THE NEED FOR PHYSIOLOGICAL STANDARDS IN CLINICAL RESEARCH, WITH SPECIAL REFERENCE TO SOUTH CHINA.*

G. Duncan Whyte, M.B., (Ed.) D. T. M. and H. (Cantab.).

The subject of this paper is The Need For Physiological Standards in Clinical Research amongst Chinese, but in the first place the need for Clinical Research itself must be emphasized.

There is no doubt that the impossibility of performing post-mortem examinations hampers the work of physicians practising amongst the Chinese more than any other single cause, and in the same way that the conservatism of the deceased’s friends and relations makes impossible this study of the pathology of the dead, so the reluctance of the patient to undergo an exploratory operation prevents us, as a rule, from studying the pathology of the living.

Without an accurate knowledge of the pathology of the condition one is treating, one’s diagnosis is apt to be hesitating, the treatment merely expectant, and the prognosis indefinite, if not inaccurate.

If we are to do our duty to our patients we must know as much as possible of the pathology of their illnesses and with these two great sources of information—viz., post-mortem examinations and exploratory operations—cut off from us, there remains only the clinical study of the living by all the methods at our disposal. We cannot, therefore, afford to do without any light that may be thrown on complicated problems by the help of the microscope or the test-tube.

We must examine the blood of our patients and their faces; we must analyse their gastric contents and their urine; we must study

* A paper read at the Far Eastern Congress of Tropical Medicines.
their height and their weight; we may even require to puncture the spleen or the liver, or to excise lymph glands. We must obtain all available information that may be a help to us in treatment or in differential diagnosis.

Having seen, then, that Clinical Research is necessary, we now come to the main thesis of this paper—the need for Physiological Standards.

If we make such careful investigation of our patients we shall find many facts which differ widely from those that are met with at home. To appreciate properly the significance of the differences we must be careful to distinguish between some facts which have a distinctly pathological significance and other facts which are of no practical importance, but are merely variations that may be quite consistent with the complete healthfulness of the individual concerned.

To put the matter in another way: when a study is made on any of the lines previously indicated, results will be obtained which will make the student say: "These are not the results which my English-American text-books have taught me to expect. Am I dealing with a diseased condition? Or is this—which would be ab-normal in the Home country—a normal condition among the natives of this place?"

In order that we may accurately answer these questions it is necessary that we should learn what may be regarded as within the limits of the normal, and what must be regarded as having crossed these physiological boundaries and entered the region of pathology.

If we are to define the position of these "physiological boundaries," if we are to obtain physiological standards, i.e., standards of normality, it is necessary that thousands of investigations of each point should be made.

Let us now proceed to examine those conditions in connection with which physiological standards are most urgently required.

Firstly, let us look at the questions of height and weight.

A study of the height of our patients may be of interest to anthropological societies, but is rarely of any importance in diagnosis—though ankylostomiasis, achondroplasia, Mongolian imbecility, and myxœdemata suggest themselves as conditions associated with stunted growth.

As a matter of fact the average height of a thousand Chinese proved to be 5 feet 4.07 inches, which is less than that of Europeans and Americans.\(^1\)
The question of corpulence, however— that is "build," the relation of weight to height—is, on the other hand, a matter of practical importance.

There are many diseases associated with loss of flesh, but none is more important than phthisis pulmonalis and a proper appreciation of the significance of the patient's weight may be of immeasurable assistance in forming a prognosis in this disease. A great deal may depend on the answer to the question: "Is the patient emaciated?" but by what standard is the presence or absence of emaciation to be determined? What, for example, is the proper weight for a native of, say, five feet four inches? If we turn to American text-books we find 160 lbs. given; and English text-books suggest 192 lbs., whereas not one, out of over a hundred healthy Chinese of that height, weighed within ten pounds of even the lower of these two standards: the average weight was only 116 lbs.

As a result of the examination of over 1,000 healthy adult Chinese it was found that each inch of stature corresponded not to $2\frac{1}{2}$ lbs., still less to 3 lbs. (as suggested by the text-books referred to) but to less than 2 lbs. (Average 28 to 31 ounces.)

A scheme has been used in France of reckoning one kilogramme for every centimetre of height above one hundred. This might well be applied to the Chinese, but it necessitates either that the weighing machine and the measuring rod are based on the metric system, or that the observer is prepared to spend much time in laborious calculations.

On account of the inconvenience attending the use of the French scheme, and the inapplicability of the English and American standards, another rule had to be made. This rule for estimating the normal weight from the height is based on the record of the thousand cases which I examined.

"Deduct 24 inches from the height, and

Reckon 3 lbs. weight for each of the remaining inches."

It was found that the older and taller men were, as a rule, somewhat heavier per inch than those who were younger or shorter in stature, but this rule of reckoning 3 lbs. weight for every inch of stature above 2 feet, allows for this relatively greater weight of the taller men and has the advantage of being convenient of application.

The diagram (page 328) facilitates a comparison of the English and American standards with the average weights of one thousand Swatow natives, and with the range of normality.
THE WEIGHTS OF CHINESE
Compared with English and American Standards.

The dots indicate the average weight found at each height amongst 1,000 Chinese. The limits of the Chinese range were determined by allowing for a variation of 10% from the figure obtained by the rule:—"Deduct 24 inches from the height, and reckon 3 lbs. weight for each of the remaining inches."

Example.—Height 5 ft. 4 in. Reduced to inches=64.
Deduct 24=40.
Multiply by 3=120 lbs.=8 st. 8 lbs.
An individual may be regarded as normal if his weight does not differ by more than 10% from the standard figure thus obtained.

It is interesting to note that the study of other Asiatics has given similar figures. The investigation by Buchanan5 of 28,000 Indian prisoners, and by Capt. McCay6 of 2,500 Bengali students both show height-weight relations that are much lower than those suggested by home standards, and would conform to the above rule. Similar results are shown by a study of the heights and weights of Japanese sailors.7

If the medical officers of insurance companies in the Far East were to publish the results of their examination of better-class natives, a most valuable mass of material would be made available for the testing of this rule and the establishing of a standard of normality.

A kindred matter that should be studied is that of girth. What should the relation be between the chest-measurement and the height of a healthy native? I regret that I cannot at present submit any data that would help to answer this question, but its importance, especially as regards consumption and other diseases of the chest, is not to be gainsaid.*

Having seen the importance of these questions of corpulence and girth let us now direct our attention to the urine.

One cannot overestimate the value of a study of the urine as an index to the metabolic processes of the body. Leaving on one side such points as the presence in the urine of abnormal constituents like albumin and sugar, one finds that its composition is altered in such varying conditions as fevers, varieties of anaemia, diseases of the heart, and gastro-intestinal disorders. But before it is possible to discern these alterations it is necessary that there should be available working standards of "normality" with which comparison can be made. Only by the help of normal standards can ab-normalities be discovered.

A table has been prepared, based on about a hundred analyses showing the amounts of some of the urinary constituents passed by healthy Chinese in twenty-four hours. It shows in a parallel column the standard figures given in our college text-books.

This table cannot be regarded as an authoritative standard, for it is based on too few analyses, but it is very suggestive and has proved most valuable as a working basis.

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* Complete tables of the heights and weights upon which the above rule is based were published in the Journal of the Royal Anthropological Institute (Vol. xli. July—December, 1911). The author still has a few reprints of the article, which shows the influence both of age and of height upon average weight per inch.
COMPOSITION OF URINE.

<table>
<thead>
<tr>
<th></th>
<th>In 200 Chinese</th>
<th>In Europeans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount</td>
<td>1,800 cc.</td>
<td>1,300-1,600 cc.</td>
</tr>
<tr>
<td>Specif. Grav.</td>
<td>1.004-1.012</td>
<td>1.015-1.025</td>
</tr>
<tr>
<td>Solids</td>
<td>10-50 gms.</td>
<td>72 gms.</td>
</tr>
<tr>
<td>Urea (%)</td>
<td>.4%-1.4%</td>
<td>2.5%-3%</td>
</tr>
<tr>
<td>Urea</td>
<td>17 gms.</td>
<td>33.18 gms.</td>
</tr>
<tr>
<td>Uric Acid</td>
<td>.2-5 gms.</td>
<td>.55-.75 gms.</td>
</tr>
<tr>
<td>Purin Nitrogen</td>
<td>.2-.4 gms.</td>
<td>.3-.45 gms.</td>
</tr>
<tr>
<td>Ammonia Nitrogen</td>
<td>.55-.69 gms.</td>
<td>.77 gms.</td>
</tr>
<tr>
<td>Phosphates</td>
<td>2.3 gms.</td>
<td>2-3½ gms.</td>
</tr>
<tr>
<td>Chlorides</td>
<td>12 gms.</td>
<td>20-15 gms.</td>
</tr>
</tbody>
</table>

Note.—The figures given in brackets, here and throughout the text, indicate the authorities whose statements are referred to. The explanation of the figures is given in the table at the end.

