease is very variable. Generally in children the disease is short; in pregnancy it continues till parturition takes place; in the thyroid and gastric forms it very often recurs till the patient dies.

As to the diagnosis, as has been said, it is as a rule easy. There is no other affection exactly like it. Tetanus spasms always affect the jaw first, and the feet and hands are rarely affected. Tetanus neonatorum is a disease of the first ten days of life and tetany is never found in the young infant. With regard to hysteria there are other signs of this affection and the three sign tests of tetany are absent.

As to the treatment of this affection, the first thing is to deal with the underlying cause. If it be rickets, then this must be treated; if pregnancy or due to thyroid insufficiency then give thyroid gland; if lactation better wean the child.

My own experience of the disease in the adult has been confined to the gastric form. Twice I have met with it in the acute gastric attacks so common in patients breaking off the morphia habit. Both the patients had dilated stomachs at the time and both were vomiting. The affection was at once improved by a small dose of tincture of opium, and both patients improved steadily on stomachics; the disease did not recur, and both managed to break off the drug.
The severe form of the affection generally appears in a patient with a chronically dilated stomach, and fermentation is always taking place. How is it to be treated? The great point is to empty and cleanse the stomach, but as death has been known to have occurred from spasm excited by the passage of the stomach tube, this must be used with great care. It is best to begin by giving the patient lukewarm water to drink till he vomits, then give creasote or permanganate of potash or large doses of sodii bicarb.

Follow this up with gastric lavage carefully done, and enemata to clear the bowel; and if the attacks recur perform gastroenterostomy by the posterior method thus completely draining the stomach and as a rule not only curing the tetany but the conditions which gave rise to it. A man of 33 entered the Yung Chun hospital on the 25th of March, 1914. He was suffering from dyspepsia and gastrodynia, the latter being practically continuous. The material obtained on lavage was very acid, there was undigested food present, and yeasts. Under daily lavage and alkalies he greatly improved and lost his pain, and I took him on as a male attendant.

He went on well till the beginning of May, when he began to again complain of his stomach which was slightly dilated. He was again washed out but without much benefit. On the 7th of May about three o'clock in the afternoon he suddenly had a severe attack of tetany lasting about 20 minutes. On the 8th of May at 7 p.m. he fell down in the passage with another typical attack, the muscles of the face being slightly affected. Large quantities of lukewarm water were given, and the vomit was very acid and had a distinct odour like aldehyde.

On the next day his stomach was washed out, and he had a slight attack whilst this was being done. The attack of the previous evening had lasted about 40 minutes. In spite of lavage he had slight daily attacks, so on the 14th of May posterior gastroenterostomy was performed. Several points call for notice. First; the abdominal wall was retracted and rigid, and the incision had to be prolonged from an inch below the xiphoid cartilage to the umbilicus in order to get room to work. Secondly; the mucous membrane of the stomach was congested, and stippled with minute purpuric haemorrhages, but the muscular and peritoneal coats were apparently normal. I say apparently as it was a little more difficult than usual to pass the needle through the outer coats. Thirdly; the duodenal mucous membrane was a little congested, but there were no purpuric haemorrhages. Fourthly; and this was the point of greatest difficulty, the abdominal
wound was most difficult to sew up. The usual through and through suture which I always use was employed, but the services of an additional assistant had to be called in to press the abdominal wall forward from both the flanks, about double the number of sutures were required, and it took 20 minutes to finish it.

The whole operation from start to finish took about 1 1/2 hours.

The patient, who suffered little from shock, was placed and kept in the Fowler position. He was allowed to drink tea, rice water, or albumin water as he liked; and after the first day he had a daily enema of plain warm water. Eggs and milk were allowed from the third day onwards, soft rice from the eighth day, and bean curd from the tenth. He was kept on this diet for a month and then allowed to eat what he liked, being warned not to eat very indigestible food. 15 grains of sodii bicarb. with a little tinct. lavandulae co. was given thrice daily.

The day after operation the abdominal wall had lost its spasm. The stitches were taken out on the 14th day, the wound being perfectly healed. As to his general condition, he had no return of the tetany, his stomach symptoms also disappeared; the man is fat, of good colour, and went back to his work at his own request about the middle of Juue. The patient has put on at least a stone in weight, and is in better health than he has been for years.

Undoubtedly, this is the proper treatment for gastric tetany in adults, and quite a number of these operations have already been performed with the best possible results.

Medicine as Practised by the Chinese.*

By Dr. Wm. W. Cadbury, Canton.

In the preparation of this article I have referred largely to a work entitled "Medicine et Pharmacie chez les Chinois et chez les Annamites" par le Dr. Jules Regnault, A Challamei, Editeur, Paris, Rue Jacob, 17. I have also included notes made from personal observations in Canton, China, and conversations with a Chinese scholar who had read some of the medical classics.

Medicine in China may be divided into two classes,—the purely superstitious, which depends on charms and magic; and the art of medicine, as practised by the Chinese physician. The former I shall

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dismiss with a few words. In the city of Canton may be found temples dedicated to the "Spirit of Medicine." In these the ignorant people, especially women, believe that the presiding deity will restore health upon the payment of small sums of money and the performance of certain rites.

The Chinese physician, proper, is quite a different individual from the Taoist priest, although magic and astrology do play an important part in his armamentarium. Thus, for example, we read that as heaven has its orders of stars, so earth has its currents of water, and man his pulse. As heaven has 28 constellations called the 365 orders, so earth has courses of water called lakes, springs, etc.; and man has his courses in the pulse,—the three yang and the three yin. The practice of medicine is unlicensed and is usually hereditary, the skilled physician handing down his secrets to one of his sons. All the efforts of the students are directed to the pulse and the various phenomena revealed by its palpation. There are at least fifty-one variations in the pulse which may be detected and each one indicates some special condition in the body.

For simple complaints home remedies and the formulas of old women are resorted to and only when grave symptoms develop is the doctor consulted. In case of warfare the Chinese soldiers attend to their own wounds.

The first authority on medicine in China was the Emperor Chen Song 2737 B.C., who classified about 100 medicinal plants. In 2637 B.C. medical science, so far as it had advanced, was written up by another emperor.

The Chinese distinguish 3 kinds of practice:—Internal medicine, external medicine, and children's diseases.

The drugs and other medicaments are weighed out according to a decimal system as follows:

| 1 tael, 0r leung | ... | ... | equals | 40 gm. |
| 1 tsin | ... | ... | ... | 4 gm. |
| 1 fan | ... | ... | ... | .4 gm. |
| 1 lei | ... | ... | ... | .04 gm. |
| 1 ho | ... | ... | ... | .004 gm. |

The study of human anatomy has been retarded by two factors,—respect for the dead and the lack of any cooperation or organization among the practising physicians. The body is said to be divided into three parts, (1) the upper, or head; (2) the middle or chest; (3) the lower or abdomen and inferior extremities. Life depends on the
equilibrium of the \textit{yang} and the \textit{yin}. It is but one manifestation of the universal life. The whole order of the Universe results from the perfect equilibrium of these two factors.

The \textit{yang} is the warm principle, the actively flowing, and is often symbolized by the sun. The \textit{yin} is the moist principle, passively flowing and is symbolized by shadow. The equilibrium of these two forces constitutes the health of man. If the \textit{yang}, or active principle, predominates there is excitation; if the \textit{yin}, or passive principle, predominates there is depression of the organism. Harmony between the \textit{yang} and the \textit{yin} is often represented by two dragons ready to devour one another.

The action of these two principles depends on 12 organs,—heart, liver, lungs, spleen, left kidney, brain, the large and small intestines, the stomach, gall bladder, urinary bladder and the right kidney. Each of these organs has a canal whereby it communicates with the others. Thus the liver, kidney, and spleen are connected with the heart by special vessels; the spinal marrow extends into the testicles and the vas deferens arises from the kidney. Some of these communicating channels end in the hands and some in the feet. One of the vessels in the little finger is used to determine the nature of most infantile diseases. Six of these vessels carry the active principle \textit{yang}, and six carry the passive principle \textit{yin}. These two forces spread through the whole organism by means of the gases and the blood. The latter makes a complete circulation of the body about fifty times in 24 hours. In these fifty revolutions the blood passes twenty-five times through the male channels or those of the active principle and twenty-five times through the female channels, or those of the passive principle. The blood returns to its starting point every half hour approximately (instead of once in 25 seconds, according to the teaching of modern physiologists) having traversed a course of some 54 meters.

The \textit{yang} is of a subtle nature and resides in the abdomen and 6 viscera. It has a constant tendency to rise. The \textit{yin} resides in the brain, the vertebral column, and the 3 viscera and tends to descend.

The viscera of the body are classified under two groups:—the 6 viscera in which the \textit{yang} resides and the 5 viscera in which the \textit{yin} resides. The 6 viscera are: The gall bladder, stomach, small intestines, large intestines, bladder, and the left kidney, with its three heat centers (the three lumbar sympathetic ganglia). The 5 viscera are: The heart, liver, lungs, spleen, and right kidney.

The diaphragm is placed beneath the heart and lungs, it covers over the intestines, spine, and stomach. It is an impervious membrane.
It covers over the foul gases, not allowing them to rise into the heart and lungs.

The stomach, spleen, and small intestines are the digestive organs. They prepare the blood which is received by the heart and set in motion by the lungs. The liver and the gall bladder filter out the various humors. The lungs expell the foul gases. The kidneys filter the blood, while coarser material is evacuated by the large intestines. The semen is produced by the brain and spinal marrow and collected in the testicles and kidneys, especially the right kidney, which, with the penis is spoken of as the "gate of life."

Two substances are found circulating in the body, gases and blood. The former acts upon the latter as the wind upon the sea. The interaction of these two as they circulate in the vessels produces the pulse.

The pulse may be palpated at eleven different points, as follows: radial, cubital, temporal, posterior auricular, pedal, posterior tibial, external plantar, precordial and in three places over the aorta. Usually, however, the physician is satisfied with palpation of the pulse of the right and left wrist. With the right hand he feels the left pulse and with the left hand the right pulse. He applies three fingers—the ring, middle, and index over the pulse and the thumb underneath the wrist. Then he palpates the pulse with each finger successively. Under the ring finger the pulse of the right hand reveals the condition of the lung, middle of chest and the large intestines, while in the left hand the ring finger determines the state of the heart and small intestines.

The pulse under the middle finger corresponds on the right to the conditions of the stomach and spleen, on the left to the state of the liver and gall bladder.

The index finger placed over the pulse of the right radial shows the condition of the testicles, bladder, and lower portion of the body, over the left radial it reveals the state of the kidneys and ureters. For each of these 6 pulses the physician must practise weak, moderate, and strong pressure, to determine whether the pulse be superficial, moderate, or deep. This must be done during nine complete inspirations. If the pulse be rapid the yang principle is predominant, if slow, the yin is predominant. There are twenty-four main varieties of pulse and there are twenty-seven which prognosticate death.

The Chinese physician must be trained to palpate the pulse so skilfully that by this single means the nature of diseases and even the mouth of gestation in a pregnant woman may be determined. Ten or more minutes must be spent in the palpation of the pulses.
Sometimes a Chinese physician will consider other factors. For example, it is said that by examination of the tongue 36 symptoms may be diagnosed according as the tongue is white, yellow, blue, red, or black, and depending on the extent of the coating.

From the general appearance of the face and nose the state of the lungs may be discovered. Examination of the eyes, orbits, and eyebrows, shows the condition of the liver. The cheeks and tongue vary with the state of the heart, the end of the nose with the stomach. The ears suggest conditions of the kidneys; the mouth and lips the state of the spleen and stomach. The color and figure of the patient also count in a diagnosis. Each organ has its appropriate color. The red corresponds to the heart, white to the lungs, black to the kidneys and bladder, yellow to the stomach and spleen, and blue to the liver and gall bladder. Organs also have their own peculiar times and seasons. Thus the heart has red as its color, fire as its element, summer as its season, and noon as its hour. It is more likely to be inflamed at noon during the summer season.

The elements of nature are supposed to be complicating factors in disease. They are arranged in pairs of opposites thus: active and passive, weak and strong, water and fire, cold and heat.

Auscultation and percussion are wholly unknown as diagnostic aids to the Chinese physician. Entire reliance is placed on palpation of the pulse and the general facies of the patient, in making a diagnosis. Questions may be asked but only to suggest the remedy required. Often a prescription is given because of the resemblance of the drug to the organ affected. Thus for renal diseases, haricot or kidney beans are given. The red flowers of the hibiscus serve as emmenagogues. Saffron is given for icterus, etc.

Minerals are administered as salts. Plants are used in the form of roots, stems, leaves, flowers, and dried fruits. The bones of a tiger are frequently ground up and given to a debilitated person. The grasshopper is dried and used as a medicine and the shells of the cicada are collected from the bark of trees and mixed with other ingredients. Tinctures and extracts are prepared from rice wine. Pills are often made with a thick shell of paraffine which is broken off and the contents chewed up. Various forms of plasters and blisters may be applied to the skin. The actual cautery is often used as a revulsive.

The use of the acupuncture needle seems to be seldom resorted to in the neighborhood of Canton. The theory on which it is based is that if one punctures the vessels connecting different organs the disease
will be aborted. Three hundred and eighty-eight points suitable for acupuncture are described.

Impotence is often treated by preparations of testicle or of nervous tissue and by pills made of human semen. Diseases of the liver and eyes, which are sympathetic organs, are cured by giving pork's liver. In Kwangtung Province, human blood is considered an excellent remedy, and at executions people may be seen collecting the blood in little vials. It is then cooked and eaten.

Diseases are said to be produced by internal and external agents. Among the external influences are:

1. Wind, which causes headache or apoplexy, dizziness, chapping of face, diseases of the eye, ear, nose, tongue, teeth, etc.

2. Cold may cause cough, cholera, heart pains, rheumatism, and abdominal pains.

3. Heat causes chills and diarrhoea.

4. From dampness develops constipation, distention of abdomen, watery diarrhoea, gonorrhea, nausea, pain in kidneys, jaundice, anasarca, pain in small intestines, and pain in feet.

5. From dampness comes thirst, constipation and suppression of urine.

6. Fire causes pain in the sides, incontinence of urine, diabetes, retention of urine, etc.

The diseases of internal origin are classified as disorders of the gases, blood, sputum, and depressed spirits.

In the past few years there have been established two charitable institutions in Canton for the treatment of the sick, according to native methods of practice. No surgery is practised. At one of these so-called hospitals, I was informed that bullets were removed by placing a kind of plaster at the opening of the wound. The ingredients of the plaster have a remarkable magnetic power over the imbedded bullet and gradually draw it out through the same opening by which it entered. My informant had never seen this line of treatment actually carried out, however.
Exophthalmic Goiter.

EXOPHTHALMIC GOITER.

By ALFRED C. REED, M.D., CHANGSHA.

The incidence of goiter in China is apparently not different from that in western countries. Jefferys and Maxwell divide its incidence into two heads, a sporadic widely scattered distribution, and a concentration in various endemic centers. Information at hand seems to indicate a wider prevalence in North China, outside of the endemic centers noted by Jefferys and Maxwell in Formosa, south Hunan and the Tsungning Island at the mouth of the Yangtze. Little note seems to be taken of the relative incidence of exophthalmic goiter and goiter of other types. At the Yale Hospital three cases of simple goiter without evidence of hyperthyroidism have come under my observation during the past year. I have seen no case of exophthalmic goiter in a Chinese. The occurrence of the latter condition in foreigners, however, has been noted in two cases, one an American and one a German woman. As hyperthyroidism is an affection of such serious probabilities, and as it may confront the physician at any time in a Chinese or foreign patient, it may be useful to present a short review of certain features of the disease which have a practical bearing on clinical management. It is appropriate at this time, too, to request reports of the occurrence of exophthalmic goiter in China and of attendant contributory or etiological factors, which can be determined.

Exophthalmic goiter is probably due to the toxic action of an increased or perverted thyroid secretion, especially affecting the sympathetic nervous system. Few diseases present a more typical or easily recognizable picture when the classical symptoms of tachycardia, exophthalmos, tremor and enlarged thyroid are present. But it is to be remembered that all cases are not so simple in diagnosis, and that the prognosis is variable and often grave. Since the presence or absence of certain symptoms determines the use of certain methods of treatment we will review a few of the symptom groups associated with the disease, from the standpoint of the indications for treatment.

Of the vascular phenomena, the tachycardia is most striking. Irregularity is usually a late sign and is of evil omen. As a result of the tachycardia the heart hypertrophies symmetrically and in both of its chambers. No other cardiac changes are produced. Secondary to this hypertrophy, acute dilatation and diverse valvular insufficiencies are common. Death is frequent from acute dilatation. Ordinarily the blood pressure is not increased. The blood shows a characteristic
picture of leucopenia with increase of mono-nuclear neutrophiles and increased coagulibility. Vaso-motor phenomena are produced, such as flushing, increased perspiration, venous and capillary pulse, and arterial throbbing.

Usually there is thyroid enlargement, and as a rule increased vascularity of the gland with an audible bruit over it. It has been said that a double bruit is pathognomonic of the condition. A palpable thrill is often present. Other symptoms which have an important influence on treatment, are the emaciation, insomnia, diarrhea and digestive disorders, general uneasiness, restlessness, nervousness, and dyspnea on slight exertion.

The disease may pursue an acute course to a quickly fatal end, but more commonly its course ranges from two to twenty years, with characteristic remissions and intermissions. In the chronic form the only positive signs may be the vascularity of the thyroid or its increased size, tachycardia, psychic and bodily unrest, and the characteristic blood picture. Exercise or excitement increases these.

Untreated exophthalmic goiter is usually progressive, and often terminates in death. Intercurrent maladies are distressingly common, and are to be expected in view of the chronic nature of the disease, the great strain on the heart, and the chance for pressure on the mediastinal viscera and trachea. Death is frequent from complications, and the physician must be constantly alert to forestall these or other secondary affections dependent on the weakened and exhausted bodily condition. The commonest terminal affections are tuberculosis, pneumonia and cardiac failure. Exhaustion from diarrhea and vomiting as well as from fever and other toxic phenomena are frequent as the disease progresses. There may be a partial or relative recovery especially under medical treatment, in which the patient can conduct the affairs of his life severely handicapped by a condition hardly to be distinguished from a mild and persistent neurasthenia, and always subject to the danger of a sudden and acute exacerbation. Not infrequently a diagnosis of neurasthenia may seem justified, when closer study will show the signs of a latent hyperthyroidism, with tachycardia, vaso-motor phenomena, increased vascularity of the thyroid, mental unrest, vague fears, nervousness, digestive disturbances, and a suggestive blood picture. Such a case may not react to ordinary treatment for anemia, malnutrition and neurasthenia, and improvement may only be obtained by treating the thyroid condition.

In general, treatment of exophthalmic goiter should be non-surgical at first, but where medical measures do not bring distinct and quick
improvement, partial thyroidectomy is indicated. The medical attendant should bear in mind that the skill and experience of the operator is a very considerable factor in determining the success of thyroidectomy. In 200 thyroidectomies, for instance, Kocher had 4.5 per cent. fatalities and 85 per cent. recoveries. This is a different record from that made by the casual operator. The operation is indicated in cases where medical treatment has failed, and in which cachexia is not extreme, where there is no myocardial degeneration, where the blood pressure is low, and where there is no periodical delirium cordis.

In the management of exophthalmic goiter by the medical practitioner, the first principle is to recognize fully the indication for rest, complete and genuine rest, both physical and mental. In his excellent monograph in Nothnagel's Special Pathology and Therapy, (1) Moebius assigns first place to rest, forbidding exertion and excitement, and recommends abundant sleep and nutritious easily digested food, with plentiful pure cool air. He especially interdicts alcohol and articles of diet of a stimulating nature. Baths in cool water may be included in the regime. Hale White believes rest to be the most important factor in the treatment, and next to it abundant food and freedom from worry and anxiety.

In the use of individual drugs, belladonna is highly recommended by many English writers, while Forschheimer obtained improvement with quinine hydrobromide and ergotin. For the restlessness and insomnia, bromides are probably the best choice. Moebius dissolves 2 or 3 grams of potassium bromide in 100 cc of soda or seltzer water, drinking it at night. If necessary this can be repeated after breakfast and lunch. Less than 2 grams or more than 5 grams in one day are not desirable. Kocher and Sahli used sodium phosphate, 2 to 10 grams daily dissolved in water. Under this treatment Moebius also noted improvement. The salt should be given in repeated small doses to avoid excessive purgation. Moebius' patients slept better and were less restless. I have used various of the effervescent bromide preparations on the market with good effect, often combining with them small doses of atropine.

Ballet and Enriquez (1) reason that in exophthalmic goiter a poisonous substance is produced which in health is neutralized by the normal thyroid secretion in the body. Consequently they argue that an excess of thyroid secretion can be neutralized by an addition of this poisonous substance. They therefore employ the serum from thyroidectomized dogs believing that it contains an excess of the specific poisonous substance which will neutralize the excessive thyroid secretion. Their serum is administered in milk, beginning with a 5
minim dose and rapidly increasing to 30 minim three times a day. In a number of cases reported by these authors, this serum apparently gave good results. However, the method is not sure and has hardly advanced beyond an experimental stage. If there be any virtue in the milk of thyroidectomized goats, as has been claimed, the theory of Ballet and Enriquez explains it.

Beebe and Rogers (2) have described a serum for the specific treatment of exophthalmic goiter which has much to recommend it. Passing by the purely theoretical considerations of proteid specificity on which its action is explained, suffice it to say that this serum is prepared from human thyroids, ground to a pulp and extracted with salt solution made feebly alkaline with sodium hydrate. A filtrate from this is cleared by further fine filtration, and the proteids are precipitated by acetic acid and purified. This proteid mass is dissolved in normal salt solution and injected into the peritoneum of a rabbit or sheep. After from five to eight inoculations at intervals of a week, blood is drawn from the animal and the serum is prepared in the usual manner.

Beebe recommends the use of this serum in two classes of cases. The first class comprises typical exophthalmic goiter in its earlier stages, including incipient, mild, severe, and acute toxemic types. In the series of 141 cases presented by Beebe and Rogers, 52 were of this first class. Under the serum treatment, 18 of these were cured, 28 were improved (all but two being very markedly benefited), and 6 showed no improvement. Three of these six cases were fatal.

The second class of cases in which Beebe recommends his serum, includes those cases which have existed for a long time in a sub-acute form with occasional exacerbations, but with no marked secondary changes. 70 cases were reported in this group, of which under serum treatment, 16 were cured, 36 were greatly improved, and 18 failed to receive benefit, five of the latter ending fatally.

There is reason for expecting benefit from this serum in a limited number of cases in combination with the hygienic control which has been outlined. In true exophthalmic goiter, great caution is necessary in the use of thyroid extract, potassium iodide, or iodine. There is always danger of accentuating a latent process and rendering it acute, or of determining an immediate change for the worse in the active disease.

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(2) Beebe and Rogers. Archives of Internal Medicine, 1908, Vol. VIII.
AN OUTBREAK OF GLANDULAR FEVER.

By W. Chalmers Dale, M.B., B.S. (Lond.), Shanghang.

The following brief account of an epidemic of glandular fever in Shanghang, Fukien, may be of sufficient interest for publication, in view of the scanty amount of literature on the subject, and also because it differed a good deal from the "text-book" description of the disease.

During the time of the outbreak I was still engaged in the study of the language and had not yet begun medical work, so the account is unfortunately more vague than I could have wished, as my knowledge was received from chance observation and from questions asked to a mission-trained doctor in practice here and not from my own clinical observations.

After a casual glance at the first case which presented itself to me, my first thought was of mumps, as the child had a swelling in the parotid region, but a few questions soon showed that it was not mumps, as the onset and course of the disease was much more rapid than in epidemic parotitis and also I found that the swelling was in the preauricular lymph glands and not in the parotid salivary gland. Furthermore, in subsequent cases which I heard of, the glands affected were almost as frequently not in the region of the salivary glands.

The epidemic began in March 1914 and lasted until well into the month of May, when it gradually subsided. It was undoubtedly a house epidemic, all the children of a household usually being affected one after the other with a very short interval between each case. The adults of the house were also not rarely affected and in them the disease was invariably much more severe than in the children.

In the first cases noticed, the swelling was in the preauricular glands, but later, the submaxillary glands were often seen enlarged; the axillary, inguinal, and popliteal glands were swollen in a few cases. One side of the body was usually affected first, the other side becoming involved in two or three days. There was a vague story of sore throat in a few cases.

The onset was always sudden. In children, without exception, the swelling was the first thing noticed and there were rarely any other signs or symptoms to be discovered. The patients were practically always in their normal state of health. In adults, swelling was usually the first symptom, but in at least one case, fever preceded this by a couple of days. Soon after the appearance of the swelling...
other symptoms arose—considerable fever, violent headache, rapid pulse, and considerable prostration. These lasted for three or four days and disappeared as the swelling gradually subsided. One or two cases were very severe, but all eventually recovered. Suppuration in the glands never took place.

There was no pain on movement of the head or jaws. Children took their food and were up and about as usual, but adults had considerable anorexia and were confined to bed for a week or so. Constipation was not seen, as all the cases I heard of were given a good purge at the outset. No abdominal pain was found. Recurrent attacks in children were quite common, one girl having as many as five in two months.

The treatment adopted was a good dose of magnesium sulphate at the onset, with zinc oxide ointment applied locally. Whether or not this local remedy had any good effect is doubtful. Antipyretics such as aspirin or phenacetin, or febrifuges such as quinine, only seemed to aggravate the symptoms. All adults were ordered complete rest in bed as long as the fever and headache lasted.

Comparing this with the account given by Dawson Williams in Allbutt and Rolleston's System of Medicine, several differences may be noted. There was no pain in the neck, or pain on swallowing. The anterior cervical glands were never seen affected. In children there were no general symptoms at all. Convalescence was rapid and there were no sequelae. In nearly every case swelling was the initial symptom. The affected glands were not markedly tender or painful in any case.

Dawson Williams remarks that one recorded outbreak was so mild that only the glandular enlargement was observed—this epidemic would seem to have been of that class.

It is the first outbreak known to have occurred in this district.
UNUSUAL METHODS OF FOETAL EXTRACTION, WITH COMMENTS.


The following case presents features of such peculiarity that it is put upon record even though it illustrates an error in diagnosis. The wife of a Chinese pastor was admitted for repeated uterine haemorrhages which had continued for three weeks and were immediately preceded by a period of amenorrhoea lasting two months. Up to this time she had been perfectly regular in menstruation except when engaged in childbearing; she had had three children, eldest 16, and the youngest was aged 12 years.

Patient is aged 38 and looks haggard, and the history that she is wasting is corroborated by her appearance; her tongue is furred and she is constipated; she and her husband think that she is pregnant some two months, and the woman says her breasts are painful; she is sick occasionally. The chief reason for her coming to hospital is to have the foetus removed, since both think that the continuation of the pregnancy would be too much for the already wasted woman. It seems that she consulted a medical man about a month ago, and took drugs, that the bleeding has come on ever since, and she is much weaker. It was made clear that without consulting another doctor the removal of the foetus would not be performed, even at their united request.

Examination of breasts shews nothing except usual appearance of having suckled children; abdominally there is suggestion of a central mass in the position of the uterus; per vaginam, the uterus is markedly enlarged, corresponding to period of the pregnancy; using the speculum, the existence of a foul discharge coming from the ext. os uteri and a corrugated irregular haemorrhagic growth encircling the os is readily visible.

The vagina was douched with weak perchloride of mercury, and the films from the discharge examined; no gonococci were found and the pus contained nothing but large and long bacilli, probably non-pathogenic under the circumstances. With Dr. Grant in consultation, the patient was given an anaesthetic to enable a diagnosis to be made. As the examination of the portions of the ulcerating piece of cervix, which had been snipped off and embedded, had shewed nothing more than a non-malignant adenoma, such as is met in the so-called "granular erosion," the problem was apparently intra-uterine and most likely an ordinary pregnancy.
It was felt to be justifiable under the circumstances to terminate the supposed pregnancy, and sounds were passed more than three inches, meeting some resistance at the internal os, but nothing apparently within. Next, on the supposition that the foetus might be dead and the cause of the foul discharge and indefinite feeling of malaise in the past month, the cervix uteri was dilated with Begar's Dilators up to No. 12 and a flushing blunt curette was made to scrape the interior of the uterus, bringing away in the stream of water a number of pieces of mucosa, easily recognisable. Bleeding was very profuse but stopped naturally. The vagina was firmly plugged. Sickness was a marked feature following the anaesthetic, and it was hoped that if a foetus still remained within—though this we both felt could not now be entertained as a possibility—it would soon be expelled.

During the next two days the bleeding recurred and it was felt that as we had now excluded the idea of pregnancy by the fact that foetal remains had not been passed in consequence of the intra-uterine scraping and lavage, there might be a mistake in the microscopic diagnosis of non-malignancy.

As both husband and wife were willing, and it seemed that the marked wasting, the definite enlargement of the uterus, the continued haemorrhages, and the presence of ulceration around the external os uteri, at the age of 38 in a parous woman, were indications of importance, it was decided to do a complete hysterectomy.

Abdominal hysterectomy was performed with the kind assistance of Dr. Grant, the broad ligaments being tied off with interlocking silk ligatures, and the vagina almost completely closed with continuous silk sutures, a small gauze drain at one angle. Douglas's pouch was also drained through the lower angle of the abdominal incision, which was closed with through and through silkworm gut sutures. Some five pints of normal saline solution were passed into the abdomen through the drainage tube leading to Douglas's pouch and ten ounces into the subcutaneous tissues, the pulse falling from 130 to 100 at once. An uninterrupted recovery followed (except for stitch abscesses), and the cachexia began to disappear at once. On examination of the uterus, what was our surprise to find that the foetus, which we thought had been excluded owing to its not having been passed after the curettage, was still in situ. And the marks of the curette were easily visible on the unoccupied part of the uterine mucosa. At the present time, more than five years later, the patient is still in good health, and grateful for having been relieved, in spite of our drastic method.
It is easy enough to be wise after the event, and we do not recommend removal of the uterus in every case requiring a termination of pregnancy.

The next case was that of a woman aged 24 who came to the C. M. S. Hospital, Ningpo, complaining of an abdominal tumour. Her history was somewhat unusual, and from what she told us we had no doubt that it was a case of full term extra-uterine pregnancy.

History. Seventeen months ago, she began to feel a lump in the abdomen which gradually enlarged; pain commenced six months ago; now she says she has paroxysms of pain in the tumour, and it seems to "harden up," as it were. It commenced on the right side. During the first ten of the seventeen months, there were no periods, her breasts swelled, and a serous discharge came away from the nipples, the abdominal swelling gradually enlarged, and foetal movements were felt; there was no morning sickness, nor had there been any during her previous two full term pregnancies. Both of her two children had died, the one on the seventh, the other on the fortieth day, the latter with signs of hydrocephalus.

After these ten months of amenorrhoea she became very ill for a whole month, passing much blood by the vagina; since that time the tumour has not enlarged nor has it become smaller. There have not been any foetal movements latterly, but periodically it seems that paroxysms of pain occur in connection with the tumour.

Present Condition. There is a rounded tumour in lower abdomen extending to level of the umbilicus in the position of the pregnant uterus; the flanks are resonant, and there is no oedema of the legs. Nothing can be felt in the tumour of foetal limbs or of foetal movements. Urine is normal, there are no special signs of active pregnancy, and there is no wasting. Per vaginam the tumour is continuous with the uterus, the cervix is high up but not much altered in direction, if at all. The finger tip cannot be inserted, and there is no bleeding or pain; Douglas's pouch is unoccupied.

After a precautionary dose of santonin and calomel some sixty round worms were passed.

Under chloroform anaesthesia a catheter was passed, a six inch subumbilical incision made vertically, and a reddish coloured tumour with large veins coursing over it was seen centrally and to the right of the middle line; there was a knob on the extreme right of the smooth surfaced tumour which was taken for the ovary; on the left
side there were numerous adhesions; in Douglas's pouch there was some free fluid.

Stout silk stays were inserted into the tumour, and it was opened vertically between them; dark brown grumous material flowed out, and a dead foetus fully developed was removed; it was 14½ inches in length, female, hair growing on head, and the finger nails projected beyond the pulps. The placenta peeled off the wall of the cavity easily with but slight bleeding. There was considerable bleeding from the walls of the tumour, which were an inch thick and composed of fibrous tissue with large veins; sections made subsequently shewed no trace of muscular tissue.

The huge cavity was swabbed with tincture of iodine and plugged with sterile gauze; the edges of the incision were stitched to the margins of the incision in the abdominal wall, parietal and visceral peritoneum being united with catgut; in brief, the tumour was marsupialized.

The patient recovered without any setback, the gauze packing being changed after forty-eight hours, and the rate at which the cavity shrank in capacity was astounding; patient got up fourteen days after operation, and left hospital within the month.

Thus the diagnosis made from the history was verified by operation, and without doubt the facts were as follows: An extra-uterine pregnancy developed in the right broad ligament until full term, then spurious labour came on as evidenced by the vaginal blood discharge, and the child died from the direct effect of detachment of the placenta and interference with its blood supply; there was then a great absorption of necrotic tissue fluids, accompanied by severe general disturbance lasting a month, and during the next seven months the mummification of the child commenced, interrupted by the surgeon as described.

Thus these two cases illustrate unusual methods of foetal extraction, the first unnecessarily by hysterectomy, the second necessarily through an abdominal incision and marsupialization.
SANITARY AND PREVENTIVE MEDICINE EDUCATION AMONG THE CHINESE AS AN IMPORTANT PART OF THE WORK OF THE MEDICAL MISSIONARY.

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JAS. BUTCHART, M.D., Nanking.

In the address of Dr. Reid the other evening, two principles were laid down as to medical work: (1) the greatest good to the greatest number; (2) quality rather than quantity.

The medical missionary who engages in sanitary education fulfils both the above rules. It is almost unnecessary to give reasons why we should emphasize this work, but it seems useless, foolish, and inefficient to go on lopping off branches of disease, if the root is not destroyed. If we are eventually to command the respect of the Chinese, our work must be of the highest efficiency; if we want to see illustrations of the value of the work in China, we have only to cite the work done elsewhere, in regard to malaria and other fevers, in order to get an idea of the beneficent results achieved along this line.

We should be leaders to the Chinese, and preventive medicine and sanitary teaching are rapidly growing in importance in every land and will be brought to the attention of the Chinese by others, if not by us.

It is a good business proposition. We should run our hospitals on a better business basis and advertise—and there is no better advertisement for medical work than to do something for the highest good of the people. It will bring us in touch with all classes, from the highest to the lowest, and, if tactfully done, will always win friends. If we are to be successful, whether in direct medical work or in the evangelistic part of that work, we must have (especially in the evangelistic side) "points of contact" with the people, and the point of contact must be something which will win sympathy. Work of this kind is one of the best points of contact.