In glancing over the table three out-standing features attract one’s attention, viz.:—the large amount of urine passed, its low specific gravity, and the very small amount of the nitrogenous constituents. We shall consider these points in order, noting in each case the clinical importance of these divergences from European standards.

1. In the first place the amount of urine passed is much larger than the normal in home countries. It seems almost incredible that the amount of urine could be so large—1,800 cc.—when in addition there is such a great loss of fluid via the skin, but my figures do not stand alone, other doctors in the Far East have noted the large amount of urine passed by natives. Capt. McCay found an average secretion of more than two and a half litres daily in 48 observations on Bengali prisoners—a still larger excretion than the table shows.

This copious secretion of urine is of clinical importance since in analysing a chance sample of urine we must bear in mind that we are dealing with a much smaller fraction of the total daily excretion than would be true in the case of a European. For example, if we are analysing 50 cc. of urine we may be dealing with so small a fraction as only one-fortieth of the total daily flow, whereas at home this 50 cc. would probably correspond to about one-twenty-fifth of the total amount.

To take a concrete case: 100 cc. of the urine of an average Chinar man contains only 1/10 gm. of phosphoric acid, as compared with the home standard of 1/6 to 1/5 gm.; but the increased amount of the Chinese urine makes up for this deficiency and secures that the total daily secretion of phosphates is the same in China as in Europe.
2. The second out-standing feature of the urine is that the specific gravity is much lower. In my own cases it varied between 1.004 and 1.012, in Capt. McCay's cases it was 1.012. The examination of single specimens of urine in 400 healthy Chinese in Swatow showed only two cases with a specific gravity of 1.025.

This low specific gravity is important in regard to two distinct clinical points, first, this low specific gravity need not lead us to suspect renal insufficiency—a point to be specially noted in connection with insurance work; second, one may find sugar in urine which, in Europe, would be considered of normal or low specific gravity. I have found 1% of sugar in urine whose specific gravity was only 1.011, and 8% of sugar when it was 1.022.

3. The third out-standing feature shown in the table is the very small quantity of nitrogenous matter excreted. This is especially noticeable in regard to urea. While the healthy European passes 33 gms. urea daily, the average of 170 Chinese was only 17 gms.

The importance of so vast a difference in regard to so fundamental a constituent of the urine cannot be overestimated. The lesser body weight of the Chinese might be thought to explain the difference, but that this is not the case is shown by the fact that while the European standard is half a gramme of urea for every kilogramme of body-weight, the Chinaman only passes from one-fifth to one-third of a gramme per kilo.

The first urea examination I made in a Chinaman was in a middle-aged gentleman with cardiac failure and some oedema. I anticipated his recovery till I was startled by finding that his urine contained not the (European) normal two and a half to three per cent., but only one half per cent. True, he had shown no signs of impending uræmia, but in the face of such evidence how could one doubt that symptoms were about to supervene? As a matter of fact the patient did make a good recovery, and the subsequent examination of the urine of some two hundred healthy natives has shown that the urea varies between a half and one a half per cent.

I need not add further instances to show the importance of familiarity with normal standards of urinary secretion.

Let us pass then from the urinary system and consider briefly the problems connected with the alimentary canal, beginning with the gastric contents. What is the normal acidity of the gastric contents of natives in the Far East? I know of no series of gastric analyses in
healthy Chinese, but amongst the Japanese it has been found\(^1\) that though the percentage of hydrochloric acid is much the same as with Europeans, the total acidity is much less. Thus a total acidity of thirty-five would be normal in a Japanese, though in a European it would indicate diminished acidity, and, on the other hand a total acidity of 60 would be within normal limits for a European, but in a Japanese would indicate hyper-acidity. The importance of this point in the diagnosis of hyperchlorhydria and duodenal ulcer is obvious.

Passing still further down the alimentary canal we come to the contents of the sigmoid flexure. It is normal for the faeces of a people so largely vegetarian to be more bulky and less offensive than those of Europeans, but there is a further and more important point, it is normal for these stools to contain the eggs of intestinal parasites. I say “It is normal” because 99 per cent. of the 500 or more patients whom I have examined were infected with intestinal parasites.

During recent years statistics as to intestinal infection have been made available for India, the Philippines, and most of the provinces of China, and these have shown that parasitic infection is almost universal in the East. There seems reason to believe that the expulsion of the parasites—by appropriate remedies—favours longevity, but, on the other hand, our old ideas as to the specific pathogenicity of most of these parasites have been largely upset.

For example, one can no longer believe that *trichocephalus trichiurus* is a common cause of appendicitis, when in China there are probably more individuals infected with this parasite and at the same time fewer cases of appendicitis than in any other country.

Similarly one is loath to believe that *ascaris lumbricoides* can seriously impair the efficiency of its host when it is present in 90 per cent. of so hard-working a people as the Chinese.

*Opisthorchis sinensis* was found in 40 per cent. of the healthy business men and students I examined, but this did not appear to affect their general health.

*Distomum crassum* was present in only two cases, but I could not attribute any definite symptoms to its presence.

There is abundant evidence that *ankylostomum duodenale* is often present without causing any of the symptoms of ankylostomiasis. It was ignorance of this frequent innocuousness and of the wide-spread distribution of this parasite which led some authorities to suspect it of causing beri-beri\(^16\) and others to attribute kala-azar to its presence.
May we profit by the mistakes made by great men in the past, and recognise that all these parasites—and the protozoan 'trichomona,' too,—are to be regarded as normal inhabitants of the intestinal tract of a healthy native.

One further question arises: Is it normal for small quantities of blood to be present in the stools of those infected with ankylostomes? Information on this point might prevent the presence of occult blood in the faeces leading to an unjustifiable diagnosis of ulceration in the stomach or duodenum.

In view of the urgency with which our attention has been directed to the importance of blood examination in tropical diseases, it might be assumed that by this time a set of physiological standards would have been established; but no—we are all so busy examining the blood in disease that we have no time to study it in health. The patients whose blood we examine may be anaemic, they may show leucocytosis or leucopenia, but none of them is healthy, and so we have no data to guide us to a knowledge of the normal, and even Leonard Rogers—who has doubtless examined more blood films than any other man in the East—offers no standard of his own, but quotes those of Da Costa. Text-books on tropical medicine still fail to emphasize the fundamental differences that exist between the blood of natives in the East and the blood of Europeans.

Take the question of haemoglobin: Rogers found that 65 per cent. was the normal amount for the natives of Assam. Capt. McCay gives .75 as the normal colour index for each red cell in Bengalis. These facts indicate the need for a revision of our views as to what constitutes anaemia, and what are to be considered high and low haemoglobin indices.

But the further question arises, Do these Indian figures apply to China? I have not found it so. Most of the patients examined—other than cases of anaemia—showed between 70 per cent. and 80 per cent. haemoglobin—some even showed 90 per cent. and this in spite of the frequent presence of a few ankylostomes.

The question of the specific gravity of the blood of Chinese still awaits solution. A few years ago this might have been regarded as merely of academic interest, but it is now of practical importance in the treatment of cholera. The blood of Bengalis is said to be of higher specific gravity than that of Europeans, but how is this to be reconciled with their lower haemoglobin value and the oft-repeated statement of the text-books that the specific gravity of the blood varies directly with the percentage of haemoglobin?
Turning to the red cells we still find variations from the home standards. In Chinese I have frequently found more than five million red cells per cubic millimetre, and the average for healthy Bengalis is given as 5,200,000. This frequent excess of the red cells beyond the normal European standard of five millions forms a striking contrast to the low haemoglobin figure. Is it that because of the lack of haemoglobin smaller red cells are required which will present a relatively larger surface for the diffusion of oxygen and carbon di-oxide?

In considering the white cells we are faced with a somewhat different problem—we begin, perhaps, to verge on the pathological. The presence of a certain degree of leucopenia and of a relatively high percentage of mononuclear cells associated with slight enlargement of the spleen and a moderately high temperature might make one suspect the possibility of typhoid fever, but such a diagnosis would be quite unjustifiable, for this blood picture is normal for any man with chronic enlargement of the spleen. Further, it is normal for a parasite-infected patient—and this designation includes 99 per cent. of those whom we in the East are treating—to show a high degree of eosinophilia.

Both these blood conditions would be most abnormal at home, they would be regarded as pathological, but East of Suez they are to be embraced within the wide limits of the normal.

Following on this consideration of the blood comes the question of blood-pressure. Capt. McCay—whose work I have so often quoted—writes that "the blood pressure of Bengalis is on a much lower scale than is the case in Europeans," but my own observations on over 400 people failed to show any marked alteration from European standards. In the young men below 25 the pressure was from 95 to 100 mm., during the next two decades it was from 105 to 120 mm., while in those over 45 years of age it varied from 110 to 150 mm. of mercury. All these are figures that would pass as normal at home. And here let me remark that an investigation that confirms the home standards is just as valuable as one that shows their inapplicability to the Far East—the desideratum is that we should have definite standards to work with.

In contending that such standards are necessary I have largely quoted the results of my own work, not that by themselves they could establish standards, but in the hope that they may incite men more competent and better equipped than myself to fuller and more careful research, the results of which will furnish a reliable basis for physiological standards.
How Best to Obtain and Conserve Results.

REFERENCES ON PHYSIOLOGICAL STANDARDS.

2. Quoted in Edinburgh Medical Journal, April 1901.
3. Notter and Firth Theory and Practice of Hygiene.
6. McCay Standards of Constituents of Urine and Blood.
8. Dixon Mann.
12. Longdon Brown (Quoted by Dixon Mann).
15. Quoted by Cantlie in preface to "Beri Beri" by Pekelharing and Winkler.

HOW BEST TO OBTAIN AND CONSERVE RESULTS IN THE EVANGELISTIC WORK AMONGST HOSPITAL PATIENTS.*

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

The subject naturally divides itself into the two sections:—

I. How best to obtain results.
II. How best to conserve results.

I. How best to obtain results in the evangelistic work amongst hospital patients. This may be further subdivided into:—

1. The influence of atmosphere.
2. The influence of preaching.
3. The influence of teaching.
4. The influence of personal dealing.
5. The influence of literature.
6. The influence of the local pastor or preacher in hospital.

1. The influence of atmosphere.—This is of paramount importance. The hospital is the Lord's, and everything should be as He would have it. Firstly, the medical work must be up to standard; secondly, the doctor and his assistants should be manifestly men with a Master, and men with a purpose; thirdly, nothing should be allowed amongst

* A paper read before the South Fukien United Missionary Conference, July, 1912.
servants or students which would tend to give a false impression of our Master and His claims.

Fooling should be suppressed with a high hand, watch should be kept that none of the patients are being illtreated or cheated by any of the workers, and in money matters there should not be the least ground for suspicion. Regular hours should be kept by all, and as far as possible hospital workers should be themselves workers for Christ. This means unceasing vigilance on the part of the head of the hospital.

Furthermore, by wall texts, the facts should be constantly reiterated of the Love of God, the existence of a Saviour, and man's need of one; and so repeated assaults be made on eyegate.

And, finally, the patient should be made to feel that the doctor is interested in him as a man and not merely as presenting a certain disease.

Much prayer is needed in maintaining this atmosphere, and in Yungchun the assistants and Mrs. Maxwell and myself meet every Sunday morning for special prayer for the hospital.

2. The influence of preaching.—Who is to preach? and when? and what is he to preach?

Undoubtedly the best preachers from the point of results are the doctor and his assistants. The doctor ought always to take a share himself in this work. In the Yungchun hospital there are regular morning and afternoon services. The outpatient services are taken by the doctor, and the other morning and afternoon services by the assistants and the hospital preacher. When a foreign ministerial missionary is in residence, he usually relieves the doctor of the Friday out-patient service.

Then on Sunday afternoon there is a special evangelistic service for the patients, taken by the doctor assisted by one of his helpers. At this service, picture leaflets and object lessons are used, and the patients are questioned as to the points raised and as to their knowledge of the Gospel.

But what is to be preached? Christ and Him crucified, the need of sinners, and the hope of salvation. The writer has little sympathy with abstract addresses on either God, or creation, or ethical subjects, unless these lead directly and every time to the full presentation of the Saviour for sinners.

3. The influence of teaching.—One of the most powerful agencies we have is that of teaching. It is not an easy thing to sit down, and day after day repeat the same things, and teach the same hymns and texts.
It needs grace and patience and in my experience few of our preachers are good teachers. To my mind this is not work for the doctor, partly because of lack of time, partly because patients when they get hold of the doctor are very difficult to restrain from medical talk, but he should know what is going on, and to a certain extent direct and guide it. It is a work which can be carried on almost without intermission. It is amazing the way some patients are able to apparently absorb teaching, and pass it out without assimilating almost anything, and it is certainly discouraging to be told after 14 days' work that the name of the Son of God is 'Satan.' But it is work which cannot be neglected except at grave loss. The most efficient teaching carried on in the Yungchun hospital is that given by the Misses Ewing and Mrs. Maxwell in the women's wards and this, combined with the influence of a Christian matron, has been undoubtedly blessed of God to the awakening of more than one woman during the last year.

4. The influence of personal dealing.—Openings often crop up which give opportunity to the doctor to put in a word in season and were all our workers to be on the lookout there is no doubt much could be accomplished in this way. Especially this may be the case when a man or woman is going home after perhaps a long stay in hospital. A word spoken may be the nail which drives home the thoughts and questionings of the days in hospital.

5. The influence of literature.—What one can accomplish in this way will never be known till we reach the other side; but there is no doubt of the power of God's Word to accomplish its own task, and the more one can get Gospel portions, tracts, and hymnbooks into the hands of one's patients, the better for our spiritual work. Many of them go away long distances, and have no opportunity of getting to any place of worship, but history has again and again proved that this means has been blessed of God to the salvation of many.

6. The influence of the local pastor or preacher in hospital.—It is very difficult to write fairly and yet honestly of this section. One does not realize the rebuffs which the pastor or preacher may meet in trying to press home the Truth; still it is a matter for grave regret that so few of the present generation of Chinese Christians and workers seem to realize the worth of opportunity. Again and again has the writer deliberately sought to introduce patients from a certain region to the pastor or preacher of that region; and rarely has the latter backed him up and sought to make friends with the man with a view to influencing him when he goes home. Why it should be so has always been a
puzzle to me. In the hospital there is practically no fear of a bad reception, and the writer knows of men who have been attached as hearers at least by this method. It is always worth while for a preacher to seek in the hospital for men from his region, but in my experience it is very rare for one to do so although every encouragement has been given.

II. How to conserve results in the evangelistic work amongst hospital patients.

I must frankly confess that I am grievously disappointed in the meagre rotes which I have to offer. The real key to the situation is a keen desire for souls amongst the membership of our Church. "This I have against thee that thou didst leave thy first love" might be written up in many of our churches. And it is just this which neutralizes a great deal of our hospital effort. In saying this I am only too conscious of my own lack of a burning desire for souls, such as our Master would have to exist in each one of us.

The question of following up patients is a difficult one. The notification list I have tried under two forms.

1. The writer used to send out lists to each preacher of the patients in his district, who had been in hospital during the last month, with a request that the lists be returned to him after a time, with a note of those who were coming to church. I am still far from convinced that it is not the best method. But it was killed by the passive resistance of the preachers. First, they did not take the trouble to visit, and, second, they grudged the trouble necessary to send in the report. I am quite aware of the existence of false addresses, though, by the way, these are far fewer than they were, and also of occasional rudeness, but the fact is that it was not these that killed the scheme but the laziness of the preachers and their refusal to face the petty annoyances which undoubtedly occasionally attend visits of this kind. They are not keen on souls, hence the hardships of the work do not appeal to them.

2. The writer then tried a large classification book, open to inspection by any preacher who would show enough interest to do so. Practically no one did, and its only use was to my ministerial colleague, who kindly visited some of the most interested patients on his trips to the country. I may add that both of these methods involve a large amount of clerical work. On the other hand, where a preacher will take the trouble to visit, in many cases the result is that the patient becomes a regular hearer, and in not a few goes further and becomes a member of
the Church. The women are well off in this respect, as the country visiting of the Misses Ewing has kept us in touch with a good many.

What is the ideal? A keen hospital preacher who may be sent out occasionally to look up hospital patients; and keen local preachers who will work heartily in conjunction with him. Better still if there were two preachers attached to each hospital, men full of the Spirit of God, who should take it in turns to visit and work in the hospital. The doctor may occasionally be able to pay a few visits, but with the present pressure of work—and an increasing pressure—and inefficient and scanty help from the medical point of view, it is getting more and more difficult for one to get away for trips in the country. But, seriously, how can we realize such an ideal. Here are we in the Yungchun region with at least 8 places which ought to have preachers, and there are none to send; and further, of the men we have, very few are suitable for the post of hospital preacher. It may be said that I am taking a pessimistic view, but it is the truth. The whole body of our preachers needs a spiritual awakening, given that there would be not a few suitable ones, and for this we earnestly pray. And until this comes I see nothing for it but to persevere in trying so to impress on men and women in hospital the claims of the Lord Jesus Christ, that they, under the influence of the Spirit of God, will seek for themselves until they find.