The problem of getting too much work can be solved by choosing what we want to do ourselves and then turning the rest over to Chinese helpers, who are capable and glad to do it. Another method, which helps, is to charge a sufficiently reasonable sum to cover all expenses, and we will then get the best cases to treat and, also, be able to pay the expense.

The idea of "points of contact," especially with the better classes (and they are the ones with whom we would most naturally come in

* Read before Kuling Branch of C. M. M. A., summer 1914.
contact in this work), cannot be too strongly emphasized. It is the intelligent business men, the intelligent student class and officials who most greatly appreciate help given in this way.

WAYS AND MEANS.

Co-operation of Y. M. C. A. First, I would like to state that I am authorized by Dr. Peter, who is especially set aside by the Y. M. C. A. for this class of work, to say that he stands ready to co-operate with medical missionaries everywhere, in doing as much as possible of this kind of work. He will endeavor to arrange slides and charts, and even prepare notes for lectures, which can be sent all over China for the assistance of those who wish to make a special campaign on any subject. It is true that these lectures are still in embryo, and it will take time to prepare slides, charts, etc., and to get the material ready. He desires the co-operation of the medical missionaries everywhere, in sending him subjects for slides, suggestions for posters, and information on all lines of sanitary work. The Y. M. C. A. already have the "Bureau of Slides and Lectures," from which they send out prepared lectures and slides. These lectures, with the accompanying slides, are sent for a minimum charge, to cover expenses.

Lectures. Now, as to means of propaganda, we might mention the posters, which have already been largely used, and, it seems to me, it would be a valuable thing for this Association to appoint some one to obtain a collection of all such posters (as have already been put out), that they might be kept on file and be a guide in future work, as well as being a source of information as to where such posters can be obtained. The Y. M. C. A. are offering to prepare lectures for lantern use under the charge of Dr. Peter, and possibly they can do this better than any other body, but if they should not prepare such lectures it should be done under the direction of the Medical Missionary Association.

Charts are another valuable means of spreading information and for use, especially during lectures. Dr. Peter already has a large collection of such charts, many of which are illustrated with pictures. With a little ingenuity, the individual doctor can provide such charts for his own use, for in nearly every Chinese community can be found artists who are capable of doing good work. These pictures may be painted on glazed cloth, for the sake of permanency, and they may even be made with a coat of varnish on the surface. A public lecture given with such charts, and especially if also accompanied by lantern slides, is invariably appreciated by the Chinese.
In some lectures, for example, in regard to malaria or diseases caused by flies, by confining the visitors to a small number, the microscope can be used to very great advantage, especially if small, congenial companies of teachers or business men are invited at one time. This is especially good, as the personal contact is closer and the feeling of fellowship better.

Subjects. The subjects taken up in public lectures, whether by charts or lantern slides, may be somewhat after the following:—The model city in its physical and social aspects, as bearing on medical and sanitary conditions. This model city can easily be contrasted with existing conditions in China, local examples being easily obtainable, and may, possibly, be the more striking. Then the questions of housing, sewage disposal, water supply, infectious diseases and pests of all kinds should be taken up (such as the fly, mosquitoes, bed bugs, fleas, lice, rats), and their causative relation to disease.

Lectures on Special Diseases, such as tuberculosis. In a lecture of this kind, we might include teaching on normal respiration and its physiology, using charts. Here, on the platform, we might make nitrogen, oxygen, carbon di-oxide, etc., showing the qualities and uses of each. We might take up circulation of the blood, especially in the right heart, using a pig's heart and lungs. This lecture could include the etiology, world extent and the statistics of tuberculosis, in China. It should include an enumeration of what social conditions and practices are the cause of tuberculosis and what conditions of housing, food, and labor cause it; the prophylaxis and cure by fresh air and food. On this line, the Y. M. C. A. already have some twenty charts and a lantern-slide lecture.

Another special lecture might be on “The Fly as a Cause of Disease,” showing him to be a carrier of cholera, diarrhea, and dysentery. Show, under the microscope, its hairs, its tongue, its eyes, and show how the feet carry germs. Explain how its crop is a good culture medium for germs and how it vomits this material. Explain the relationship between disease and food exposed to flies on the street and elsewhere.

Another special lecture might be upon “Disease Carried by Water and Milk.” A valuable education in China is a lecture on “Malaria and the Mosquito,” showing the life and history of the mosquito and how to prevent its development. The malarial parasite, its growth and propagation to other individuals, and how to fight it?

The above are only hints as to what might be done. It is important that we have some organization, through which these things
may be done, and stir up an enthusiasm among medical men, so that each, in his own district, will himself do as much of this work as possible. It would give him standing among the Chinese; it would win friends for himself and for his hospital, and for the Christian cause which he represents, perhaps better than anything else he might do. Christianity is rapidly becoming more social and less theological than it was before. Work of this kind is exactly in accordance with the best advances of the church at home.

Dr. Peter wished that he might have some expression from this Association of their interest in this work, and he desired to have some form of organized co-operation with the Association. It seems to me, it would be fitting for the Association to call for volunteers who will prepare charts, posters, and lectures, which might be first used in their own town, then sent either to Dr. Peter or whoever might be acting as a clearing-house, to prepare and forward copies of these lectures to others. Not by articles in our journals, so much as by practical work which each individual will pass on for the help of others, can the best work in this field be accomplished.
The year under review has been a comparatively healthy one for China. No great epidemics have swept over provinces, nor have floods devastated the Yangtsze Valley as has been too frequently the case in the past few years, bringing in their train widespread want and misery with concomitant attacks of typhus and relapsing fevers.

But each year these consular medical reports are made, the same points are reiterated and emphasised with regard to the absolute indifference to public health on the part of the Chinese authorities. China in this respect stands where she did, in statu quo ante, and up to the present time there is no indication of any amelioration. As will be seen from the reports, plague and cholera occurred in scattered areas, while from almost every treaty port dysentery and malaria are noted as being common and prevalent. One cannot read the continued tale as to the ravages of tuberculosis without hoping the day may not be far off when sanitary legislation will be undertaken to apply some of the lessons learnt in every other civilised country, whereby this largely preventible scourge may be lessened. The Chinese people are not unreasonable, no religious scruples or caste rules interfere with the proper carrying out of necessary measures, which only require some official energy for their introduction to be soon understood and be acquiesced in without any undue difficulty.

Signs are not wanting that medical education of the better class young men is being regarded with official favour, and in this respect much good work is being done by British and American medical missionaries, while Japan and Germany are both devoting attention to the founding of medical schools and hospitals.

China is slow to admit that scientific education can only be established by the aid of foreign teachers, and this is partly due to financial stringency and partly to a lack of appreciation of the high standard necessary for a medical man to be a competent teacher.

An interesting feature of this summary will be found in the report of the veteran medical missionary, Dr. Duncan Main, of Hangchow,
who gives a very good account of the life and practice of foreign medical work in China and of its bright and dark sides.

In Harbin, North Manchuria, the Chinese government plague prevention service has shown the work that can be done by Chinese foreign-trained medical men. The continued absence of plague since the epidemic of 1911 has enabled the Commission to devote its attention to the elucidation of questions connected with the pneumonic plague outbreak, the natural history of the tarabagan and its parasites, climatic observations, etc., in addition to the inauguration of a local sanitary service and general hospital. The work carried on by this Commission under Dr. L. T. Wu, ably assisted by Dr. S. P. Chen and Dr. F. E. Reynolds as bacteriologist, might well be copied in other Chinese towns.

In the last annual general summary attention was drawn to the occurrence of sporadic cases of coma and pyrexia among foreign soldiers in North China, the symptoms mostly pointing to a diagnosis of acute adult poliomyelitis. Sections of brain and spinal cord of two cases, which occurred in the British Legation guard, were forwarded to the Royal Army Medical College Laboratory in London for further investigation. The specimens were microscopically examined by Major J. C. Kennedy, R.A.M.C., and a report which he issued confirmed the diagnosis. Both these cases were very similar, though one died on the fourth day and the other on the eighth day after admission to hospital. In both of them paralysis first appeared in an upper limb, and later involved the leg on the same side, while the respiratory nuclei were also involved. In view of the fact of twenty cases with eighteen deaths having occurred among foreign troops in North China during 1910-12 each summer the following remarks by Major Kennedy are worthy of note in this summary:—

In considering the epidemiology of this disease the following facts may be emphasised. There can no longer be any doubt as to the infectious nature of this disease, and the danger of direct infection is greatly increased by the occurrence of cases which are clinically atypical (viz., meningeal, abortive), also by the fact that healthy persons ("carriers") may harbour the virus.

The virus, which is one of the ultramicroscopic filter passers, has a remarkable vitality, and is highly resistant to drying, the action of daylight, chemical action, and to low temperature. It will survive in the dust of rooms for weeks or months, and monkeys have been infected by means of the dust collected from an infected dwelling. The virus is found in the spinal cord and brain, the mesenteric lymph nodes, and the mucous membrane of the nose, throat, stomach, and intestine, and is excreted by the nose, throat, and intestine. The possibility of insect carriers has been suggested because of the seasonal incidence (July to September). So far it has not been found possible to infect mosquitoes or lice, but the virus survives in the house-fly, and remains living and virulent for many days in the bed-bug. Rosenan has infected *Stomoxys calcitrans* by feeding on infected monkeys,
has transmitted the infection to fresh monkeys. In this connection Captain Hart tells me that he inspected the barrack-room in which the second case occurred, and found the joints of the beds swarming with bugs.

The microscopical examination on the spinal cord in these two cases from Peking presented somewhat different pictures, which would appear to afford an example of the variation in the selective action of the virus, for while in the first, which died on the fourth day, the predominant features were hæmorrhages, degeneration, and phagocytosis of the cornual cells, there was in the second, which died on the eighth day, a degree of engorgement, but only a moderate degree of hæmorrhage, a comparative absence of perivascular infiltration, a well-marked mononuclear infiltration of the grey matter, but not so extensive nor so advanced degeneration of the nerve cells as in the first case, and an extraordinary degree of sclerosis and shrinking of the white matter and distortion of the grey. Such marked sclerosis would appear to be out of proportion to the duration of the disease.

Sporadic cases of poliomyelitis appear at varying intervals in our hospitals in Peking sufficient to warrant its being described as endemic, but there is no reason to suppose that it has assumed a new activity as has been noted in Northern Europe, from where it recently started to go round the world, being carried by Scandinavian immigrants to the United States and Canada, where it has prevailed since 1907. Its possible extension to China by foreign immigrants (as in the case of our soldiers) is a point which it will be important to watch and investigate further.

Increasing attention is being paid in treaty ports to the purification of the water supply, and from reports given in this summary, together with those of the previous one, useful information may be gathered as to what are being found the best water and sewage purification systems in flat, low-lying, Chinese towns. The supply through pipes of pure water is finding increasing favour among large Chinese communities, and water companies are being formed for the purchase and installation of European plants in most of the larger towns. Anything more inimical to intestinal health than the shallow surface-level wells (often dug in juxtaposition to cesspits) in vogue throughout China could not readily be imagined.

Statements are being made from time to time as to the increasing tendency to the use of alcohol now that opium smoking has been so much diminished. Taking all accounts into consideration, it does not as yet appear that alcoholism is spreading to anything more than a slight extent.
The China Medical Journal.

The incidence of plague, as far as can be gathered from the reports, was much diminished during 1913. An outbreak involving over 1,000 deaths took place at Pakhoi, in the extreme south, but beyond 423 deaths in Amoy and 270 in Canton, with a vague report of its presence in Foochow and the country round Swatow, there is no further evidence of epidemics which assumed any proportions. Dr. Vadon, reporting from Yunnanfu, says that though Yunnan has the reputation of being the foyers of endemic plague, it should no longer be regarded as such, as no case of human plague has now been found there for a number of years past. China would therefore appear to share in the observations which have been recently made that plague as a pandemic is for the present universally subsiding.

[The following summaries on the treatment of a series of gun shot wounds at Kiukiang and Chinkiang respectively are of interest.—Ed.]

**Extract from** "**SOMER NOTES ON SERIES OF CASES OF 200 WOUNDED SOLDIERS OF THE 6TH DIVISION NORTHERN ARMY, TREATED AT KIUKIANG, SUMMER 1913.**" BY A. C. LAMBERT, M.D., KIUKIANG.

The conclusions which it seems possible to draw from such slight experience of wounds in actual warfare are as follows:

1. The comparative innocuousness of the modern rifle bullet. The official report issued by the Northern Commander-in-chief gave his casualties from wounds as 600 wounded and 100 killed, and we believe the figures to be practically correct. If the other hospitals had a similar death rate to ours of about 3%, then about 90% of the total deaths occurred on the field, and were doubtless rapid in most instances. The modern rifle bullet, if it does not kill instantly, generally spares its victim. The marvellous manner in which arteries and nerves can be just missed by high velocity bullets is of course well known.

2. A modern rifle bullet will traverse the more solid organs, such as the liver, lungs, and kidneys without inflicting much damage if the main vessels escape.

Wounds of the stomach and intestine are best treated by starvation and opium. At a conservative estimate 50% will recover if left alone, provided of course that the large abdominal vessels have escaped. Of those injured in the upper abdominal segment a much higher proportion may recover; in our few cases the death rate was only 22%.


4. In the general care of the wounds it would seem that cleansing the area of a bullet puncture with 70% alcohol, followed by 2% alcoholic solution of iodine, and the application of a dry sterile dressing is all that is required. We had some difficulty in persuading our patients that their wounds did not require daily dressing, but eventually they came to see our view and accepted the assurance that all would go well without frequent inspections.

Iodine was found of not such value as perchloride of mercury, lysol, and permanganate in the treatment of septic conditions. Peroxide of hydrogen proved of great service and saved several limbs. Several methods of treating thigh fractures were tried but the best was undoubtedly the weight and extension, with Liston's splint to prevent rotation. For leg fractures a simple box splint suspended from a cradle was used. We were averse to plaster of Paris, on account of possible sepsis.

5. Amputation was used only as a last resource. A Chinaman without a limb is such a pitiable object, and so likely to become a beggar, that every effort should be made to save him from such a fate. Four amputations only were performed; one thigh, two legs at the seat of election, and one arm. Two were primary and two secondary.

6. The Chinese soldier as we saw him made a good patient, brave and uncomplaining. Of the Southern troops we saw none. Where they treated their wounded was not known. Whether the retreating Southerners took their wounded with them, or whether they killed them (as one story had it) or the Northerners killed them (another version) no one seems to know. Anyhow they were not seen at Kiu-kiang.

**Extract from Customs Report 1913, by H. Balean, M.D., Chinkiang.**

Local conditions have been considerably disturbed by the Revolution and the fighting around Nanking necessitated the establishment of Red Cross Hospitals for the reception of the wounded from this district and in these hospitals which were placed under my charge by the Red Cross Society of China some 900 to 1,000 wounded were treated with a mortality of just over 5%. Of the cases, 437 must be classed as severely wounded, and my attention was particularly drawn to the varying conditions produced by shell. In some cases, extensive wounds would heal up without difficulty, but in others, presumably wounded by fragments of lyddite shell, the wound presented a very poisoned appearance.
and characteristic odour and healed after separation of a large slough with well defined demarcation line. Simple perforative bullet wounds healed readily in most cases without any indication of suppuration. Bullet wounds penetrating and fracturing bones did well in almost all cases and out of some 40 such cases amputation was only resorted to in two, the others recovering with useful limbs. With regard to dressings it may be worthy of note that practically the only dressings used were tincture of iodine and boric lint during the whole course of treatment, and this or lint saturated with iodoform vaseline was in the first place applied immediately on removing the wounded from the scene of action. The above method, I am of the opinion, did much to prevent the wound becoming contaminated by flies during transport.

EXTRACT FROM "REPORT ON THE HEALTH OF WUCHOW; APRIL TO SEPTEMBER 1914," BY B. R. VICKERS, M.B.

Of interest is the large amount of beriberi seen during the later three months. This disease, always endemic here, has latterly assumed epidemic proportions. The first case seen after the flood was seen on July 15th, but from the end of July up to the present date many cases have applied for treatment. The patients present the usual clinical syndrome, and the usual great variety in degree. Slight cases, with nothing more than a little anaesthesia and some tenderness of calves with loss of knee-jerks; serious cases with great oedema and cardiac distress; and cases of intermediate degrees of severity have appeared. My usual treatment for these cases in hospital is, rest in bed, no rice for at least ten days, exhibition of Easton's syrup and laxatives by the mouth, with liniments for local use. Many cases recover in a month, save for the knee-jerk, but quite a number seem only a little improved by the end of double that length of time. The severity of signs and symptoms when first seen does not afford any ground for prognosis as to the probable length of treatment required in the particular case.

Mycetoma. An extremely interesting case of black mycetoma supervening on a gunshot wound of the jaw was treated here. The mycelium of the fungus was demonstrated in the black "gunpowder-like" grains in the discharge. Under anaesthesia a fragment of bullet was extracted, and the whole sinus scraped out, after which the condition cleared up. But for the microscopic examination one would have said that the case was purely one of foreign body in the tissues, and that the black specks were either really powder, or disintegrated fragments of the metal.
An attempt has been made this year to find out the incidence of intestinal helminthiasis in the neighbourhood. We have made a routine examination of faeces in all patients in the Wesleyan hospital. (During part of the year this was not possible, owing to shortage of staff, but all results of that period have been excluded from the following figures, which therefore represent a series of unselected cases.)