Discussion on "How Best to Obtain and Conserve Results in the Evangelistic Work among Hospital Patients."

When I was asked to be one of the openers of this discussion I accepted, most certainly not because I thought that the methods in our Chünchowfu Women's Hospital were more complete or more productive of results than those used by probably all other Mission Hospitals, but because I thought it would be a good thing to have to think out some new plans, some of which might, perhaps, be useful ones. Before going any further may I state briefly what methods we use in our hospital?

Twice a week services for out-patients are held in the hospital chapel. These are conducted in rotation by the two doctors and the students. Occasionally an outside friend, either English or Chinese, is invited to conduct the service. A hymn is first read, explained in a few words, and sung. A passage of Scripture, sometimes illustrated by a picture, is read and then a simple address given. The service is then closed with a prayer, the whole occupying from 30 to 45 minutes.

* Paper read before the South Fukien United Missionary Conference by Miss I. G. Thacker, M.B., B.S., E. F. M., Chünchow.
After this, while the patients are waiting their turn to be seen, teaching is given by the Bible-woman, the matron, and sometimes by a third Christian woman. For the in-patients a service in the largest ward is held every day. On out-patient days it is conducted by the same person who took the out-patient service in the morning. She is thus enabled to find out something of how some of her hearers took in what they heard in the morning. She may be pleased or disappointed; at any rate it is of value to her in the preparation and giving of future addresses. In-patient worship on all the remaining days of the week is taken by the Bible-woman, matron, or one of the doctors.

At these in-patient services patients read the last hymn they have learnt. A short passage of Scripture is read and explained simply. Those services are quite informal. Questions are both asked and invited.

On other than out-patient days and Sundays, morning worship is held by the doctors and hospital staff. This gives an opportunity of praying for the patients individually and for the work of the hospital.

While my colleague, Dr. Bryson, and I were together she was able to hold a weekly meeting for the hospital staff for Bible study and prayer. This was found to be a great help.

Our students by their agreement are required to take their turn at conducting out-patient worship, and we are most anxious that they should feel individual responsibility, and faithfully do their share in the work of trying to lead the patients to Jesus Christ.

The Bible-woman spends most of her time in the hospital teaching the patients to read hymns. Those in the big ward learn more readily than those in the small wards as they have the Bible-woman more constantly with them, and also the example of others engaged in the same task.

The Bible-woman each week usually pays some visits to old patients living in the city, but practically never goes outside the city gates. Being a natural-footed woman is a great help to her. We sometimes send her out on Saturdays to the homes of old patients to invite them to worship on the following day. On Sundays, in-patients are, of course, encouraged to go to church as far as possible, but those who have bound feet often make the distance, slight though it seems to us, an excuse for not going.

What we are able to do for the patients after they have left hospital will, unfortunately, take very little time to say. On leaving they are urged to go, if possible, to the church nearest their home. If the patient has shown any interest at all in the Gospel we try to
communicate with the pastor's wife or Bible-woman, if there are such within a reasonable distance from the patient's home; but, apart from prayer for our old patients, that is about all we do so far. It is not very easy for preachers to visit a heathen family on the sole ground that one of the women members has happened to attend the Chüän-chowfu hospital. We occasionally hear of an old patient through one of our missionaries who has been visiting in the neighbourhood or through some other patient. If they are interested in the doctrine and go to church with any regularity, one of the missionaries will probably hear of them sooner or later through the preacher or pastor. In these various ways we are from time to time made glad by hearing some results of the seed sown in hospital.

In this work I think the following points are of importance.

1. The patients should be made as comfortable in hospital as is possible.

They hardly realize that they have souls, but they know they have bodies. They often come lacking the most elementary appliances for even the minimum of bodily comfort. It is no uncommon thing to see a woman come prepared to stay in hospital bringing neither washing basin, comb, face-cloth, pillow, sometimes not even clothes. This not because they are poor, but simply because the excitement of coming to hospital puts other things out of their minds. If preparation could be made for lending this sort of thing to each patient who needs it, perhaps asking a very small sum of money as a deposit to be returned when the things are given back, I think patients would feel more quickly at home in hospital and perhaps be touched by this thought for their comfort.

2. Hospital rules are, of course, necessary, but any rule the obeying of which seriously detracts from a patient's idea of comfort may possibly make him or her less receptive of the Gospel.

3. Coolies. Hospital coolies are an important factor in the happiness and peace of hospital inmates. A disobliging, ill-tempered coolie or one who is constantly trying to make money out of the patients is a sharp thorn in the flesh and should be plucked out with all speed. It is not easy to get Christians for this post, but a really Christian man or woman anxious for the all-round welfare of the patients is a big gain in the spiritual work of the hospital.

4. Grace before meals. If any arrangement could be made by which a blessing could regularly be asked by a Christian before the patients' meals, it would, I think, help the heathen to realize their
dependence upon the Giver of all good, whom we are so anxious they should come to know.

5. The Bible-woman. A sympathetic manner and real interest in the welfare of the patients physically and spiritually is of unspeakable value in the work of the hospital. The receiving of any money from the patients, except perhaps for hymn-books or other literature, should, I think, most certainly not be one of her duties. Difficulties of one sort or another are always cropping up with regard to money, and any friction on this subject may easily be detrimental to the influence which the Bible-woman might otherwise have with the patients.

A Bible-woman's work is very apt to become monotonous and be done in a spirit of routine. Patients are almost always beginners and before they get on far usually leave the hospital. Any possible method of fighting against a spirit of routine in a preacher or Bible-woman is well worth considering. A book should, I think, be kept recording the patient's name, address, length of time in hospital, attitude to the Gospel, number of hymns learnt and any spiritual progress she makes.

Any satisfactory news that we hear about the spiritual progress of patients who have left the hospital should invariably be reported to the Bible-woman or preacher. It is a great encouragement to them to hear about the results of their work and they should then record it in this book.

6. Prizes. Small prizes might be given to patients who persevere in their efforts to read. The Chinese are very fond of pictures and much use might be made of this fondness of theirs to give them something at once both pretty and helpful. The recent offer we have had of pictures with Gospel portions would prove very useful here.

When a patient leaves hospital after staying any length of time there might be given to him or her a card or picture which they would appreciate and be glad to hang up in their home. This might be a printed photograph of the hospital and should record, in character if possible, the patient's name, date of visit, and number of hymns read, and might be signed by her doctor. This card, if seen in a home by a missionary or Chinese Christian, would immediately serve as an introduction. The little ceremony of giving this to a patient on her return home would be an opportunity for the doctor to personally urge upon her the importance of the teaching she has received in hospital.

7. Nurse. We in Chuanchowfu are happy in having a really good humble-minded Christian who, though untrained, acts as nurse to a certain number of patients. She sleeps in the big ward, prays with
them last thing at night and her kindness and efforts to lead them to Christ are a great help to our work.

As to plan for conserving the results of evangelistic work in hospitals I fear I have very little to suggest. In Formosa, I understand, the plan of sending out reply-paid post-cards asking the various preachers and pastors to visit old patients on their return from hospital to their homes and report news to the doctor, has not so far proved very satisfactory, but it seems to me that as churches and post offices become more numerous, and distances consequently less insuperable, that this post-card plan ought to be a good one.

It might be made one of the hospital preacher’s or Bible-woman’s duties to hand in every two or three months to the ordained missionary, or lady in charge of country work, a list of the names and addresses of those patients who have shown any definite interest in the Gospel. In this way it might often be possible to get into touch with old hospital patients.

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**LEUCOCYTE-COUNTING BY A NEW METHOD.**

By R. A. P. Hill, Union Medical College, Peking.

Since November 1911 I have used a special diluent for leucocyte counting, which enables one to make a differential count at the same time. There are two modifications which give good results.

1. Take one soloid of Wright’s stain and grind it up with 10 cc. of methyl alcohol. Let it stand in the mortar for a few seconds then pour off into the measuring glass. Grind the residue with enough methyl alcohol to make up for what is lost by evaporation in the first grinding and add this till there are 10 cc. of solution in the glass. Let this sediment for a little, then pour it into a tall narrow one ounce bottle and cork well. Then wash the sediment in the glass back into the mortar with 10 cc. of acetone and treat the residue with acetone in exactly the same way. Add this to the bottle, and then add direct to the bottle 5 cc. of methyl alcohol. For use add one part of this fluid to three parts of distilled water and shake well. This must be done immediately before use, say within ten or fifteen minutes. The acetone-alcohol-Wright solution keeps indefinitely.