<table>
<thead>
<tr>
<th></th>
<th>Ascaris lumbricoides</th>
<th>Ankylostomum duodenale</th>
<th>Trichuris dispar</th>
<th>Clonorchis sinensis</th>
<th>Taenia</th>
<th>Oxyuris</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Males</strong></td>
<td>92</td>
<td>66 (72%)</td>
<td>21 (23%)</td>
<td>40 (44%)</td>
<td>12 (14%)</td>
<td>2 (2%)</td>
</tr>
<tr>
<td><strong>Females</strong></td>
<td>58</td>
<td>49 (85%)</td>
<td>22 (38%)</td>
<td>29 (53%)</td>
<td>7 (12%)</td>
<td>1</td>
</tr>
</tbody>
</table>

**Note:** The clonorchis does not seem to have been reported previously. The small proportion of taenia, and oxyuris corresponds with reports from other parts of China. The latter is certainly more prevalent than the table would indicate, but its habitat and habits account for its apparent rarity. We not infrequently have to treat children for this complaint. One interesting case was that of a man who presented symptoms of chronic gastritis. Faecal examination showed no ova, but balantidium coli was present. Eucalyptol was given as for ankylostomiasis, and a subsequent faecal examination showed no parasites. The symptoms thereupon entirely cleared up.

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**GLEANINGS.**

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**Research in Medical Missions.**

(An appreciation from Jour. Am. Med. Ass' n.)

Wellman, in the *Am. Jour. Trop. Dis. and Prev. Med.*, says that it is not generally known that extensive use is made of our knowledge of tropical diseases by the medical Missions in various parts of the world. He says also that these Missions accomplish some of the best research in these diseases, in addition to teaching and applying scientific medicine among people who would otherwise be debarred from its benefits. In China it is said that there are over five hundred men and women engaged in the conduct of hospitals and dispensaries. The China Medical Missionary Association meets triennially for the exchange of opinions and to make announcements of the results of research, and a bimonthly medical journal has been published for many years for the exchange of ideas in this field. A Research Committee has been formed and a large amount of valuable work has been done in the investigation of nematodes, trematodes, cestodes and the bacterial affections common to that part of the world—plague, cholera, typhus and other affec-
tions. Wellman says that more physicians and nurses are needed, and that to young men with the missionary spirit no more attractive field of endeavor could be found than that of China, Africa, or India.

POPULAR INFORMATION CONCERNING TYPHOID FEVER IN NEW YORK.

A new folder has been issued by the department of health, according to the *Bulletin* for August 8th, which is intended to instruct “the man in the street” on how to avoid typhoid fever. This information is given in condensed form and printed in four languages, English, German, Italian, and Yiddish. Five hundred thousand copies have been prepared and will be distributed through nurses, insurance companies, branches of the New York Public Library, and charitable organizations without delay, so that the information may be used to forestall the usual autumnal increase in typhoid fever. It is expected that through the co-operation of these agencies in the distribution of these folders, substantial progress in the campaign for the prevention of typhoid fever will be made.

THE LABORATORY AND THE CLINIC.

There are few more significant principles contributing to form the substratum of good and successful work at the bedside than a just estimate of the correct relationship between clinical and experimental work, and lack of the requisite clearness of mental vision in this matter is, I believe, one of the most potent causes of unexplained disappointment and failure. We sometimes observe a man of high intellectual power, honest, painstaking and industrious, who seems to fail unaccountably, and by that I do not mean in respect of worldly advancement and public estimation, but he fails in the actual practice of his profession at the bedside. If I were asked to state in general terms what in my opinion is the most frequent defect that underlies this regrettable phenomenon, I should reply without hesitation, “Inability to distinguish clearly between the teachings of the laboratory and those of the bedside.” — R. Hamilton Russell, *British Medical Journal*.

THE SOUND MAN.

Health is civic. Sound men will eliminate poverty and that of itself should make us all sanitarians. Sound men will learn to do without jails, recognizing that so-called criminals are properly speaking candidates either for educational reformatory or for a custodial hospital, and therefore again I turn gladly toward the dawn of the new health.— Edward T. Devine in the *Survey*.
The China Medical Journal.


The yearly subscription to the China Medical Missionary Association is $4 Mex., payable in January of each year. This includes the Journal and postage on the same, whether local or foreign.

All changes of address, departures on and arrivals from furlough should be notified to the Secretary and to the Presbyterian Press. Members are requested to invite new comers to join the Association.

The Editors will be obliged if all those who are building hospitals will send copy of plans and detailed description (in duplicate if possible). These will be loaned, on application, to members who are proposing to build.

Editorial.

RECENT DISCOVERIES IN THE PHYSIOLOGY OF NUTRITION.

Physiological research in recent years has demonstrated and established some very interesting facts about animal metabolism, and the whole subject of nutrition is better understood than it was a generation ago. The most marked advance has been in the study of proteid digestion, and the latest word on this phase of absorption is quite different from the dicta and hypotheses of a few years ago.

It is now stated confidently by such men as Mendel of Yale, Otto Folin, and others, that proteins are disintegrated in the intestinal tract into simple nitrogenous fragments, the amino-acids, not exceeding twenty in number and these amino-acids are absorbed as such directly into the blood. The blood gets amino-acids from the digestive tract and the tissues get them from the blood. From these each tissue rebuilds itself and the amino-acids which are not needed for such syntheses are converted into urea and carbonaceous remainder. These latter are either converted into carbohydrates or are otherwise oxidized for the production of heat and energy (Otto Folin).

It has also become clear, according to these investigators, that some of these amino-acids are absolutely indispensable while others appear to be less necessary constituents of the food. Some of these twenty amino-acids are indispensable even in maintenance of the body while others are essential to the growth of the animal only.
Mendel says, for instance, that the protein of milk and egg albumen are individually capable of satisfying all the nitrogenous need of the body at all stages of development, but if gliadin, a prominent protein of wheat, is fed as the sole protein, adult animals are suitably maintained but growing animals cease to increase in body weight; remaining in nutritive equilibrium unless the amino-acid, lysin, is added to the gliadin; thereupon growth is promptly resumed. Further, zein, the most conspicuous protein of maize kernel, fails to yield either lysin, tryptophan, or glycocoll and is entirely inadequate to meet the nitrogenous demands of the animal in maintenance or growth and it must be supplemented by some more perfect protein. The problem of protein metabolism has thus become one of amino-acid supply.

Mendel says, "We begin to understand why a diet largely made up of corn with its abundance of the imperfect zein and its relative poverty in more complete proteins may be poorly suited for growing individuals; why corn is so advantageously supplemented by a little skimmed milk with its casein and lactalbumin; why gelatin, which does not yield tyrosin, tryptophan, or cystin, fails by itself to meet the demands of the body for nitrogenous pabulum; why a low intake of a suitable protein may be infinitely more advantageous to nutrition than a surfeit of an 'incomplete' protein.

"Nor is the story of the rise of the physiology of the amino-acids ended here. These compounds furnish a superior medium for the growth of bacteria, not infrequently yielding products of pronounced toxicity or pharmacologic potency. A series of amins ranging from simple forms to complex types owe their origin to the action of micro-organisms on proteins, both outside of the body and within the alimentary tract. Putrescin, cadaverin, tyramin, histamin are derived from the amino-acids arginin, lysin, tyrosin and histidin, respectively. Likewise the widely vaunted alimentary offenders, indol and skatol, are chargeable to the putrefaction of the tryptophan group in the protein molecule; pheuol and cresol are similarly derived from tyrosin. Thus many of that vague and heterogeneous collection of compounds once convincingly included in the indefinite expression "ptomaines" are doubtless nothing else than the fragments of amino-acids that have fallen sacrifice to bacteria before they could be absorbed intact into the blood-stream. Now that the production of these more or less toxic amins and alcohols is clearly referable to the action of known types of bacteria on individual amino-acids, the way to avert the malaise or
more serious consequences with which the putrefaction products are so often charged may be a step nearer. Gelatin, for example, furnishes no tryptophan, tyrosin, or cystin; the intestinal bacteria are therefore unable to liberate indol, phenol, hydrogen sulphid, or mercaptans from it.

"To still another domain the discovery of the amino-acid structure of the proteins has admitted fresh rays of light. The phenomena of immunity, creating almost an entire new science of immunology; the precipitin reactions; anaphylaxis and its varied manifestations—all of these point to the participation of proteins; and, what is more significant, owing to the highly specific character of the responses, they postulate the existence of individual proteins in numbers far exceeding the possibilities suggested by the ordinary criteria of individuality. How are we to conceive of a hundred or a thousand specific albumins from as many tissues and individuals? We need merely grasp the convenient hypothesis furnished by our knowledge of the amino-acids which they yield. Assuming that ten different amino-acid derivatives are united even without duplication to form a single protein, mathematical calculation indicates the possibility of over three million different combinations; for eighteen amino-acids the possible combinations have been estimated to exceed millions of millions. In the face of such figures one realizes what specificity may really mean when thousands of structurally isomeric compounds can theoretically, at least, yield precisely the same proportions of the same amino-acids and yet remain distinct in respect to the relative arrangement of their constituent units. The development of an almost innumerable number of special enzymes, as suggested by Abderhalden's recent studies now widely applied in serodiagnosis, likewise finds the possibility of an explanation in what has just been noted. A thousand structures many require a thousand different keys to unlock them.

"Uric acid is no longer associated with the metabolism of the simple proteins, but is recognized as the excretory end-product of the purins, a group of compounds distributed widely in nature, either free or combined as they are in the nucleoproteins of cellular tissues. The creatinin of the urine, provided that it is not reinforced by ingested precursors in meat, represents a story of the inner workings of the organism quite independent of the protein in the diet.'"
complish as much with a liberal allowance of selected foods as with the half ounce of the familiar sodium bicarbonate.

All these physiological conclusions based on a mass of experimental evidence are most interesting and if we as clinical men can keep ourselves interested and alive to the possibilities of these investigations, we shall find in due time most valuable adjuncts to our treatment of disease in the utilization of the discoveries made in the great problem of nutrition of the human body in disease and health.

TRAINING OF NURSES IN CHINA.

Nothing in medical mission work in China of the past few years has been more marked in its development than the growth in training schools for both male and female nurses. In the beginning of mission work, the medical missionary gathered around him a few helpers or students. Later, in certain places, a small but courageous effort to establish medical schools began, and within recent years we have seen the union of several of these schools such as at Peking, Nanking, and at other places.

Where women's work existed, schools for female nurses were established, but the development of training schools for male nurses has been much slower. Only a few doctors believed it feasible to establish such schools and for years the pioneers in this field were few. Lately, however, the idea has been gaining ground rapidly, and we find now such training schools for men in various degrees of development and with varying prospects of future growth, throughout all parts of China. It is a most hopeful sign for the future of medical work in China. It will help wonderfully in reducing the number of young men who are yearly going out to practice medicine without anything like efficient training. In the past, the medical missionary, compelled by the pressure of his work to have help, allowed young men to gather around him and assist in the practical work; often times giving a small amount of instruction to them in addition. How many of these half-baked assistants have left after a few years or in some instances a few months to begin the practice of medicine independently, every man who has been long in China knows. We know of one hospital where in one month this year, two surgical operations which were
begun outside by a former dismissed student had to be completed in the hospital.

There is no longer any necessity for these so-called students. A way is provided out of the difficulty. A training school for male nurses can be established providing an honorable and useful career for faithful and ambitious young men who cannot attend the regular medical schools, providing the much needed assistance in the work of the mission hospitals and providing more safety to the public from the would-be doctor, thus offering a partial solution of all three of these important problems. These schools are already a demonstrated success in many places and others are constantly coming into existence.

As to the work of the Nurses' Association of China, this speaks for itself. The Association is making excellent progress as will be seen by reference to the records of their annual conferences. It now has a strong constitution and a fixed and definite course of study for nurses with provision for uniform examinations leading to a diploma from the Association. Much might be said also of the training schools for female nurses which in so many places are already so well organized and so efficient and which are being brought up to the standard set by the National Association.

WAR AND THE DRUG SUPPLY.

One of the most important and interesting results of the war has been the effect on the drug and surgical supplies of the whole world. Neutral countries are also seriously affected by this, as many of us in China have already discovered. It is common knowledge that Germany has led for many years in the production of synthetic and alkaloidal drugs, many of which are patented, and in America, for instance, practically all the surgical scissors and forceps are imported from Germany. Fortunately, however, this shutting off of the German supply will stimulate other countries to manufacture their own medical and surgical necessities.

In many instances patents on certain drugs are expiring in the near future, and these can be produced at will in any place, but a still more important action is contemplated by Great Britain in arranging for the manufacture of these German synthetic products
with provision for the English patent to continue after peace is declared. America will have to change her patent laws to do this, since at present the product as well as the process is patented, but should the war continue longer such change may be made. Medical men in China will have to rely principally on Japan and America for their supplies for several months at least. It is certainly to be hoped that we shall not have to look in vain for such drugs as emetine, for instance, which coming originally mostly from England has now been forbidden importation from that country.

WAR AND SANITATION.

The war in Europe will put to the severest test the sanitary organization of all the countries engaged. Sanitation of whole armies in action and in reserve, of cities besieged and in the jaws of contending armies, of towns and villages swept by war, all will give abundant opportunity for the display of the highest talent and the greatest firmness by the medical men of the participating nations, an opportunity to carry out on a great scale the principles learned during the past century.

War has always carried pestilence in its wake, a boon companion as it were, in many campaigns more men dying from disease than in battle. The world will have an opportunity to see how far the advances made in medical science and in particular of preventive medicine and sanitation since the days of Napoleon can be carried into effect in the theatre of war.

When we think of the great improvement made in the prevention of typhoid fever with attention to laws of hygiene and with anti-typhoid inoculation, of the knowledge of the causes of the great water borne scourges such as cholera and dysentery, the general appreciation of the role of parasites in such diseases as typhus, the great advances in treatment such as antitoxins, emetine and other specifics, the difference between the past and present control of one of the great evils that accompanies war should be as day from night. We read, for instance, that an attempt will be made to give anti-typhoid inoculation to every recruit in the British army, that Paris has ordered a general revaccination of all its citizens, and that they have supplied themselves with a large supply of antityphoid serum.
When we consider the modern treatment of wounds as compared with a century ago, the organized medical corps, and the Red Cross workers, we feel still more hopeful that the old horrors of war will be in some measure mitigated.

We have to remember, however, that hygienic problems in a country at peace are quite different in their operation from the problems of dealing with great armies of men massed as they have never been before, with control of demoralized and besieged cities, we must reflect that the problems are still very difficult and will tax to the utmost the skill and energy of the medical men in these areas. It will be to the glory of the medical profession on both sides that they are seeking to save life and to diminish suffering and the medical world will watch with the deepest interest and concern the effort of the men facing these great and difficult problems.

HOSPITAL STATISTICS.

The attention is called to the list of questions asking for statistics from all the hospitals in China, which has been sent out recently to all medical men in China as far as their names and places were on record. These questions were made as few as possible in order that the busiest medical missionary, even, might find time for answering them. It would be most helpful to the Association to have these statistics and it is especially desired that all answers be in hand by the last of January for reference at the C. M. M. A. Conference. If any have been overlooked, or if in any case the letters have gone astray before reaching you please send in to Dr. A. C. Hutcheson, Kashing, the name of your hospital, names of the foreign physicians, and foreign nurses, number of in-patients and of out-patients, and income from native sources for the last year, and any other facts about your work which you have time to report.

THE PRESIDENT'S REPORT.

The report by Dr. Main of his visit to certain medical schools which appeared in the September issue of the C. M. J. seems to have been understood, in some quarters, as a report on the status of medical education in China. This is a misunderstanding of the purport of
his report which needs to be corrected. Dr. Main was asked by the Executive Committee of the C. M. M. A. to make a visit to the four union schools which were definitely named in the resolution passed by the Executive, namely, Nanking, Hankow, Tsinanfu, and Peking, and his trip had special reference to the question of teaching in Chinese or English. The Executive Committee did not consider the report to be on the general status of medical education in China, nor did Dr. Main so consider it, therefore his report naturally confines itself to those four schools and does not make mention of many other medical schools in China which are also doing efficient work.

EXECUTIVE COMMITTEE.

Minutes of meeting of the Executive Committee held July 3rd 1914. Members present,—Drs. Main, Cole, Hutcheson, Lincoln, and Morris.

The proposed alterations in the administration of the Wellcome Trust Deed were read, approved, and signed by Dr. Main.

Dr. Lincoln reported for the committee to prepare data for the Rockefeller Commission. A large amount of material, including a map, had already been placed in Dr. Judson's hands.

Dr. Lincoln also reported that arrangements were being made in regard to a hall for the Conference.

A committee, consisting of Drs. Lincoln and Hutcheson was appointed to prepare a map, similar to the one prepared for Dr. Judson, for publication for the members of the C. M. M. A.

A request from Dr. W. W. Peter was presented for a grant of $100 for the exhibition in Public Health at the Conference in February. The grant was given.

The question of having special sermons preached in the Shanghai churches, on the Sunday before the Conference opens, was approved of, and was left in Dr. Main's hands.

Dr. Main gave a brief report of his trip to Tsinanfu, Peking, Hankow, and Nanking for the discussion of medical educational matters. He also gave an account of his interview with Dr. Judson.

H. H. Morris, Secretary.
C. M. M. A. Conference.

C. M. M. A. CONFERENCE, FEBRUARY 1915.

Preliminary List of Papers, Demonstrations, etc.

Dr. R. T. Leiper
Dr. W. H. Jefferys
Dr. Mabel Poulter
Dr. E. Margaret Phillips
Dr. W. S. Thacker
Dr. Richard Bolt
Dr. J. Preston Maxwell
Dr. A. Stanley
Dr. H. H. Weir
Dr. A. F. Cole
Dr. Neil Macleod
Dr. F. C. Yen
Dr. Duncan Whyte
Dr. James L. Maxwell
Dr. Eggers
Dr. Harold Balme
Dr. James L. Maxwell
Dr. O. T. Logan
Dr. Sidney Peill
Dr. W. W. Peter
Dr. E. H. Hume
Dr. Snell
Professor Robertson
Dr. Houghton
Dr. Huwe
Dr. Wu Lien Teh
Miss E. Hope Bell, President Nurses' Association of China. The Nursing Equipment of our Mission Hospitals.

While the Program Committee have reason to be encouraged with the number of papers already promised, they still desire more, in order to make the conference most helpful to all. It is suggested that papers on the three following subjects would prove interesting and helpful.

1. The spiritual side of our work.
2. The financial side of our hospitals, either in the direction of self-support or in the way of increasing interest in the homelands.
3. Should general mission funds be used in medical education in China?
Attention is called to the section on pathological exhibits, all communications regarding which will be received by Drs. Hume and Houghton; further, it will be noticed that Dr. W. W. Peter is in charge of the section on preventive medicine. He solicits your co-operation in the work of preparation for these exhibits.

All papers should be in the hands of Dr. A. F. Cole, Ningpo, by December 1st, so that the printed papers may be put into the hands of members attending the Conference, thus allowing time for discussion. The Conference will open with a social gathering on the evening of Monday, February 1st. The meetings will be held in the Y. M. C. A. hall. First regular session will be held on Tuesday morning, February 2nd. It is also hoped that special religious services will be held in the various Shanghai churches on the previous Sunday.

A. F. Cole,
Chairman of Program Committee.

ITEMS OF INTEREST.

Be sure to be on hand at the C. M. M. A. Conference, which begins with social gathering on Monday evening, February 1st, 1915.

The annual death rate from cancer in the United States is estimated at seventy-five thousand, and 90 per cent. of all cases owing to ignorance or neglect prove fatal.

Two hundred missionaries from home and foreign fields are expected to attend the Sixth Annual Medical Missionary Conference to be held at Battle Creek, Michigan, November 17-20, 1914.

A party of American engineers has arrived in China for the purpose of starting the conservancy work in the regions of the Huai River. They have been received in audience by President Yuan Shih K'ai.

The University of Pennsylvania Medical School formerly in Canton has joined forces with the Medical School of St. John's University, the united school to be known hereafter as "The Pennsylvania Medical School, being the Medical Department of St. John's University." This is a most important union of forces and will make for a strong school in Shanghai.

Up to date there have been fourteen cases of plague in New Orleans, with three deaths, and fifty infected rats have been found. The work
of cleaning and ratproofing the city is progressing and citizens are joining the U. S. Public Health Service and the State and City Boards of Health in helping to make conditions better and are doing much toward the final eradication of the rat.

**Compulsory Antityphoid Vaccination of English Army Urged.**

Sir W. B. Leishman has published a letter urging compulsory antityphoid vaccination for the British army and pointing to the American success during the mobilization in Texas. As it is impossible to vaccinate all the recruits en masse, Lord Kitchener has expressed a wish that all may be vaccinated as rapidly as occasion offers.

The most recent gift of Mr. John D. Rockefeller, $2,550,000 to the Rockefeller Institute of Medical Research, for the purchase of ground adjoining the present building, and for the erection, equipment, and maintenance of additional laboratories, makes it the most richly endowed institution of its kind in the world. This last gift is in addition to the one of $1,000,000 for the establishment of a department of animal research.

**August 6th, Alfred Hegar, a prominent German gynecologist, died at the age of 84.** Hegar may be regarded as the founder of modern gynecology, especially of operative gynecology. In 1864, he was called to Freiburg as the successor of Professor Spiegelberg, without having previously held a university position. At this place he was for forty years the regular professor and director of the gynecologic clinic. His scientific works extend over the entire field of gynecology.

**England to Manufacture Synthetic Drugs.** Agitation is being made for English chemical companies to arrange for the manufacture of German synthetic products. Duty free alcohol is being urged to aid manufacturers in this work. The patent laws are such that firms who will undertake to manufacture the necessary products at this time may continue to do so even after peace is declared. Edward White, president of the British Pharmaceutical Society, has recommended that sodium salts be substituted for potassium, as Germany is the great source of the latter.

**The Beylan Antinarcetic Law**

Among the many provisions of the Beylan antinarcetic law which was passed at the last session of the New York legislature and became effective on July 1st is the provision that upon complaint to any magistrate, any person addicted to the use of any habit forming drug may be committed to a State, county, or city hospital, or to an institution licensed under the State Lunacy Commission, but not to an ordinary prison.
**Book Reviews.**


At the start, emphasis is laid on the importance of considering the child, not as a miniature adult, but as a being in its own class. The fundamental differences between children and adults are gone into in detail, thus laying a secure foundation for the usefulness of the book.

The authors write from a large experience, and the findings of contemporaries are also given. The various maladies of childhood are taken up in detail, and the work offers a very satisfactory discussion and description of the conditions met with. Importance is laid on careful and proper feeding, and on good hygiene, and the treatment of all the conditions is gone into in detail.

The appendix on development and the anomalies thereof, covering 150 pages, is a very useful adjunct to the book.

The whole work appears to be an extremely valuable and practical one, and is gotten out in very good form.

H. H. M.


This volume is another of the Mosby Company's monographs, and deserves to rank well with the other members of the series. It is a complete résumé of our present knowledge of cerebro-spinal meningitis, written both from the viewpoints of the practitioner and of the sanitarian. In addition to the chapters usual to works of this sort on etiology, symptomatology, laboratory diagnosis, complications, and treatment, there is inserted another discussing the variations of blood pressure in the disease, with special reference to alterations following lumbar puncture and injection. The work can be highly recommended.

H. F. E.


Nowhere in the Oriental world has the medical missionary found a larger, more fruitful sphere of service than in China. He has been the dissipator of prejudice, the road-breaker, the foundation-layer in many
a city and in many a human heart. The immeasurable need and opportunity of China have drawn to it some of the choicest spirits, men and women imbued with the spirit of the great Physician, men like Noyes of Canton, David Grant of Chinchew, Mackenzie of Tientsin, Jackson of Mukden, and women equally lofty-souled. "They had learned that the 'candle of truth' needs a 'candlestick of mercy,' and that of all forms of mercy, medical mercy is the one most needed and least likely to be abused in heathen lands."

On this honor-roll belongs the name of Herbert Stanley Jenkins, of Sianfu, Shensi. He was an ideal medical missionary, a man of strength and gentleness, proficient in his profession, quick in the mastery of the Chinese language, deeply evangelistic in spirit.

His was a short but brilliant career, only seven years "in the saddle," and no sight of the "long day by the fire."

Dr. Richard Glover, a master-spirit among English Baptists, has written a brief but stirring and stimulating sketch of Dr. Jenkin's life, to which he adds two chapters on the work of the English Baptists in Shantung and Shensi. This book illustrates afresh the rare nobility of those men and women who have staked and are staking their all that Jesus Christ may be known among the ungospeled. The book can be read in an hour and a half. One turns from it with a sense of hush and elevation, humiliation and spur and with the exclamation, "Where is there anywhere such a power as that of Jesus Christ to make godlike, heroic men?"

P. Blakiston's Son & Co., announce the following recently published books:

**Source, Chemistry and Use of Food Products.** By E. H. S. Bailey, Ph. D., Professor of Chemistry and Director, Chemical Laboratories, University of Kansas, Lawrence. With 75 illustrations. 12 mo. xiv+517 pages. Cloth, $1.60.

**The Art of Compounding** (size increased by 53 pp.). A Text-book for Students and a Reference Book for Pharmacists. By Wilbur L. Scoville, Ph. G., Member of the Committee of Revision of the Eighth (1900) Decennial Revision of the U. S. Pharmacopoeia; formerly Professor of Theory and Practice of Pharmacy, Massachusetts College of Pharmacy. Fourth Edition, revised and enlarged. With 76 illustrations. 8vo. xii+390 pages. Cloth, $3.00.


**Aequanimitas,** with other Addresses to Medical Students, Nurses and Practitioners of Medicine. By Sir William Osler, Bt., M. D., F. R. S., Regius Professor of Medicine, Oxford; Honorary Professor of Medicine, Johns Hopkins University. Third impression of the Second Edition, with three additional addresses. 12 mo. x+475 pages, Cloth, $2.25.

Received for review:—Bundy's Anatomy and Physiology for Nurses, 3rd Edition. Published by P. Blakiston's Son & Co.
How Can the Nurses' Association Help China?

By Miss E. Chung.

I feel it a great privilege to be present with you at this Conference, and especially to be able to read a paper before you. We have not all come from the same place, country, or training school. We are not all of the same nationality, but I feel sure we all have the same great desire—to do all in our power to provide China with properly trained nurses. It was with this desire of ours constantly before me that I prepared this paper, and I feel sure you will receive it in the same spirit.

This Conference is a very real inspiration. May I say that China will one day be grateful to all of you for giving your services so generously, although we know it is not for gratitude that you are working. As for myself, it is my duty to help my own country.

We all realize that China is behind all other countries in her nursing profession; we know perfectly well that the pathetic state of some or most of the Chinese hospitals is due to lack of nurses, and we know that no hospital can be looked after and managed in the way it ought to be without them. Knowing the great need of nurses, as we do, makes us all the more eager for the day to come when we shall see the nursing profession here on an equal footing with those of England and the United States. If the Nurses' Association can be the means of helping China to a body of trained Chinese women to minister to the sick, it will have done China a great service and supplied one of her sorest needs.

The Nurses' Association can do a great deal towards raising the standard of nursing by arousing public sentiment,—making itself heard, but in a way becoming our respected profession, not, of course, "à la suffragette." We must get the Chinese people interested, to enable them all, from the President down, to realize what the profession will mean to China, and to respect it. We could appeal to the ladies of China to help, both by entering the profession themselves and by doing their best to uphold it, and to help break down the many prejudices which nursing at present has to face. Lectures might be given at some of the girls' schools, enabling them to understand what the profession is, how badly China needs nurses, and encouraging them eventually to enter the profession. And what body of women would

* Paper read at the Fifth Annual Conference of the Nurses' Association of China.
be better able to spread the idea of social service in China than a body of trained nurses?

The best way to get into touch with the Chinese nurses is, I think, for the Nurses' Association to have branches in as many towns and provinces as possible so that every nurse might be brought into touch with the Association. The secretary of each branch should be responsible for getting all the nurses in her province together regularly, holding meetings to promote interest and encouragement, not only amongst the nurses but amongst other Chinese ladies as well.

Of course we still have many difficulties ahead of us, some of them similar to those that Florence Nightingale had to encounter in England when she began her great work. But we are better off, for we are not single-handed. There are some Chinese nurses, and then we have all you ladies, whose devotion to this cause brings you here to-day. And it is a joy to know, too, that there is a Chinese lady, a Miss Tung, now being trained at the Radcliffe Infirmary, Oxford, England. I think you agree with me that there must also be Chinese incentive if we are to accomplish the desired results.

I wonder whether, later on, the Nurses' Association will be able to send a competent girl to England or America each year to take a nurse's training, until the day comes when we have a proper training school in China; not that there are not competent teachers here, but we haven't yet the facilities to train our nurses. In the meantime we can be raising the standard of nurses. But I feel that at present it is impossible for either a nurse or a doctor to get a thorough training here in China. That reminds me that I would like to mention something which many may not agree with, but I speak from my own experience. I feel that local training of Chinese girls to be doctors is a great drawback to raising the standard of nursing here in China, and is really no kindness to China, for as we all know, "a little knowledge is a dangerous thing." I mean no reflection on the doctors who train these ladies; they are devoting a great deal of unselfish, hard work to the task. But China does not need the kind of doctors that these girls, with their limited education, can become; on the other hand, we well know the need of nurses, and the girl who wants to become a doctor is just the kind of girl we want to enter the nursing profession; even she is not so well educated as we should like. The name doctor is as well known as the name nurse is unknown. Naturally, few girls want to take the training to become nurses, which means hard work physically and mentally, and puts them into a profession that is not yet respected, when they can so easily become doctors. Yet it is impossible
for a Chinese girl, unless she can read and write a foreign language fluently, to become a competent physician, for there are not sufficient books translated into Chinese to enable her to be well informed and keep up with the times. It is exactly like learning to run before one can walk.

If we really want to help China, in introducing a new thing we must see that it is the best, for, naturally, China, with her grand old civilization having got along on the present lines for so many generations, is not going to take to a novelty readily unless she sees that it has real merit. Some people, I am sorry to say, are ignorant enough to think the Chinese an inferior race and that anything is good enough for them. One missionary told me that the reason she was not using bed linen and mattresses in her hospital was that the Chinese do not appreciate such things; but, when I questioned her, she admitted she had never tried them.

We nurses must keep up our ideals and standard of nursing, not lowering it, and not excusing ourselves by saying the Chinese do not appreciate and will not like this or that. If they do not, we must educate them to appreciate the best. I know what a good, well-managed hospital and good nursing means, and I certainly will not come down to a lower standard to please people who do not know; and think of the lessons of cleanliness it will teach the Chinese if they come into clean wards and beds! Naturally they will notice the dirt in their own homes when they return to them; and when building a new hospital, don't plan to have floors that will bear spitting upon. It would be far kinder to teach the patients that spitting is both dirty and dangerous. There is no good in trying to help China unless we try to improve the standard of living. And, we must remember, it is not because they are Chinese that their standards are low, but because they have not seen better things. Then let us show them the better things. Those of us Chinese who do know a higher standard, long to help our people to a more hygienic way of living.

How grateful I am to the authorities at Guy's for bringing me up to their standard of nursing. I was not allowed to slip through anyhow because I was Chinese. It was far kinder of them to make me keep up with the English nurses; but race prejudice was unheard of at Guy's. And I know from experience that the Chinese girls can become good nurses. I know that patients can be made to come into the hospitals without relatives and attendants, and how are the nurses to be trained properly unless entirely responsible for the patient?
Let us, then, take pains not to lower the standard of the nursing profession. Indeed, I feel that the Association can be the means of raising it. And my one desire for us all is that our Association may be the means of really helping China and helping her in the right way, for we can supply one of her greatest needs.—Reprinted from The National Review.

**Branch Reports.**

**SOUTH CHINA BRANCH.**

The Annual Meeting of the South China Branch of the C.M.M.A. was held at Ch'euug Chan, near Hongkong, on August 14th and 15th.

The following officers were elected:—President, Dr. W. W. Cadbury; Vice-President, Dr. J. M. Wright; Secretary-Treasurer, Dr. J. O. Thomson; Chairman Program Committee, Dr. H. W. Boyd.

The opening exercises were led by Rev. Mr. Christopherson.

**Business:**

It was decided to unite with the other branches of the C. M. M. A. in asking the Rockefeller Foundation for an annual grant of $1,000,000 gold.

Dr. Todd explained the proposed Kung I Medical School constitution.

**Papers:**

"Hospital Screening," by Dr. W. W. Dobson.

"Dermatolysis," by Dr. W. W. Cadbury.

"How to get together," by Dr. J. M. Swan.

"Medicine as practised by the Chinese," by Dr. W. W. Cadbury.

The President called attention to the Biennial Meeting of the C.M.M.A. at Shanghai in February 1915, and requested members to send specimens, tracts, etc., to the exhibit. Dr. W. H. Dobson was asked to collect and forward such matter.

It was decided to alter the date and place of the Annual Meeting to January, in Canton.

The following papers were read at the various meetings of the Branch held during the year. The writers were requested to send their papers to the editor of the CHINA MEDICAL JOURNAL.

Union Medical Education Work, ...Dr. P. J. Todd.

Religious Work in Hospitals, ...Dr. Mary W. Niles.

A Visit to the Mayo Clinic, ...Dr. J. C. McCracken.

Warm Climates and Health, ...Dr. J. M. Wright.

Cataract, ...Dr. E. W. Kirk.

Series of Cases of Ectopic Gestation, Dr. R. M. Gibson.

A Plea for Radical Treatment of Entropion, ...Dr. H. W. Boyd.

Report of a case of Extra Abdominal Intussusception, ...Dr. E. W. Kirk.

Malaria, ...Dr. W. H. Dobson.

The Mayo Clinic, ...Dr. J. C. McCracken.

The Necessity for a Tuberculosis Sanatorium, ...Dr. Mary H. Fulton.

Cholera Epidemic in Canton during the Summer of 1913, ...Dr. J. A. Hofmann.

Laboratory Work, ...Dr. F. Ohlt.

Some Historical Points in the Development of Psychiatry, ...Dr. C. C. Selden.

The Mayo Clinic, ...Dr. P. J. Todd.

The Management of the Kitchen in Institutions in China, ...Dr. J. C. McCracken.
Clinical Meetings were held at the Canton Hospital and the Kerr Hospital for the insane, cases being exhibited by Drs. A. H. Woods, H. J. Howard, W. W. Cadbury, C. C. Selden, R. Ross, and J. O. Thomson.

A resolution on furlough of missionaries was carried urging that the period of service on the field be universally made from 5 to 6 years.

J. Oscar Thomson,
Secretary.

Progress in Internal Medicine.
Under the charge of Dr. E. H. Hume.

TYPHOID FEVER.

1. Prophylaxis.—"The U.S. Department of Agriculture announces that a small amount of borax sprinkled daily on manure will effectually prevent the breeding of typhoid or house flies. Further, that this same substance will prevent fly eggs from hatching in garbage, refuse, cellars, markets, privies, etc. Borax will not kill the adult fly nor prevent it from laying eggs, but its thorough use will prevent fly breeding.

"The investigation was undertaken with a view to finding some substance which would prevent fly breeding in manure and yet not introduce into the manure any substance that would interfere with the fertilizer value of the manure.