This gives an excellent, clear stain to the nuclei and protoplasm and eosinophil granules of the leucocytes and makes the red cells invisible. A precipitate forms in the counting chamber after some forty minutes, but the preparation is quite useful for over two hours.
It has two considerable defects. It fails entirely in hot weather, but recovers in cool weather. It failed from about April 20th to September 1st in this latitude. Also, unless the mixing is done promptly the red cells in certain cases are apt to run into lumps and refuse to break up. With a little practice this can readily be avoided, but it is a drawback to the usual use of the method. In certain cases the utmost promptness in mixing does not prevent this. So far, I have only found this complete failure in cases clinically identical with kala-azar, and the greater the anaemia the more pronounced the failure. This fact robs it of its chief value, so I use another method more.

2. Prepare 10 cc. of saturated solution of Wright's stain in methyl alcohol, letting it sediment for a considerable time, (or it may be filtered, but the quantity must be 10 cc. after filtration, and it must be saturated. Put it in a narrow one ounce bottle and add 5 cc. methyl alcohol direct. Then prepare a larger quantity of filtered salt solution one in one thousand. For use add one part of the alcoholic solution to three of the salt solution and shake.

The results of this method are perhaps a trifle less clear than the other, and after half an hour the nuclei may be a little distorted; but with very little practice it is quite easy to distinguish a polymorph from a large mononuclear by the yellowish tint of its protoplasm. Lymphocytes and large mononuclears take a distinct blue colour. This works well at all temperatures. The kala-azar cases need prolonged, vigorous shaking to break up the corpuscle clumps, and even so the red cells only become transparent, not invisible; but it is perfectly possible to do an accurate count on these cases by this method. The dilute Wright's stain is quite strong enough to stain blood films with, and does not precipitate in the process.

These fluids are used with the 1 in 10 pipette, the blood being diluted 1 in 20 or 1 in 25.

In order to make it easy to stop exactly at the 11 mark without letting the blood run back, I measure into a small cylinder just a little more fluid than will fill the counting pipette; (a 1cc. pipette graduated in $\frac{1}{100}$s is useful for measuring out the fluid). The counter is held vertically in this till the bulb is full, then the whole is held horizontally. In this position it is easy to draw up to the 11 and there is no tendency to run back. When the 11 is reached, remove the cylinder, still holding the pipette horizontal, and then cover the tip of the pipette with the thumb first, and after that the other end with the finger, and shake well.
The absolute count is made in the ordinary way. In doing the differential count one precaution is needful. Unless the coverslass is put on immediately the drop is put on the slide, there is a tendency for the larger cells to accumulate at one end, the smaller at the other. Repeated checkings and comparisons have shown that an accurate differential count may be obtained by counting up all the cells in the large square of a Thoma-Zappert slide in two successive drops and reckoning from these. If leucopenia is present the total number may be about 400 cells, and no appreciable difference is made by going on to 1,000 cells or more. To get an accurate result from one drop alone it is necessary after counting the big square to travel completely round the disc along the lines forming the sides of "the square contained by the disc," thus visiting all four quadrants equally. The figures obtained in different drops in this way do not differ more than those obtained from two films taken at the same time. I have many times checked the accuracy of the results by comparison with films and by comparing successive observations on the same patient. For cases when extreme accuracy is needed two drops should be counted in this way. When there is much leucocytosis the central big square alone will give a good enough result.

For the absolute count by this method a mechanical stage is desirable, but an approximate result can be obtained by the use of the middle subdivided square alone; or the method of fields may be applied. Sometimes a glance will give the diagnosis if a low power, long draw tube, and high eyepiece are used. With practice, eosinophils can be distinguished with this combination; the area of the field given can be worked out and from this the number of leucocytes normally present in such a field. Then a few seconds is enough to detect any marked excess or deficiency.

The advantages of this method are obvious. Even with the most extreme leucopenia there is not the least difficulty in finding four or five hundred cells; an eosinophilia or large mononuclear increase cannot be overlooked; the type of leucocytosis will often give a valuable hint; and, a point very commonly neglected, the type of leucopenia will be seen in cases of leucopenia.

For example, last August in a case with leucopenia, a sudden complete change in the proportions of the leucocytes, accompanied by a slight rise, though the total count was still subnormal, made me search the patient for haemorrhage, and occult blood was found in the stools. This led to a careful daily inspection of the stools, which were apparently normal, and some days latter a considerable melæna was
found. Again, in two cases resembling typhoid fever, counts of 5,600 and 7,400 might have been thought to favour the diagnosis, but that the polymorphonuclear percentage was 73 in one and 77 in the other. This made us suspect the possibility of typhus and isolate the patient; the next day the rash confirmed our suspicions.

I need hardly point out the economy of the method. One soloid will do for a hundred cases or more.

In conclusion, it may be of interest to medical men practising in Chihli to record my findings for normal blood in Peking. I think it likely that the same standards apply throughout the Chihli plain, perhaps further; and they are of the utmost importance as conditions normal elsewhere are usually pathological here. The figures given are derived from observing a small number of normal Chinese and foreigners and a large number of patients suffering from diseases not likely to affect the blood conditions. More observations may modify these, but the general lines are clear and important.

**Red cells.** Men $5\frac{1}{2}$ to $6\frac{1}{2}$ million. I have twice met with about 7 million. Women (one case, foreigner) $5\frac{3}{4}$ million.

**White cells.** 6,000-7,000. In the well nourished and in the poorly nourished the polymorph percentage is about 64, but the absolute count is about 7,000 in the one case and not uncommonly as low as 5,000 in the other. The polymorph percentage rarely reaches 70 without pathological significance, and 10,000 absolute count is nearly always pathological; even digestion will not raise it to this figure.

**Hæmoglobin** goes with the red cells and 130 per cent. is not uncommon. (I use Haldane's CO-hæmoglobin meter. Tallquist's gives totally different readings, but it is a grossly inaccurate instrument. It is based on v. Fleischl's scale which, according to Oliver, is over 20 per cent. wrong in some parts. My Tallquist is much too low in the upper and a little too high in the lower part of the scale).

**Colour index** usually 1 or a little over.

Europeans and Chinese show the same figures, expect that the leucocyte count of the European is that of a well-fed Chinese, and higher than that of the average hospital patient. The red count seems to be a little higher in winter, but the difference may be due simply to labours of the summer term. (Instruments used. Thoma's and Durham's hæmocytometers and Haldane's CO-hæmoglobinometer, made by Leitz and by Hawksley, London).

The cells are seen best with a flat mirror and no condenser.
Addenda:

1. If \( \frac{3}{2} \) saturated Wright’s stain overstains or precipitates early, add more methyl alcohol up to \( \frac{3}{2} \) saturation or even less. Do not use more than 3 parts saline.

2. The pipette must be periodically rinsed with strong nitric acid.

3. Occasionally the pipette appears to get blocked while counting the first drop. This is only due to drying at the tip and is at once relieved by a touch of a needle point.

4. I have successfully used this diluent for a case half an hour’s journey away, by preparing the stain just before starting and diluting the blood 1 in 100 in the red cell counter. The preparation was usable 15 hours later, and quite all right for 3 hours.

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**OBSTETRICAL OUTFIT IN CHINA.**

Mary Stone, M.D., Kiukiang.

Whenever an obstetrical call comes, the amount of bag and baggage that we have to take, together with the chair coolies that are necessary to carry the doctor, nurse, and sometimes the servant woman when the journey is long, forms quite a procession; so when this subject was assigned me the comical side of it struck me, and I was foolish enough to consent to bring it before this learned assembly, hoping at least to find a solution to the problem of minimizing the size of this procession.

This paper will not so much discuss the regular list of an obstetrical armamentarium but rather the methods in adapting an effective asepsis to the conditions prevailing in Chinese homes.

I need not stop to consider the conditions we meet here, for from the richest to the poorest the utter lack of sanitation is so evident that the obstetrician has nothing to aid her, but on the other hand she has everything to contend with. One thing they do hold in common, and that is the ignorance of the laws of hygiene and their dread of fresh air and sunlight.

So much obstetrical work has to be done in the homes where people are intensely curious to examine everything, I find one of the first things a doctor needs is a ready tongue to explain everything to the people, for “to be forewarned is to be forearmed.”