"The investigators found that 0.62 of a pound of borax or 0.75 of a pound of calcined colemanite (crude calcium borate) would kill the maggots and prevent the development of practically all the flies breeding in eight bushels of horse manure. In the case of garbage cans, two ounces of borax or the calcified colemanite, or at an expense of about five cents (U. S. currency) per pound will effectually prevent breeding.

"The very simplicity of the thing is enough to commend it. If used in proper quantities, there can be no danger to stock as small quantities of borax do no harm. If garbage is treated with borax, if privies are supplied with borax as they used to be with lime, the day of the fly will soon be over."

(Amer. Jour. of Trop. Dis., 1914, 17, 101.)

Whether in China, with rice fields and vegetable gardens all about us, the fly can be so quickly expelled may well be a disputed question: and yet in the vicinity of our own residences, and about the institutions in which we work, the use of borax should be a practice readily adopted and easily tested out.

2. Vaccination.—Russell (Jour. of the Amer. Med. Assoc. 1913, LX, 344) reports a series of 359 vaccinations against typhoid done by 50 different physicians in various parts of the United States. Out of the entire 359, there was only one severe reaction reported and only six others that were sufficiently marked to be noted. The severe reaction occurred after the first injection and there were no severe reactions after the second or third. The dosage should be based upon the body weight, and the amount chosen should be proportional to the weight of the child as compared with an average adult weight of 150 pounds, using the nearest convenient fraction. By making the inoculations at four in the afternoon, nearly all reactions will occur after bedtime. Russell believes that revaccination
should be done earlier than in adults, and that three years after the first vaccination, two or three additional doses should be given.

(The recommendations of Major Russell are entirely confirmatory of the series of vaccinations made by the editor. He agrees that the vaccination is entirely without serious after-effect, and that the afternoon is distinctly the best time of day for the injection. Typhoid fever is so manifestly a disease of early life that the responsibility is a very grave one for the physician who consciously allows children whom he can influence to go unvaccinated. This is particularly true in China, where typhoid fever is very common, both in its milder and its serious manifestations.)

3. Typhoid Carriers.—Bavies and Hall (Lancet, 1913, Nov. 8th, 1306) report a case of unusual interest, and one which thoroughly illustrates the difficulties that may be experienced in expelling the bacilli from the body of a carrier. The patient, a female, aged 33, had typhoid in July 1905 and after that date, eight cases of infection were definitely traced to her. Urotropin was given for three months and the excretion of typhoid bacilli diminished, but not stopped. In April 1909 an emulsion of bacilli from the patient's own organism was prepared and used as a vaccine, in increasing doses until 1,000 million had been reached. After December 1909 the injections were discontinued. During the three months from October 1909 till January 1910 the urine was free from bacilli, when they reappeared. The patient was then kept on potassium citrate until July, and bacilli were not discovered during that period.

Catheterization and subsequent operation at the end of 1910 were resorted to to remove what was discovered to be the focus of infection, namely, ten small renal calculi, lying in one mass near the pelvis of the right kidney. For ten days after operation, the bacilli disappeared from the urine and then reappeared and persisted for the next eight months. Drug treatment with borovertin at this time not only caused a loss in the patient's weight but was not accompanied by a disappearance of the bacilli from the urine. In July 1911 another culture was made from the patient's blood and after continued cultivation was shown to be agglutinated by the patient's own serum in a dilution of 1 to 800. A vaccine was prepared from this culture and the urine had remained free from bacilli under this treatment during the eighteen months preceding the publication of the report.

4. Test for Immunity.—Gay and Force (Univ. of California Publications in Pathology, 1913, II, 127) report the preparation of a modification of von Pirquet's cutaneous reaction, for use in the determination of immunity against typhoid. "The method as we have used it consists in producing a slight abrasion in the skin without drawing blood and rubbing on the abraded surface a preparation of a killed and concentrated culture of the typhoid bacillus (typhoidin) similar in method of preparation to the old tuberculin of Koch. In all instances a control spot is made into which is rubbed a similarly concentrated solution of glycerine bouillon identical with the medium on which the typhoid bacillus has been grown. In positively reacting cases the "typhoidin" spot is surrounded within a few hours by a reddish and usually indurated areola measuring 4 to 12 millimetres in diameter, whereas the control spot presents only the healed abrasion or at most a much smaller spot surrounding area of reductus."

Of 124 cases tested by this method, 21 gave a definite history
of typhoid fever and among these, 20, or 95 per cent., gave a positive "typhoidin" reaction. In two of these cases the typhoid fever had occurred 41 and 33 years previously.

Of 7 cases with a suggestive history of typhoid fever, but without a definite diagnosis, 6 gave a positive and 1 a doubtful reaction.

Of 41 cases with no history of typhoid fever, 35, or 85 per cent., gave a negative "typhoidin" reaction, only 9 per cent. being distinctly positive.

"Inasmuch as recovery from typhoid fever may be taken as presumptive evidence of immunity against recurrence of the disease and since the great majority of such individuals give a positive skin reaction by this "typhoidin" method, and the great majority of those who have not had typhoid fever give no such reaction, we feel justified in regarding the reaction as of at least presumptive significance in measuring immunity against typhoid fever."

Further, in those vaccinated with typhoid vaccine, it was found that a large majority gave a positive typhoidin reaction.

On the basis of these observations, the writers feel justified in recommending re-vaccination against typhoid fever in any individual who at any time subsequent to a month after the first vaccination failed to give a positive "typhoidin" skin test.

5. Complement-Fixation Test in Typhoid Fever.—Garbat (Amer. Jour. of the Med. Sciences, 1914, cxliviii, 84) has undertaken to determine the frequency of a positive complement-fixation test in typhoid fever, together with the time of its appearance and its persistence, and further, to compare results by this test with the agglutination test and blood cultures. His summary is of great interest as adding much to our store of knowledge and to our power to make an early diagnosis of this ubiquitous and protean disease, which is ever at our doors.

(1) Practically all typhoid fever patients examined, sooner or later developed antibodies in their serum which were demonstrable by the method of complement-fixation. These bodies increase in number with the progress of the disease and are especially numerous during convalescence.

(2) A highly polyvalent antigen properly prepared is absolutely essential in order to obtain a maximum of positive results.

(3) Strains of typhoid bacteria may differ from each other in that their respective antibodies cannot fix complement with an antigen made from a different strain.

(4) There is no definite relationship between the occurrence of a positive Widal and complement-fixation test on the one hand and a positive blood culture on the other.

(5) When blood culture is negative, as so frequently happens in the later stages of typhoid fever, a positive complement-fixation test throws great corroborative diagnostic weight on the side of a doubtful or positive Widal reaction. Occasionally the test is positive before the Widal or blood culture.

(6) The very simple technique for obtaining one c.c. of blood from the patient's ear or finger when the veins are not suitable, stands out prominently in contrast to the extensive and at times impossible preparations required for a blood culture. The ease of transportation of the specimen of blood must also be considered."

6. Typhoid in Children.—Chapin (Amer. Jour. of Diseases of Children, 1914, viii, 131) reports a detailed study of 11 cases of typhoid in children. He draws attention to the fact that during an epidemic of typhoid in New York City in
1913, out of 521 cases reported, 36 occurred in children under five, 98 in children between five and nine, and 87 in children between ten and fourteen. In other words, more than two-fifths of all the cases in this epidemic occurred in children under fourteen. Dr. Ogan of the New York Health Department states that children under twelve constitute $\frac{1}{4}$ of the population of New York City, and that approximately $\frac{1}{4}$ of all cases of typhoid fever occur under twelve years, making it evident that we must revise our ideas as to the frequency with which typhoid fever occurs in children.

Of Dr. Chapin's 11 cases, 1 was two years old, and only one as old as eight.

The duration of the fever varied from 7 to 42 days, and the temperature ran high in only 5 of the cases, 2 reaching 106°F. The diagnosis was confirmed in each case by a positive Widal. No case showed rose spots.

The leucocytes fell below 5,000 in only one case, and in this reached 4,200. The leucopenia usually supposed to be present was thus conspicuous by its absence. In the differential count, a polymnucleosis was regularly present, and the lymphocyte was very regular, being normal in only one case. Eight showed a subnormal count.

Gastro-intestinal symptoms were neither marked nor severe — "the children were allowed the general ward diet with the exception of meat. This included milk, cocoa, eggs, bread, toast, crackers, cereals, jelly, potatoes, gravy, broths, custard, junket, apple sauce, orange juice, and lady fingers. They received nourishment once every three hours through the day.

"An effort was made to give them 40 calories per kilo body weight per day, but not in a single case was it possible to make them take the full required number of calories through the febrile stage. In some instances, sugar of milk or malt sugar was added to the liquids in order to increase the total caloric value of the food, but this failed also, since the children refused to take it."

"The success of this varied diet is shown by the fact that seven cases gained in weight during the fever, two showing a very slight loss and two an appreciable loss. The most remarkable cases occurred in a child of 3 years who showed a gain of 8 pounds after a fever lasting nineteen days, and another of 4 years gaining over 7 pounds after a fever of twenty days.

"Without a knowledge of the epidemic and the use of the Widal test, it is doubtful if most of these cases would have been properly diagnosed. In no case was the spleen palpable. They came in with the following diagnoses: probable typhoid fever, 5 cases: Brill's disease, 1 case; meningitis, 1 case; miliary tuberculosis, 1 case; bronchitis, 1 case; no diagnosis, 1 case."
Tropical Diseases.

Under the charge of A. F. Cole, M.R.C.S., L.R.C.P.

TYPHUS.

SERGENT (Edm.), FOLEY, (H.) AND VIALLATTE (Ch.). Transmission à l'Homme et au Singe du Typhus exanthématic par les Poux d'un Malade atteint de Fièvre récurrente et par des Lentes et Poux issus des Précédents. [Transmission of Typhus from Man to Monkey by Lice obtained from a Relapsing Fever Patient and by the Eggs and Lice bred from them.]—


It is well known that epidemics of relapsing fever are often accompanied by cases of typhus and, since both are transmitted by the same carrier, namely the louse, this association is to be expected.

The authors were experimenting on the mechanism of the transmission of relapsing fever by lice, and for this purpose collected these insects from a patient suffering from this disease and subsequently made experiments with them on normal individuals. In four cases the subjects became infected from these lice, not with relapsing fever, but with typhus. The experiments were as follows:—

Lice and eggs were collected from a patient 11 days after the finish of a typical attack of relapsing fever, during which spirochaetes were present in the blood for six days. A large number of the adult lice in this lot showed numerous spirochaetes in their bodies.

Experiment 1. About 200 of these lice, collected from the patient on December 11th, were fed daily on a human subject, who became infected with typhus on December 25th.

Experiment 2. Another subject, on December 11th, was inoculated subcutaneously with the contents of 10 young lice collected off the above-mentioned patient. On December 19th, eight days later, he became infected with typhus.

Experiment 3. 55 eggs collected from the same patient on December 11th were crushed in saline solution and the resulting liquid placed on the slightly scarified surface of another subject. On December 16th, five days later, the latter became infected with typhus.

In addition, one of the authors, who looked after these three patients, became infected with the same disease. In all four cases the duration of the fever was 13 to 15 days.

Two monkeys were also infected with typhus by inoculating them, one subcutaneously and the other intraperitoneally, with the body contents of lice, collected from the patient of Experiment 1, on January 14th, six days after he had recovered from the attack. One became infected after four days and showed a high temperature for seven days, whilst in the other the incubation period was only three days and the monkey died on the 19th day. In addition another monkey was infected by the inoculation of blood from the former of these animals. These experiments admit of the following conclusions:—

(1) Typhus can be transmitted from man to man by the bites alone of infected adult lice.

(2) Lice taken from a man infected in this way can in turn transmit the infection to monkeys, by subcutaneous or intraperitoneal inoculations. The passage to another monkey can be realised by the inoculation of blood from a monkey thus infected.

(3) The infection is hereditary in the louse; the eggs laid by infected lice are also capable of producing the infection.
The importance of these observations will be readily seen.

—From the Tropical Diseases Bulletin, Volume III, No. 10.

Indian Medical Gazette, March 1914.
(Special Emetin, Dysentery and Liver Abscess number.)

There are a number of papers printed in this special issue of our contemporary of varying quality.

Sir Leonard Rogers, to whom the thanks of the world are due for the re-introduction of the use of Emetin in amebic dysentery and allied conditions, reviews the present state of affairs. He states the following as a result of his experimental work on the toxicity and dosage of emetin hydrochloride:

"Although the ½ to 1 grain doses of emetin hydrochloride, equivalent to 45 to 90 grains of ipecacuanha, are as a rule quite effective in amebic disease, still a case has been reported by Allan in the United States in which it was not until a 4 grain dose was given that a rapid cure resulted. It would be interesting to know the body weight of that patient. I have, therefore, tested the toxic effect of emetin hydrochloride both subcutaneously and intravenously in certain animals. As the lethal dose was very much the same for both rabbits and monkeys, it is probable that the results obtained will apply fairly accurately to man.

As the equivalent of 10 grains for a man of the weight of 70 kilos was harmless, while it took an equivalent of 15 grains to produce a fatal result, there would appear to be ample margin of safety. On the other hand it is worthy of note that rabbits may be killed by the rapid injection intravenously of the equivalent of 5 grains in a man, so that when given in this manner the dose should not exceed 2 grains, and be well diluted and injected slowly. Cases requiring intravenous injections of the salt are, however, rare, and I have not seen the slightest harm in their use with the precautions mentioned. In ordinary cases I now nearly always give 1 grain doses once daily, or in bad cases 2 or 3 times in the first day or two.

It is remarkable how little nausea or depression follows such a dose and I have repeatedly injected one grain in my consulting room in chronic amebic affections and allowed the patient to go about his work. In cases of severe amebic dysentery complicated by advanced pregnancy, I prefer to give ½ grain doses twice a day at first, and if no nausea results, 1 grain doses once a day can be gone on with."

Amebic Diarrhoea and Latent Amebic Infection of the Bowel.

Increasing experience reveals the frequency with which amebic bowel disease is overlooked until hepatitis or other serious complications have arisen. In these cases the lesions are commonly limited to the caecum and ascending colon, and true dysenteric symptoms are completely absent. Irregularly recurring diarrhoea should always give rise to a suspicion of amebic disease in countries where it commonly occurs and lead to an examination of the stools for ameoba. Another clinical sign of great value is slight tenderness and occasional thickening in the right iliac fossa: sometimes mistaken for appendicitis. I recently found this in a patient sent to consult me for "indigestion." As he had had slight dysenteric symptoms some months before, I gave some sodium sulphate, and on an examination of the resulting loose stools found pathogenic amoebe and treated him accordingly. In another patient in whom cancer of the caecum was suspected, the thickening and tenderness cleared up almost completely under emetine hydrochloride, and he was well over a year later. Such cases
as these are by no means rare, and we should always be on the watch for them, as nothing is more satisfactory than their treatment once their true nature is recognised although they may have been the source of chronic illhealth for long periods before their recognition.

Two other papers in this special number are of value, though in some important features their conclusions are diametrically opposed to one another.

Major Owen Thurston, after dealing with a series of 101 cases of Liver Abscess met in 13 years, and treated in all kinds of ways, sums up as follows:—

"I would say, aspirate repeatedly in preference to drainage, and if an abscess is almost pointing do not aspirate there, for leakage will probably take place through the puncture, with the almost certainty of another infection being added. In those cases in which one has eventually to drain, make a small incision through which a portion of a long rubber tube is inserted and then closely stitched to the skin incision. The other end of the tube is placed in a bottle filled with lotion by the side of the bed and the pus will then siphon over, and there is much less risk of septic infection. No special apparatus is at all necessary."

His total mortality came to 33 per cent., and if we take only those who were treated by the combination plus emetine injections, the mortality falls to 23 per cent. Of his series of cases only 3 per cent. were in females. He states that in patients in bad condition with large abscesses the administration of a general anaesthetic is best avoided.

The other paper by Dr. E. A. R. Newman, dealing with 23 cases of true Liver Abscess operated upon by the open method of a transthoracic or an abdominal incision, the morality came to 35 per cent. almost identical with Major Thurston's results.

His objections to the diagnostic use of the aspirator are as follows:—

1. Danger of internal haemorrhage.
2. Unreliability.
3. The obscuration of the field of operation by pus if no adhesions exist.
4. The danger of an intraperitoneal leak, if no adhesions exist, when passed through the abdominal wall.

For diagnostic purposes the aspirator should never be used till all other methods have been fully tried and have failed; they include repeated careful local examinations, a leucocyte count, and emetine hypodermically.

Its use is only justifiable on the conditions that the patient has been prepared by the administration of calcium salts in full doses for 24 hours beforehand: that the puncture is made only through the thoracic wall, and never through the abdominal parietes unless they are previously adherent: that preparations have been made beforehand to incise and drain the abscess at the same sitting in the event of pus in any quantity being found. After its use with negative results a firm body bandage must be applied, the patient kept as quiet as possible, and calcium salts administered for 24 hours longer.

To sum up one's impressions after reading this special number of the Indian Medical Gazette, we again learn the extreme value of emetine injections subcutaneously, even when an abscess is actually present, and much more so in the pre-suppurative stages of hepatitis: we learn the doubtful value of quinine or emetine irrigation of the abscess cavity, owing to the histopathology of its walls. And we see that the advocates of aspiration, diagnostic or curative, repeatedly
have to resort to the open operation, occasionally too late to save the patient. We again realize the value of the siphonage method combined with the open operation with strict asepsis, the deplorable secondary infections of the abscess cavity being almost always non-aerial. And careful examination with a view to early diagnosis and treatment, so rarely possible amongst non-Europeans for obvious reasons, is insisted upon.