A trained nurse and a trustworthy woman are indispensable to the doctor when artificial delivery is the rule. A trained nurse relieves the doctor in giving the anaesthetic and frees the surgeon for the opera-
tion. A trustworthy woman is very helpful in that she is able to supply the muscular force when the case is hard and tedious, and where she may be trained to assist in the operation. When the supply of hot water gives out she can be trusted to see that a fresh supply is brought in without being contaminated. Two big tin cans of water follow us to every case—one very hot and one cold—sterilized—and ready to be poured out easily. Formerly we took a little cold sterilized water to dilute the boiling water that we might secure from their homes but we found the latter often so muddy and unfit that we had to resort to this method of carrying our own supply there. It really saves time and worry. We soon found that we had to take everything that we might need to use. In the first place we could not get anything in the homes and in the second place we could then be sure of having everything as sterile as possible. We take two large basins previously sterilized, one for the instruments and one for our hands and scrubbing, a Kelly's pad for keeping the bed clean, a box containing a set of instruments for complete anaesthesia, an operating gown, clean towels to spread on the table for holding our sterilized dressings, a wrap for the baby when born, a pair of sterilized leggings for the mother, a large enameled enema can for douches, two porcelain bowls, one to hold brushes and one to hold cold water for resuscitating the child, two hand brushes and soap.

Such instruments and drugs as are likely to be needed in the conduct of ordinary labor, and in the more important emergencies of the lying-in room, should be carried in the obsteterical bag. The usual outfit consists of an obstetric forceps, dilating bags, a catheter, semi-elastic catheter, glass douche tube, scissors, blunt hook, perforator, cephelotribe, blunt curette, douche curette, dressing forceps, knives, Sims speculum, double tenaculum, needles, needle forceps, aseptic sutures of catgut, silk and silk-worm gut, a hypodermic syringe with the necessary tubes of tablets. All these instruments are boiled after every case, wrapped up in sterilized towels, and left ready for the next case. At the time of operation these are taken out to be soaked in hot bichloride solution. For boiling instruments washing soda is to be preferred to the bicarbonate. It protects the instruments from tarnishing. Instruments last longer when washing soda is used instead of the bicarbonate.

The following is the list of drugs that I take. A bottle of bichloride tablets, izal or lysol, a large bottle of chloroform, castor oil, collodion, fl. ext. of ergot, Monsol powder, olive oil, tinct. veratum viridi, quinine sulphate, potassium bromide, chloral hydrate, sodium
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chloride, sterilized vaseline or glycerine, alcohol, liniment iodine, silver nitrate in 1 per cent solution, and a package of boric acid to be left with the patient.

Besides the obstetrical bag of instruments and drugs another bag of sterilized dressings is indispensable. This contains a package of sterilized towels, a package of sterilized absorbent cotton, dressings and bandage for the cord, and a package of sterilized napkins to be left behind. The only safe way of having clean dressings is to furnish them and to impress upon the relatives the danger of infection. They should be told to thoroughly wash their hands when dressings have to be changed and the patient sponged in boiled water.

Whatever the social condition of the patient we always send the nurse back every day to dress the cord and to look after the mother. This includes the taking of temperature, inquiring into the condition of the mother, giving the patient a douche or enema when necessary. Many a case of infection is obviated, and even when high fever takes place there is not the danger and confusion when you know your case from the beginning.

We have been called to where the untrained midwives have procrastinated and after five or six days of labor the parts were swollen and gangrenous; fever high, pulse running; the foetus dead and decomposed; and yet we were allowed to save the mother's life. Such cases when rescued we generally have to bring to the hospital, risking their dying there. We have, however, successfully treated such in their homes, but as a rule if we make our plea strong enough in late years they willingly consent to come to the hospital.

I remember the first case we had of this kind. It was in the summer. The intense heat aggravated matters. The whole tract was a mass of gangrene. The fever nearly 105. The pulse weak and thready, over 160. The husband and relatives had given the poor woman up for dead, but we went ahead to do the best we could for her. We brought her from the hut of a home through the hot sun on a stretcher with an improvised awning, stopping on the way to give her stimulants and nourishment. After trimming off all possible gangrenous tissue and thoroughly flushing the whole uterine tract with gallons of normal saline solution, liniment of iodine was applied. This seemed heroic at first, but the results were so gratifying that we repeated the operation without an anaesthetic the next day. After a few days of iodine application, diluted iodine was used in the uterine cavity. Marked results were evident each day. The fever lessened, the pulse strengthened, the gangrene loosened, the appetite returned,
and in less than two weeks the patient's life was assured. From that
time on our courage rose. Even when women were brought to us with
the uterus inverted, in spite of dirt and infection, we were enabled to
save many a life by the method just described. The iodine seems to
separate the gangrene, prevents the spreading of the inflammation,
promotes the rapid absorption, favors resolution, and last but not least
it deodorizes the patient. Of course the watching of general symptoms
is very important. Sometimes an error of diet would cause a rise of
temperature. The necessity of a complete change of bed linen, clothes,
and daily sponging makes imperative the treatment of such cases in the
hospital.

This list of outfit would be incomplete if we did not mention Chris­
tian patience, grit, and wit as very necessary qualifications in our
armamentarium. We must all admit that we are often tried to our
wit's end to know what to do with some of our cases. After all it does
not always depend so much on what we carry in our bags as in our
hearts and heads. Although as the saying is that "Half of the battle
is won if we have good weapons" still we know a few simple instru­
ments in the hands of experts would do more than the best in the
world in the hands of those who are not quite so experienced. No
doubt there are things left out which should have been in this list and
some mentioned which would have been better left out. David could
not fight in Saul's armor—not because Saul's armor was not good
enough—but David rather chose the simple stones that he knew best
to use, and won the victory.

ADDITIONAL NOTES ON THE EGG OF
SCHISTOSOMUM JAPONICUM.

By Ernest C. Peake, M.B., Ch. B.

Some years ago I published a pretty full description of the egg of
Schistosomum japonicum, (C. M. J., March 1908,) together with
measurements and drawings. I endeavoured to make both drawings
and description as careful as possible, and they may be taken, I think,
as, in the main, correct. There is one point, however, in which I (in
company with the others who have described this egg) was mistaken.
I described the egg as having no trace of a spine; thus contrasting
strongly with the ovum of S. homalobium. Some months ago, how­
ever, Dr. Leiper, helminthologist at the London School of Tropical
Medicine, to whom specimens had been sent on several occasions,
asserted in the Transactions of the Society of Tropical Medicine, that the ova of *S. fap.* were in reality spined. Feeling very sceptical about it I took special pains to examine into this point in my next case, and found that it was even so. The "spine" is really a very small curved nipple-like projection towards one pole of the egg, and often requires some looking for. Frequently it is not seen at all as the egg is lying so as to conceal the spine on its under surface.

The last case of *Schistosomiasis* that I examined in my hospital, besides passing the ordinary eggs of *S. fap.* (i.e., eggs containing a living myracidium) in his stools, passed also other Schistosome ova which I cannot but take to be the unfertilized eggs of the worm.
These contained no myracidia, but were filled with globular material. They were smaller than the fertilized eggs, being about the same size as the ova of *Ankylostoma duodenale*, very slightly bile-stained, and showing a single sharp outline, in contra-distinction to the double outline as seen in the ordinary egg. In both fertilized and unfertilized ova the little curved nipple or spine can usually be found towards one pole. The accompanying drawings will, I think, convey a fairly accurate idea of the appearance of these eggs.

The patient in whom these unusual ova were found, was carried into the hospital *in extremis*, and very near his end. According to his account the disease commenced about a year previously with dysenteric symptoms, disabling him from work, but he still remained on his boat. He had not noticed any enlargement of liver or spleen. The dysentery had persisted from the outset. A few months before, the abdomen began to swell. He lost his appetite, and rapidly wasted. He got so weak, he was unable to stand up and was at length carried to the hospital.

*On examination* the patient was found to be extremely emaciated, anaemic, and weak. The abdomen was full of fluid. No enlargement of liver or spleen could be made out—on the contrary there was shrinkage of the liver. Enlarged veins were found ramifying over the abdominal wall. Dyspeptic symptoms very marked. Pulse slow and weak (58). Heart sounds very feeble. Oedema of the feet. Patient evidently sinking rapidly. *Stools*. Constantly passing very evil-smelling watery stools, containing undigested food, mucus, and blood. Microscopical examination shows ova of *Schist. Jap.* (fertilized and unfertilized), *Ankylostomum, Tricocephalus, Ascaris lumb.*, and also a minute actively moving flagellated organism, *Circomonas hominis*.