A MISTAKEN CASE OF ANKYLOSTOMA INFECTION.

From the British Medical Journal, June, 1914.

Sir,—Under the heading "An unusual case of ankylostoma infection," there appeared in the British Medical Journal of May 2nd, 1914, an interesting note by Dr. James Dunbar-Brunton, of Heliopolis, Cairo, Egypt. [Reprinted C. M. J., July 1914.] I have been asked from various sides whether the singular observations related in that note might be brought into line with the actual biology of the Ankylostoma duodenale, or whether there might not be some mistake in their interpretation. Supposing that similar doubts may have arisen in other readers of the article, and finding some words of comment indeed desirable, I have decided to write the following short note for publication.

To state my conviction at once, I do not believe that the case was one of Ankylostoma infection at all. One thing, at any rate, is certain, and that is that the published account supplies no evidence to that effect, but does supply some evidence to the contrary.

[Dr. Looss proceeds to take up the possibilities of the so-called "Ankylostoma embryos" being in any way connected with the larvae of the Ankylostoma as known to science, and he seems to dispose most successfully of any such possibility. He closes with the statement that] "With Ankylostoma duodenale, the case so far as recorded has certainly nothing to do."

I am, etc.,

Dr. A. Looss.

School of Medicine, Cairo, June 3rd.

[This letter from such an authority as Dr. Looss would certainly seem all that is necessary to dispose of the curious discovery reported by the physician from Heliopolis, Egypt, as a correct observation in helminthology.]
ADVICE TO FRENCH SURGEONS
WITH REGARD TO WOUNDS
IN WAR.

August 10, Dr. Edmond Delorme, inspector general of the military health service, read a paper on this subject before the Académie des Sciences in which he emphasized the fact that at present military surgery ought to be conservative in almost all cases, especially of bullet wounds. The small caliber of the wounds made by the bullets now used, the fact that the practice now is to refrain from probing the wounds, and the antiseptic and aseptic methods in use, have transformed the prognosis of most military wounds, have lessened complications and losses, and have improved the results. The surgeon, therefore, ought to strive to cure, leaving the fewest possible ill effects. The methods of military surgery at the front necessarily differ from ordinary surgery, but in the hospitals at the rear they approach those of ordinary surgery.

Dr. Delorme reviewed successively the treatment of wounds of the soft parts produced by the pointed German bullet—wounds which are generally very narrow, not soiled with fragments of clothing and which are cured in a few days or weeks; treatment of wounds produced by the round ball of shrapnel and the treatment of fractures. For the latter conservation ought to be the rule. It insures recovery in the vast majority of cases, no matter what the bone affected or what the extent of the degree of comminution of the fracture. In abdominal wounds with intestinal lesions, though there may be room for argument as to the advisability of immediate laparotomy in ordinary surgery, it is altogether inadvisable in military surgery. The most recent wars, those in the Transvaal, Manchuria, and the Balkans, have shown the harmfulness of laparotomy. In the Transvaal, laparotomy, though practised by eminent surgeons, under most favorable conditions, gave fewer recoveries than did non-operative treatment.

The German bullet makes a small orifice in entering the abdomen and carries with it no infecting substance from the clothing. In the intestinal loops it makes only the smallest perforations which tend to close spontaneously. For such injuries the old treatment seems sufficient, namely, absolute rest, the patient not being transported to any distance, and complete abstinence from food and drink, especially the latter, for several days. This régimen is rendered endurable by constantly rinsing out the mouth, employing rectal or subcutaneous injections of artificial serum with opium, and keeping the patient in Fowler's position.

When, on the other hand, the speed of the projectile has been greater, when the bullet has ricocheted or when in case of the large shrapnel ball, the orifice of entry is larger, the intestinal wound or wounds are also larger and less apt to close spontaneously. Also the introduction of shreds of clothing is frequent. In such cases peritoneal infection is certain. The proper treatment is, in addition to measures already indicated, the use of the drop method of proctoclysis: the abomen is opened rapidly and cleansed with ether after Morestin's method (The Journal, June 21, 1913, p. 1971) and drainage instituted.

Dr. Delorme emphasizes especially the fact that this operation is
no longer the complicated procedure of classic laparotomy, which a staff of trained surgeons cannot perform more than three or four times a day while neglecting other wounded men, a fatiguing operation, increasing shock, liable to destroy reparative adhesions, demanding special surroundings and minute aseptic precautions in order that it may not give fewer recoveries than non-operative treatment. It is, on the other hand, a very simple, rapid procedure, within the ability of any practitioner. The Académie des Sciences has decided to suggest to the war department that Dr. Delorme's paper be printed for distribution to all the military physicians and surgeons of our army.—From Journal A. M. A., Sept. 19th, 1914.

A SELF-RETAINING NEEDLE FOR ADMINISTERING SALVARSAN INTRAVENOUSLY.

Those of us who have been giving salvarsan or other closed venous infusions have each developed a preference for a certain needle, which seems to us best fitted for the work in hand. Some of us swear by the straight needle, others are partial to the curved or one of the many modifications of either, and in all cases the esteem in which we hold our special form of needle is the result of the ease with which we seem able to manipulate it.

Not many physicians can give 120 to 200 c.c. of solution by gravity without experiencing a feeling of impatience at having to hold the needle in a fixed position in fear of its slipping out of the vein. And even when employing the latest syringe method, in coupling and applying pressure to the piston, we are still obsessed with the constant fear of dislocating the needle point from the lumen of the vein and getting an infiltration into the adjacent tissues. This uncertainty and its consequent complications can be obviated by the use of a self-retaining needle. The object of this paper is to describe the principle on which any of the existing needles may be modified and made self-retaining.

DESCRIPTION OF NEEDLE.

On an ordinary needle about one-quarter to five-sixteenths of an inch from the base of the cutting edge is a conical bulb beginning flush with the sides of the needle, becoming larger gradually till its diameter is about one and one-half times that of the needle and its length is one-eighth of an inch. This might be called the "retention-bulb" (A in illustration). A larger globular-shaped bulb, about four times the needle's diameter is placed about one-eighth of an inch distant toward the coupling end. The shape of this "back stop" is of little importance (B in illustration).

My own preference is for the straight needle, and I shall therefore describe my method of operation with this improved needle. I puncture the skin and enter the vein, pushing the needle in as far as the "retention bulb," then make a half turn of the needle on its long axis and push to bury the bulb. The bulb becomes firmly fixed in the skin and the needle becomes stationary and practically immovable. This method of fixing the needle may be compared to the venous infusion cannula in which the dilatation is tied within the vein. Here, however, the skin being elastic permits the entrance of the retention-bulb, which is firmly grasped, but does not enter the vein.
I prefer the straight needle because I like to feel that the possibility of puncturing the posterior wall of the vein is at a minimum, and turning the needle, which you can do only with a straight one, accomplishes this end. When the needle point is presenting in the vein, by turning it, the point, being eccentric, is shifted from the line of puncture and puts the cutting edge of the needle parallel to the vein's posterior wall, thus lessening the possibility of passing beyond the venous wall when the retention bulb is pushed under the skin.

CONCLUSIONS.

This self-retaining principle, therefore, has the following advantages:

1. It may be applied to any needle.
2. It minimizes the nervous tension on the part of the operator due to the necessity of holding a needle immovable in one position for a tediously long time.
3. The needle cannot be dislocated while it is being coupled to the syringe.
4. Pressure applied to the piston will not dislodge the needle-point.
5. By freeing the hand that would ordinarily be fixed in holding the needle, one may even dispense with the service of an assistant.

—Henry Eichel, M.D., in Journal A. M. A.

Obstetrics and Gynecology.

Under the charge of Dr. Margaret H. Polk.

ABDERHALDEN'S TEST FOR PREGNANCY.

In estimating the value of the wonderful advances of sciences in the last few years, perhaps none will be more valuable than the biological test which Abderhalden has evolved for the diagnosis of pregnancy.

No practitioner can afford to neglect this branch of medical science. The immediate interest to this department lies in its initial purpose, the diagnosis of pregnancy, but it rests on a theory that makes it of interest to every department of medical science or practical medicine. The test depends on a new biological conception that the various types of cells are the seat of different metabolic processes, each cell being capable of breaking up complex molecules into simple ones, and also of building complex molecules from simple ones—during which process they repair and reconstruct their own tissues. This process seems to be accomplished by means of specific ferments whose action it is to choose the food for the cells. The finding of these ferments in the blood seems to be the key to the test.

The following extracts on the subject are taken from an interesting article in the New York Medical Journal of May 30th, 1914, written by Micheal, G. Wohl, M.D., of Philadelphia.

"Now, what relation does the intake of food bear to the metabolism of the cells? Can the body cells directly utilize the various substances taken in? A consideration of the process of digestion will supply answers to these questions. The gastro-intestinal tract by means of its enzymes breaks up complex substances into very simple molecules which fit into the structure of the body cells; in other
words the material delivered to the cells become Zelleigen. The liver and lymphatic system act as control stations, and in case molecules escape the gastro-intestinal tract without having been changed into their proper "stones" for the cellular structure, then they are still further modified and rebuilt in these laboratories, so as to become Plasmaeigen and Zelleigen. These products are conveyed by the blood and therefore the qualitative composition of the blood is normally constant. This is also made possible by the fact that the cells in the exercise of their metabolic functions never normally eliminate products which do not correspond to the structure of the blood plasm.

To sum up, then, we find that the process of metabolism goes on regularly. Products are being formed which fit into the cellular structure. The gastro-intestinal tract supervises the process so that no strange material gets from the external world into the body. The liver sees to it that only the proper products get from the gastro-intestinal tract into the circulation. The lymphatic system prevents the passage into the circulation of strange material eliminated by the cells themselves.

Now, what occurs when substances are introduced into the body by routes other than the gastro-intestinal tract, e.g., subcutaneously, or intravenously (parenterally)? Is the body left helpless against the intrusion of foreign material, or are the body cells able to protect themselves against the attack of strange materials, and, if so, how?

The answer to this question necessitated a series of experiments which Abderhalden and his collaborators have performed. Various laboratory animals were inoculated with albumen and seide-peptone. Upon testing the blood of the animals, a few days later, a ferment was detected having the power to cause cleavage of albumen and seide-peptone. The experiments were repeated with gliadin and edestin with similar results. The ferment proved constant and specific—specific in the sense that it caused cleavage of protein substance only. When, on the other hand, carbohydrates were injected, the ferment obtained was one able to break up carbohydrates only, the protein remaining unaffected.

The origin of these ferments is disputed.

The presence of these ferments can be detected in two ways, (1) by the optic method, and, (2) by the dialytic method, the simpler and less expensive of the two. To these findings of Abderhalden, a wide range of application has already been opened. Schmorl and Viet observed that during pregnancy, cells of the chorionic villi became detached and were carried into the blood stream. Now, if the observations of Abderhalden, already mentioned, are correct, then the blood of pregnant women contains a ferment which would cause cleavage of this intruding material. With this possibility in view, serums of pregnant women were tested, and, in every case a ferment was detected which digested placental albumen and placental peptone.

The formation of the ferment could hardly be ascribed, in the light of present knowledge of the subject, to the detachment of the chorionic villi, as was originally supposed, for ferments have shown to be present even fourteen to twenty-one days after delivery. "It is now believed that they result from a disturbance of the metabolic processes of the cells in the vicinity of the placenta, the maternal part of the placenta penetrating the surrounding tissue, which, as a result of these dis-
turbed metabolic processes, eliminates elements foreign to the plasma with consequent production of ferments."

"Besides the value of Abderhalden's reaction in obstetrics, it has opened up a glorious vista for further research in pathology and therapeutics. From the doctrine of the specific structure and metabolic processes of the individual type of cell, as we have detailed above, one can readily understand that in cases where a group of cells, or an organ, becomes diseased material foreign to the blood plasma may be liberated, which will provoke the formation of ferments, detection of which will permit the ascertaining what particular organ is diseased. Thus, if a certain serum breaks up the thyroid gland only, it will be deduced that in the patient from whom the serum has been derived the thyroid gland is in a pathological state, and secretes substances foreign in composition to the blood plasma."

"The vital question of cancer is also being elucidated by Abderhalden's reaction."

**Technic for Dialytic Method.**

Half a gram of placental, or any other tissue used for the test, is placed in the thimble, which has been previously tested for impermeability to albumen and regular permeability to seide-peptone; 1.5 c.c. of blood serum absolutely free from hemoglobin is put into the thimble, and is dialyzed in 20 c.c. of distilled water. The contents of the thimble and external fluids are covered with sufficient toluol to prevent putrefaction and evaporation. The exterior of the thimble is washed with water, which is prevented from entering the thimble by pressing the top together. The thimble is now kept in the incubator for eighteen hours. Then 10 c.c. of the diffusate is removed to a dry test tube and boiled with 0.2 c.c. of a 1 per cent. solution of ninhydrin. A rod to facilitate boiling is inserted in the tube. If, after standing half an hour, the solution remains colorless the test is negative. Controls with the serum alone and with the tissue alone are to be employed.

**Preparation of Placental and Other Tissues.**

Free the placenta of blood by thoroughly washing it with tap water. Cut the placenta into small pieces, grind these in a mortar, and remove the last drop of blood that may be present. Now boil the placental tissue for five minutes, adding to the water a drop or two of glacial acetic acid. Repeat this six times, using the acetic acid only for the first boiling. Filter 5 c.c. of the water of the last boiling, adding to it 1 c.c. of a 1 per cent. aqueous solution of ninhydrin, and boil for one minute. If the tube remains colorless preserve the tissue in a well stoppered bottle to which enough toluol has been added to prevent putrefaction. The preparation of placenta must be conducted uninterruptedly and under perfect aseptic conditions.

**Test for Impermeability of Thimbles to Albumen.**

Place the thimbles in water for half an hour. Add to each thimble 2.5 c.c. of a 5 per cent. solution of egg albumen. Wash off well the outside of the thimble and place it in a beaker, into which 20 c.c. of distilled water has been introduced. Cover the contents of the thimble and the surrounding fluid with toluol. Place in the incubator at 37° C. for sixteen hours. Remove 10 c.c. of the diffusate and 2.5 c.c. of a 33 per cent. solution of sodium hydroxid. Now pour slowly along the side of the tube 1 c.c. of a 1 in 500 solution of copper sulphate. If a violet ring forms between the
upper blue layer and the lower colorless layer, the thimble should not be used for the test.

**Test of Permeability of Thimbles to Peptone.**

If the thimbles prove impermeable to albumen, they are next well washed and placed in running water for twelve hours; 2.5 c.c. of a 1 per cent. solution of seide-peptone is added to each thimble, the sides of the thimble being washed off. Toluol is added, and the thimbles are put into beakers to which 20 c.c. of water has been introduced, and then into the incubator. After sixteen hours 10 c.c. of the diffusate is removed and 0.2 c.c. of a 1 per cent. solution of anhydrin is added. The tube in which a rod has been placed is boiled for one minute. If a deep violet or blue color appears after the tubes have stood for a half an hour the thimbles are permeable to peptone. The thimbles are now again washed and placed in running water for twelve hours. They are then ready for the test.

For the full discussion of the subject see "The Present Status of Abderhalden's Reaction" by Michael G. Wohl, M.D., in the *New York Medical Journal* of May 30th, 1914.

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**The Treatment of Ringworm.**

Foley in the *British Medical Journal* of March 2nd, 1914, writes that ringworm is such an intractable disease, such a bugbear to schoolmasters and parents of children attending school, that any quicker and more efficient treatment than that known to us at present would be welcomed. Hence Foley is glad to bring before school medical officers and others a very simple and efficient treatment which leads to rapid cure. The part, being first washed with a strong solution of sodium bicarbonate, is swabbed with a piece of lint moistened with spirit of ether to remove grease, painted with tincture of iodine, and an ethyl chloride spray immediately applied. Foley finds it best to work with a pair of ethyl chloride tubes in each hand, as a larger area is covered in quicker time. The deeper the disease process the longer the spray must be applied. It should be used until the integument gets china-white and then stopped. It will be found that in twenty-four to forty-eight hours the patch of ringworm has become quiescent. The smallest commencing spots should be looked for and treated in a similar manner; they also will disappear in from a few days to a week. In ringworm of the scalp three or four applications of iodine and spray are required, but on the face or smoother surfaces one application suffices. Foley has succeeded in curing ringworm of months' standing in one week by this method, and it has never failed him since he first thought it out over a year ago. In most of his cases the patients got infected from cattle.

Ethyl iodide readily destroys the tubercle bacillus, and thus might be expected to destroy hyphomycetes; but an ointment of ethyl iodide 25 per cent, Foley found, will blister, and thus his central idea was to obtain a very minute amount of ethyl iodide which might not penetrate further than the outer layer of the skin by painting on tincture of iodine and next applying the ethyl chloride spray. He
considered a minute amount of ethyl iodide would be formed at the site of the disease sufficient to penetrate the upper epidermic layers, affected by the freezing action of the ethyl chloride.

TREATMENT OF TRACHOMA BY GRATTAGE.

Concluding remarks of article by Louis Schwartz.

Precautions to be Observed in Doing Grattage.

It is better to use a general anesthetic, as cocaine may have a tendency to produce ulceration by its action on the corneal epithelium. A rubber or horn spatula should be held over the eyeball to prevent its being injured during the scrubbing process.