A differential blood-count showed 54 per cent. of *Poly-morphonuclears*, and 46 per cent. of *Lymphocytes*; no *Large Mono-nuclears*, and, strange to say, not a single *Eosinophile leucocyte*. This seems puzzling, but can be accounted for, I think, on the hypothesis of a failure in the blood to react. If a patient's resistance to a verminous infection be marked we get a good blood-reaction, as evidenced by a marked increase in the *Eosinophile leucocytes*. But where, as in this case, resistance has broken down, and the patient dying, we find no longer any evidence of reaction on the part of the blood, and, consequently, no *Eosinophilia*.
A CASE OF PAPILLOMATOUS OVARIAN CYST.

EMMA J. BEITOW, M.D., SIENYU.

The ovaries are frequently the seat of new growths, especially cysts. Of 804 cases reported by Williams, 752 of these were cysts, 27 were carcinomas, 24 sarcomas and 1 was a fibroma.

Various theories have been advanced in explanation of the development of cysts, but in the majority of cases they are probably due to previous inflammatory changes in the ovary, the fibrous tunic of which has become thickened, thus preventing the rupture of the follicle. In the beginning the ovary may contain several dilated follicles which materially increase in size. Sooner or later one of these follicles takes on an abnormal growth and expands on the surface of the ovary in the direction of least resistance. Pressure from the increased contents produces atrophy of its walls which become thin. When the cyst reaches some size it replaces the ovary, which has now become flattened by pressure, and appears as a mere thickening of the basal wall of the cyst, while the peripheral wall is thin. As a rule they develop on the surface of the ovary, the walls of which are thick and consist largely of ovarian tissue. They vary in size from a dilated follicle containing a few drops to a cyst containing gallons of fluid. Cartledge reports the largest one on record, the fluid of which weighed 240 pounds and the sac 5 pounds. The cyst content varies greatly, it may be a thin colorless fluid or thick tenacious mucus; it may, however, be turbid, blood-tinged, or chocolate-colored from disorganized blood.

Ovarian cysts may be classified as follows:

1. Simple Cysts.
2. Multiple Cysts.
3. Proliferous Cysts.
4. Dermoid Cysts.
5. Papillomatous Cysts.

It is of the latter variety that I wish to report a case. Papilloma may be either benign or malignant. The benign are liable to undergo malignant degeneration at any time and invariably give rise to ascites. Papillary growths may be very abundant and may completely fill smaller cyst cavities and even cause rupture by pressure from increased contents, or they may grow through the wall of the cyst and cause perforation: they may also be extra-cystic.

This case of mine had both the extra- and intra-cystic growths.

The patient was a Chinese woman forty-two years of age. Married. She had never had any children. Had enjoyed good health until five
years ago when she suffered with pain in the right ovarian region. After several months she felt a lump about the size of a small pomelo. She was sick in bed about two weeks and when she got up her tumor had disappeared. She had no more pain till a year ago when she found the tumor in the abdominal cavity. Her menses became irregular and pains increased. Five months ago the abdomen began to increase in size and she lost flesh rapidly. When she came to the hospital, April 13th, she was very much emaciated. The abdomen was enormously distended with ascitic fluid, the ensiform cartilage was turned up, and the umbilicus protruded. The uterus was pushed down causing complete procidentia. The posterior cul-de-sac was bulging through the vagina about the size of a large orange. It was rather difficult to map out the size of the tumor on account of ascites. The lower limbs were œdematous.

There was no heart lesion; her pulse was fairly good. Urinalysis proved negative. I suspected malignancy and told them the prognosis was grave.

She was so uncomfortable that she insisted upon an operation even if it should prove fatal. The day before the operation I introduced a trocar into the bulging cul-de-sac and drew off sixteen pounds of sero-sanguinous fluid. During the night about the same amount drained away. The uterus receded somewhat. A tumor the size of a head could be easily palpated in the abdominal cavity. On opening the abdomen I found this to be a multilocular cyst, the posterior surface of which was covered with a papillomatous growth —adherent to the omentum. The omentum was very vascular and cystic. The peritoneum was dark and studded with inflammatory processes. The uterus was quite normal, except for an elongated cervix. I removed the tumor with little difficulty. The left ovary was one mass of cauliflower excrescence—part of this was encapsulated showing that this had been an intra-cystic papilloma which had ruptured its membrane. There were a great many adhesions, and some hemorrhage when I removed the mass. I closed the wound in the usual way, leaving a strip of iodoform gauze in for drainage. She stood the operation quite well. Her pulse was about 90 and of good quality when we took her from the table.

She passed a fairly comfortable night, suffering somewhat from nausea. The next few days her pulse was about 100, temp., 99°. Nausea continued so that I had to give her nutrient enemas. Sunday, the fifth day, she developed diarrhea. She had thirteen movements in twenty-four hours. Vomiting continued, changing from bile to a dark
fluid with a coffee-ground sediment. The kidneys were active, secreting a normal amount. There was free drainage from the wound so that I had to change the dressings two and three times a day. The oedematous condition of the limbs disappeared. The abdominal wound healed by first intention. There was no distention and very little tenderness. The patient died Tuesday night, the seventh day after the operation. Her death evidently was due to chronic peritonitis. This case, probably, was a simple ovarian cyst five years ago; later it underwent malignant degeneration. Her saying the tumor disappeared for a time was probably due to the fact that as it passed from the pelvic to the abdominal cavity the pressure symptoms were relieved and she was not conscious of it. Had there been a rupture at that time there would have been more adhesions. A timely operation might have added many years to her life. She was buried with much pomp and ceremony. She had had her coffin for years and it was well covered with lacquer. They thanked me over and over again for reducing her in size so that she could use it. Had she died without an operation they would have had to have one made to order. Besides, she would have been a very uncomfortable spirit roaming over the mountains with forty or fifty pounds of excess fluid.

NOTES ON THE TREATMENT OF LEG-ULECERS.*

By H. B. Taylor, M.D.

In the dispensaries of China, as in those of Western lands, leg- ulcers we have always with us, forming often a large proportion of our cases and swelling the number of return visits.

Usually only a small percentage of these cases are willing to enter the hospital and as the treatment as in- or out-patient must differ so widely, I have grouped my remarks under the two heads.

In the dispensary, there is no more difficult class of cases. Healing is very slow usually. The patients do not come regularly and even if healed after weeks or months of treatment, the ulcers break down again easily. Too often, in the rush of a big dispensary, these cases are slurred, and one is content to delegate the entire treatment to dressers. This should not be, but, as difficult and troublesome cases, we ought to lay especial emphasis on their thorough treatment.

As to etiology. I have been impressed with the belief that varicose ulcer is not nearly so common as in Western lands, but that ulcer tropicum and common pyogenic ulcers are in large majority.

* Read at a meeting of Kuling Medical Missionary Association, August 1912.
In addition to the exhibition of tonic or specific medication, among drugs used for local treatment, we find Scarlet Red most effective. Most of you are familiar with the method of using this substance, but a word of personal experience may prove helpful. Some years ago, after reading in the Johns Hopkins Hospital Bulletin Davis' report of results in the treatment of granulating wounds by ointment of Scarlet Red, I wrote at once to Shanghai to see if the Biebrich dye were obtainable. It was not, but I was sent another commercial anilin red dye—two 92 lb. tins for about $1.50 Mex. I determined to try it, nevertheless, and did so with good results.

It is used in 8-20 per cent. ointment with petrolatum as base. This is applied on alternate days in a strip of $\frac{1}{2}$" width over growing skin and adjacent granulations. If the wound be small it may be applied to entire surface; if not, boric acid ointment is applied to the granulations and this or zinc oxide is also used on the entire surface on alternate days. The dye is irritating and the 8 per cent. ointment is the best for general use. In a few cases it is not effective, but in the majority it causes an immediate and rapid growth of epithelium and we now use it as a routine on all granulating wounds. It can also be used on skin-grafts after about 10 days.

Protargol ointment 5-20 per cent. is another very effective application. Castellani treated two ulcers of same size on different legs of same patient, one with protargol, the other with iodoform ointment. The former healed in 3 weeks and the latter in 2 months. The cost of protargol makes its general use prohibitive for most of us.

A treatment on which I had hoped to have definite data to present to you and which is highly recommended at home for outpatients, is Unna's paste—gelatin 5 parts, zinc oxide 5, acid boric, 1, glycerin 8, water 6, and sometimes ichthyol 5 per cent. The paste is liquefied by waterbath and brushed on from knee to foot. A gauze roller is then applied snugly, cutting frequently to avoid wrinkles. Then a layer of paste and bandage alternately until a firm supporting dressing is formed. It should be applied in recumbent posture and if discharge be free, a window cut over ulcer when necessary.