The scrubbing must be thoroughly done so that the lymphoid tissue is entirely destroyed. After the operation an ice bag must be continuously applied night and day. It is best to have the ice bag tied over the eyes, and a nurse to watch so that it is not displaced during sleep. Despite the ice bag corneal opacities may result in patients with narrow commissures, as in the eyes of Orientals. These corneal opacities result from the blocking of the lymph supply of the cornea by the swollen conjunctiva. To relieve it and prevent a sloughing of the cornea, a canthotomy may be necessary in serious cases, but the swelling usually subsides under atropin and an ice bag. Symblepharon is avoided by opening the lids and gently wiping away the secretions every two or three hours during the first 48 hours after the operation.

Conclusions.

Grattage properly done greatly shortens the period required to cure trachoma.

One operation effects a cure in about 50% of cases.

Repeated operations effect even a greater percentage of cures.

Patients who have had grattage done should be kept under close observation at a hospital until all danger of complications is over. They should not be sent home until the lids are entirely healed and cicatized because the unhealed surface may be reinfeeted by contact with other members of the family having trachoma.

Grattage by removing the granulations of trachoma and the underlying lymphoid tissue is a more rational surgical treatment of trachoma than simple expression of the granulations.—Jour. Am. Trop. Diseases.
Preventive Medicine.
Under the charge of Dr. W. W. Petrke.

TUBERCULOSIS CENSUS IN AMERICAN CHURCHES.

The ministers of several thousand churches are being asked to answer the following questions:

1. How many persons are under your pastoral charge?
2. At how many funerals did you or your assistants officiate during the year?
3. How many of these deaths were from tuberculosis?
4. How many living cases of tuberculosis were under your care on September 1st, 1914?

These figures will be made the basis of an educational campaign, which will culminate in the Tuberculosis Day movement, for which occasion sermon and lecture outlines and other forms of tuberculosis literature will be distributed free to ministers by the National Association for the Study and Prevention of Tuberculosis.

BIG BUSINESS AND TUBERCULOSIS.

Because 20% of all the mortality on the company's books was due to tuberculosis, the Metropolitan Life Insurance Co. of New York City, spent one million dollars for a sanatorium. It is believed that merely as a business stroke it will prove one of the most valuable assets of the Co. But it is also meant to act as a lesson to policy holders, employees, and the public.

FIFTY GALLONS OF FLIES.

The city of Redlands, California, employs a man whose sole duty it is to look after the fly traps which are placed on the streets in the down-town section by the merchants. This man baits and empties the traps daily.

These traps are made on the multiple cone plan and in different sizes, although the character of the type is uniform; the minimum size was one of 500 cu. in. From September 1st to 24th, or the first three weeks after these were all in place, this official, A. E. Chapman, caught fifty gallons of flies in the traps, which he estimated to be equal to 3,750,000 flies. These traps kept the business places almost entirely free from flies. Each day the traps on the streets are baited with material which will attract the flies, first being emptied of those which had been collected during the previous day. The flies thus collected were burned.

"PREVENTION VS. CURE."

'Twas a dangerous cliff, as they freely confessed,
Though to walk near the crest was so pleasant,
But over its terrible edge had slipped
A duke and full many a peasant.

So the people said something would have to be done,
Though their projects did not at all tally;
Some, "Put a stout fence 'round the edge of the cliff;"
Some, "An ambulance down in the valley."

But the cry for the ambulance carried the day,
And it spread through the neighboring city.
A fence may be useful or not, it is true,
But each heart became brimful of pity
For those who slipped over the dangerous cliff,
And the dwellers in highway and alley
Gave pounds or gave pence, not to put up a fence,
But an ambulance down in the valley.
Then an old sage remarked, "'Tis a marvel to me
That people give far more attention
To repairing results than to stopping the cause,
When they'd better much aim at prevention.
Let us stop at its source all this mischief,
he cried,
"Come neighbors and friends, let us rally:
If the cliff we will fence, we might almost dispense
With the ambulance down in the valley."
"Oh, he's a fanatic," the others rejoined,
"Dispense with the ambulance? Never!
He'd dispense with all charities, too, if he could.
No! No! We'll support them forever.
Aren't we picking up folks just as fast as they fall?
And shall this man dictate to us? Shall he?
Why should people of sense stop to put up a fence
While the ambulance works in the valley?"

But a sensible few who are practical, too,
Will not bear with such nonsense much longer.
They believe that prevention is better than cure,
And their party will soon be the stronger.
Encourage them, then, with your purse, voice, and pen,
And (while philanthropists daily)
They will scorn all pretence and put up a stout fence
On a cliff that hangs over the valley.

Better guide well the young, than claim them when old,
For the voice of true wisdom is calling:
'To rescue the fallen is good, but 'tis best
To prevent other people from falling."
Better close up the source of temptation and crime
Than deliver from dungeon or galley:
Better put up a stout fence 'round the top of the cliff
Than an ambulance down in the valley.

Correspondence.

SHANGHAI, October 22, 1914.

To the Editor of
"THE CHINA MEDICAL JOURNAL."

Dear Sir: In connection with the report in your last issue concerning the efforts of the President of the Association to obtain a satisfactory working arrangement in those medical schools where it is still an open question whether the teaching shall be given in the English language or in Chinese, it may be interesting to mention that the University of Pennsylvania Medical School, formerly of Canton, united, a few months ago, with the Medical School of St. John's University, under the designation, "The Pennsylvania Medical School, being the Medical Department of St. John's University, Shanghai." It is also hoped that the ties with Boone University may be so strengthened as to practically unite it with this reorganised school in the work of medical education. With the Harvard Medical School of Shanghai, the friendliest relations exist, and the two schools, each occupying its own distinctive field, will co-operate in trying to make Shanghai a strong centre for the medical education of those who wish to pursue their medical studies in the English language.

The medical school of St. John's University has now an unbroken record of medical teaching for thirty-three years. It has a Medical Faculty of thirteen professors and instructors, and hospitals in connection with it which furnish admirable clinical facilities for practical instruction. It began by teaching medicine in the Chinese language, but in 1896 a change was made, and English was chosen as the medium of instruction. The experiment proved successful, and
Correspondence.

there is not the least desire to return to the original plan. Of course, St. John's can only speak for itself. In other places, circumstances may warrant, or even demand, that the instruction be in the Chinese language. After all, medical schools are simply the means to an end, and this discussion deals with a subordinate matter. Our main object is to help the Chinese to form an honorable medical profession, consisting of properly qualified persons well trained in the art and science of western medicine and surgery. Every school which graduates doctors of this kind is helping to meet China's need, whether the teaching be given in English or in Chinese, and is deserving of the sympathy and support of the Association.

The students of the Pennsylvania School will naturally continue to be drawn for the most part from St. John's, and similar institutions which give their instruction in English, but students from other places, desiring to study medicine in English, will always be welcome. It is hardly necessary to say that while every effort will be made to surround the students with Christian influences, professors and students alike have perfect freedom to follow their own religious inclinations in matters of faith and worship.

We agree heartily with the closing words of Dr. Main's interesting report: "The thoroughness of our professional teaching must aid, and in no way interfere with, our efforts to bring our students to Christ, which is the main object of our being in China as medical missionaries." It is earnestly hoped that not only St. John's, but all the medical schools of missionary societies and institutions may become so strong, that we may always be able to maintain our ground side by side with the well-equipped, strongly-manned medical schools of purely secular institutions.

Yours very truly,

E. M. M.

CANTON, October 16th, 1914.

To the Editor of

"The China Medical Journal."

DEAR SIR: The third number of Vol. 3 of the Chinese Journal is now in the printer's hands. This paper has now been published for two and a half years. We have had contributions from some of the physicians in the north but we should like to have many more. The paper continues to maintain its standard of a high grade of scientific material, avoiding the advertising of any one doctor or group of doctors. Our columns are open to any qualified physician who can write or has written an article bearing on medicine, in the Chinese language.

The current number contains articles on the "Physical Examination of the Abdomen and of the Stomach." Also articles on trachoma, blood pressure, and the extraction of teeth. Some useful prescriptions are given and a notice of the Rockefeller scholarship for medical students.

The subscription price of the Journal is only $2.00 per annum, payable to Dr. P. J. Todd, Kung Ye Hospital, Canton. Why not give the Journal to some of your medical students or associate doctors for a year as a Christmas or New Year's gift? I venture to believe that few more useful gifts could be thought of.

Yours truly,

Wm. W. Cadbury,

Editor in Chief.

[Few of us had realized, we venture to say, that The Chinese
Medical Journal of which the Association has great reason to be proud is completing its third year of existence. It must be a great source of satisfaction to those who have fathered and supported this magazine during three years to see that it has more than justified itself. As has been alluded to on several occasions by the editor in Canton the large proportion of the articles published have come from physicians in the South of China and it is his wish and in this we should second him, to have the medical men of the other parts of China contribute more largely to its pages. This Journal should be on the heart of every member of our Association.

Dr. Cadbury’s suggestion about making the Journal a Christmas or New Year’s gift is certainly well worth following.—EDITOR.

To the Editor of “The China Medical Journal.”

Dear Sir: I have read with interest the letter recently published in your Journal concerning “Matrons in Men’s Hospitals.”

I wish to add my testimony to the fact that a lady may, with perfect propriety, manage the domestic affairs of a hospital for men in China.

My special purpose in writing is to encourage the wives of physicians to undertake this important work, since it may be done by them more appropriately than by any one else. I know that many such have their hands quite full with home duties but I think there is not one who might not find time from the first to take a personal interest in the hospital house-keeping, and actual management of it as early as possible.

To fail in this is to miss a large part of the joy of comradeship in work which is the privilege of every wife, and service for the Master which is the duty of every missionary. Some proficiency in language is one of the first essentials, and its importance should not be overlooked by any new-comer.

The value of professional training cannot be over-estimated.

When the doctor’s wife has not had this, it is desirable to add to the hospital staff a trained nurse, either foreign or native. If the physician, matrons, and trained nurse co-operate fully, there should be no embarrassment to the relation of any.

Where the work is large enough to employ the time of several physicians, a division of labor for all the matrons should be possible.

When I first came to China I was told that for a lady to work in a men’s hospital was unheard of in this part of the country, and that it would never do, but after six years’ experience I can say that I have never had anything but perfect courtesy from either patients or helpers—indeed they all treat me with a deference and politeness that could not be exceeded by gentlemen of the western world.

A recent visit to many hospitals in China showed the marked advantages of women’s work. Some of the best results were traceable to the work of physicians’ wives who have had no previous training, but who in faithful loving service had wrought miracles of cleanliness and order.

Respectfully,

Matron.

Seoul, Korea, October 9th, 1914.

To the Editor of “The China Medical Journal.”

Dear Sir: Not long since, a doctor now practising in China called my attention to the similarity between the pharmacopœia of England a couple of hundred years
ago and that of China to-day. It is perfectly evident that much of what we now know of medicinal treatment dates back for a long time and no one would say that it was all useless. It seems, therefore, rather premature for us to condemn the whole of the Oriental practice as useless and bosh.

I first wish to know whether there has been any serious effort made by anyone to find out what the teachings of this school of medicine really are, aside from the things that seem to us amusing or foolish. I have especial reference to investigations on native drugs and their real or reputed therapeutic value and also to the use of the acupuncture and the moxa. It is evident that every Oriental believes implicitly in the efficacy of these remedies and this faith is not all banished when some of them graduate from the schools of Western medicine. Whether rightly or wrongly this faith exists, at least it exists in Korea, and it well behoves us to find out by experimentation and examination what the basis may be, remembering that quinine was once a native remedy in Ecuador.

It is our purpose to investigate these questions as far as possible and any help or suggestions will be thankfully received.

I am,

Yours very truly,

RALPH G. MILLS.

PERSONAL RECORD.

BIRTH.
At Yangchow, Kiangsu, September 30th, to Dr. and Mrs. A. V. Taylor, A. S. B. M., a daughter (Margaret Langdon).

MARRIAGE.

ARRIVALS.
September 2nd, Dr. and Mrs. E. M. Merritts, A. C. M. (ret.).
September 11th, Dr. and Mrs. W. W. Williams, M. E. M., and 2 children (ret.).
September 30th, Dr. and Mrs. A. W. Tucker, A. C. M. (ret.).

DEPARTURES.
September 22nd, Dr. E. Reifsnyder, W. U. M., Shanghai, for Amer.
October 20th, Dr. Score Brown, C. M. S., Ningpo, for Europe for service as naval surgeon.

REMOVED.
Dr. J. C. McCracken, from Canton to Pennsylvania Medical School, Shanghai.

NOTICES.

EXCURSION RATES TO THE SHANGHAI CONFERENCE.
It is very much desired that all those members who expect to be able to attend the Conference in Shanghai on the 2nd of February next, send word to the secretary, H. H. Morris, 4b Minghong Road, Shanghai, as soon as possible. It is hoped that if a large enough delegation comes from any one locality, or by the same railway or steamship line, that special rates may be obtained, but it will be rather difficult to do this until we have some idea of how many are coming. The committee in Shanghai, who are looking after the entertainment of the guests, are anxious to have this information as soon as possible. So will every one who has even a dim hope of coming, kindly send in the desired information and we will try to do our best for them.

H. H. MORRIS, Secretary,
4b Minghong Road, Shanghai.
CHINA AND THE PANAMA PACIFIC EXPOSITION.

The government of China is sending considerable material for exhibition at the Panama Pacific Exposition. A request has been received from Mr. Philip P. Jacobs, Assistant Secretary of the National Association for the Study and Prevention of Tuberculosis, for three copies of the posters and printed matter which have been used in different parts of China. These are to be placed in the exhibit on tuberculosis at the Exposition, and are also to be used in cuts of reduced size in the monthly publication of the above association. As far as possible those willing to send material are asked to send translations also for each different copy. The various publishing and tract distributing houses are sending material of their own, and this request is meant to cover only the material gotten up and used in a local or provincial way. Such material may be sent direct to 105 East 22nd St., New York City, or to W. W. Peter, 3 Quinsan Gardens, Shanghai.

WANTED.

The Journal has calls for a few issues which are out of stock. Any one having any of the following issues and would be willing to dispose of the same please make your offer to John A. Snell, Soochow.

1913 January and May.
1914 January and March.

Dr. H. B. Taylor of Anking, Anhwei, is anxious to secure No. 3 of the Chinese Medical Journal, in order to complete his file for binding.
## Publication Committee of the China Medical Missionary Association

### Statement of Accounts for Year ended 31st December, 1913.

#### I. Income and Expenditure Account.

*(Dollar taken at 2/- or .85 yen.)*

<table>
<thead>
<tr>
<th>Income</th>
<th>Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I. Balance on hand at 31st December, 1912, as per last Statement</strong></td>
<td>$10,386.40</td>
</tr>
<tr>
<td><strong>II. Sales during 1913</strong></td>
<td><strong>$841.11</strong></td>
</tr>
<tr>
<td>- Per Presbyterian Mission Press</td>
<td>$7,545.78</td>
</tr>
<tr>
<td>- At Canton (including Book Debts at beginning of year)</td>
<td>3,001.42</td>
</tr>
<tr>
<td>- At Peking</td>
<td>1,135.88</td>
</tr>
<tr>
<td></td>
<td><strong>$11,683.06</strong></td>
</tr>
<tr>
<td><strong>III. Grants and Donations</strong></td>
<td><strong>$7,165.24</strong></td>
</tr>
<tr>
<td>- East China Baptist Mission</td>
<td>$398.00</td>
</tr>
<tr>
<td>- Protestant Episcopal Mission</td>
<td>208.40</td>
</tr>
<tr>
<td>- Dr. Scales' Bible class</td>
<td>148.45</td>
</tr>
<tr>
<td>- American Presbyterian Mission</td>
<td>100.00</td>
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<tr>
<td>- Canadian Methodist Mission</td>
<td>100.00</td>
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<tr>
<td>- Dr. Cox</td>
<td>20.00</td>
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<tr>
<td></td>
<td><strong>$4,313.85</strong></td>
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<tr>
<td><strong>IV. Miscellaneous Income</strong></td>
<td><strong>$1,006.41</strong></td>
</tr>
<tr>
<td>- Interest on Current Account and Deposit Receipt</td>
<td>$393.38</td>
</tr>
<tr>
<td>- Sale of Stamps per Miss Macgregor</td>
<td>50.00</td>
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<td></td>
<td><strong>$439.38</strong></td>
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</tbody>
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| **Total Income** | **$15,449.98** |

| **Balance on hand at 31st December, 1913** | $7,000.00 |

#### II. Reserve Fund Account.

<table>
<thead>
<tr>
<th>Income</th>
<th>Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I. Balance on hand at 31st December, 1912, as per last Statement</strong></td>
<td><strong>$7,000.00</strong></td>
</tr>
<tr>
<td><strong>II. Transferred from Income and Expenditure Account as entered above</strong></td>
<td><strong>$10,000.00</strong></td>
</tr>
</tbody>
</table>

Edinburgh, 7th April, 1914. I have examined the above Statement of Accounts and have found it to be correct and sufficiently vouched. The Statement includes the Wellcome Trust, the accounts of which have not been separately audited.

ALEX. MACKELVIE, C.A.

## Wellcome-Frust Fund.

<table>
<thead>
<tr>
<th>Income</th>
<th>Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Balance on hand at 31st December, 1912, as per last Statement</strong></td>
<td>$5,984.85</td>
</tr>
<tr>
<td><strong>Net Sales:</strong></td>
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</tr>
<tr>
<td>- Bryce's Therapeutics</td>
<td>$1,386.01</td>
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<tr>
<td>- R. and C.'s Surgery</td>
<td>1,672.65</td>
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<tr>
<td>- Medical Lexicon</td>
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<tr>
<td></td>
<td><strong>$3,714.83</strong></td>
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<td><strong>131.35</strong></td>
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<td><strong>$5,086.24</strong></td>
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</tbody>
</table>

### Publishing Committee of the China Medical Missionary Association.