The use of this soothing antiseptic supporting dressing appeals strongly and I believe, by the use of it in combination with stimulating ointments, that the healing of most out-patient cases could be greatly hastened. A friend at home reported splendid results in cases who had to continue at work.

In regard to in-patients, our entire treatment prepares for an early Thiersch skin-graft, which we find most satisfactory. I have
seen cases return with new ulceration surrounding an old intact skin-graft.

In the rendering clean of ulcers and septic cavities, we invariably use Wright's Solution, sodium chloride 4 per cent., sodium citrate 1 per cent., on gauze packed into the cavity or applied to ulcers hot every three or four hours. This solution causes by osmosis an outpouring of serum analogous to that resulting from Biers' hyperemic treatment. The sodium citrate keeps discharge fluid. I was told that the solution way too irritating to be used for a longer period than two days, but have exceeded this limit for a day or two without bad effect except on very tender skins.

In regard to skin-grafting, as soon as the ulcer is free from discharge and the granulations are firm and even, we place the Thiersch grafts directly on them, without previous scraping or even freshening. Following a method published from the Mayo's Clinic grafts are cut more easily if razor and skin be kept dry and are transferred immediately to dry surface of ulcer without floating in saline. These surgeons also advise removing grafts under local anaesthesia caused by striking skin sharply with the palm of the hand.

In dressing the grafts, the ends of a single fold of gauze are cut into many tails. After careful application, these ends are tied snugly around leg to prevent slipping of grafts. Then several layers of dry gauze and cotton are applied and the leg bandaged firmly, but not too tightly.

At the first dressing on the third or fourth day, if there be any secretion along edges of grafts, the single layer of gauze is cut where necessary to remove the secretion, but the gauze is not disturbed until grafts are firmly attached.

I have tried many other methods of grafting but have returned to the Thiersch as the most satisfactory.
Customs Surgeons' Reports.

REPORT ON THE HEALTH OF CHANGSHA FOR THE SIX MONTHS ENDED 30TH SEPTEMBER 1911.

By Dr. F. C. Yen.

Health of the Foreign Community.—In spite of the fact that the majority of the foreign residents were away during the greater part of the warm weather, and that the summer here was exceptionally cool, there were many cases of illness among the foreign community for the period under review, as shown by the following record:

<table>
<thead>
<tr>
<th>Condition</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appendicitis (acute)</td>
<td>1</td>
</tr>
<tr>
<td>Boils (tropical)</td>
<td>3</td>
</tr>
<tr>
<td>Coryza</td>
<td>2</td>
</tr>
<tr>
<td>Dermatitis calorica</td>
<td>1</td>
</tr>
<tr>
<td>Diarrhoea</td>
<td>5</td>
</tr>
<tr>
<td>Anaerobic dysentery</td>
<td>1</td>
</tr>
<tr>
<td>Food poison (mushroom)</td>
<td>1</td>
</tr>
<tr>
<td>Gastro-intestinal dyspepsia</td>
<td>3</td>
</tr>
<tr>
<td>Heatstroke</td>
<td>1</td>
</tr>
<tr>
<td>Influenza</td>
<td>2</td>
</tr>
<tr>
<td>Jaundice (acute catarrh)</td>
<td>1</td>
</tr>
<tr>
<td>Malarial fever</td>
<td>1</td>
</tr>
<tr>
<td>Oxyuris vermicularis</td>
<td>2</td>
</tr>
<tr>
<td>Pediculosis pubis</td>
<td>1</td>
</tr>
<tr>
<td>P'leurisy (chronic)</td>
<td>1</td>
</tr>
<tr>
<td>Stomatitis</td>
<td>1</td>
</tr>
<tr>
<td>Tonsillitis (acute follicular)</td>
<td>1</td>
</tr>
<tr>
<td>Urticaria</td>
<td>3</td>
</tr>
</tbody>
</table>

The predominating ailments during the warm weather were those caused by disorders of the digestive system, which manifested themselves in the form of simple diarrhoea, resulting chiefly form improper dieting.

Cause of Summer Diarrhoea.—As in the case of improper dieting, a false assurance of the sterility of food was responsible for a great many of the bowel diseases. We are too apt to believe the servants' words in such matters and rest satisfied with their assurance that the food has been sterilized, though often but imperfectly done. Indeed, most foreigners in China, though only recently arrived, suffer from dysentery, cholera, typhoid, or other forms of diarrhoea. Great care is usually taken that all foodstuffs are properly cooked and that drinking water is boiled and filtered, kitchens kept clean, flies and other disease-carrying insects kept away from foodstuffs, etc. While due care is taken in these matters, other sources of contamination often escape attention. It is important to see to the sterilization of foodstuffs, but it is equally important that they reach the table without contamination. Utensils used for serving are invariably washed with well water, and these are often laden with dangerous bacteria. A particularly pernicious
The practice of most servants is that of using the same towel for wiping every dish they serve. To reduce contamination from this source to a minimum, dishes should be dipped in boiling water just before serving and allowed to dry, without wiping, under a screened cover.

Two cases of infection by an intestinal parasite known as *Oxyurus vermicularis* have been observed. The parasites in both cases were readily recognised in the stools, where they were present in large numbers. That in both cases drinking water was the channel of infection is easily explained. One patient admitted having used unfiltered water freely, and the other lived on the river front, where he contracted the infection.

Of skin diseases, three cases of urticaria and three of tropical boils were observed among the foreigners. These, together with a large number of patients affected with boils seen at the dispensary clinics, led the writer to believe that the water used for washing purposes was largely responsible for the trouble. Well water, which must be very irritating to the skin on account of its excessive hardness, is generally used for bath purposes. Besides, well water is often laden with bacteria, which lodge in the skin pores and cause the formation of boils. This, together with other diseases which gain an entrance into the system through the skin, notably schistosomiasis, has led me to recommend the disinfection of bath water either by boiling or by the use of antiseptics. Boiling softens the water and kills bacteria.

Two cases of diphtheria occurred in the vicinity of Changsha during the period under review, one at Pingsiang and the other at Liiling.

**Health Among the Chinese.**—Tuberculosis and syphilis still headed the list of diseases prevalent among the Chinese. In order to prevent the spread of these maladies, public cooperation is essential. The Chinese must be taught to realise the dangers of such diseases and be familiarized with the various modes of infection and the means of their prevention. With this object in view, the Yale Mission Hospital has for some time issued leaflets on tuberculosis and syphilis (copies of which are appended) to patients suffering from these diseases.

**Malarial Fevers.**—There have been more cases than usual of malaria under my observation. They seemed to be more prevalent in the country districts than in the city. Benign tertian and quartan are the types observed here. Judging by the quantity of quinine sold at the drug stores here, which deal in Western medicines, quinine is widely used by the Chinese. Besides, there are several foreign-trained Chinese
doctors in the city, who prescribe quinine quite freely for malarial and other fevers.

*Undiagnosed Fevers.*—A few cases were observed of undiagnosed fevers of short duration; but as "sandflies" are rarely if ever found in Changsha and its vicinity, I have no reason to suspect that they are "phlebotomus fever."

*Appendicitis.*—This disease seems to be uncommon among the Chinese. Of the 711 surgical cases treated in the Yale Mission Hospital last year, only one was definitely diagnosed as true appendicitis.

*Small-pox Epidemic.*—An epidemic of small-pox of moderate severity visited Changsha early in the spring. In fact, this disease is more or less endemic in the city, with an exacerbation of the epidemic every now and then. How little the average Chinese knew about the disease was well shown in the following case. Early in the epidemic of last spring the writer was called to see a child supposed to be suffering from measles. The patient, however, was found to be suffering from small-pox. On inquiry, I learnt that another child had just died from this disease; a slave girl had recently recovered from the same ailment; another slave girl was in the pre-eruptive stage, while the mother, who was in the crustation stage, was having her scab-entangled hair dressed by her maid who had not yet, to my surprise, contracted the disease. No preventive measures were taken, except that the family moved into another house. They attributed their suffering to the ill luck present in the house.

Small-pox is a strictly preventible disease, and its presence or absence indicates the degree of the hygienic education of the community. The Hunanese are practically ignorant of the need of isolation and disinfection. The only "prevention" adopted is that of inoculation according to the Chinese method, which is done at childhood with virus collected from persons who had been previously successfully inoculated. One inoculation is claimed to insure protection for a lifetime. Vaccination is little practised by the inhabitants of this province.

Infections with intestinal parasites, particularly ascaris lumbricoides, hook-worms, pin-worms, and trichocephalus, were common. More cases of infection with schistosomum japonicum were observed.

No cases of genuine typhus fever, plague, beri-beri, anthrax, or leprosy were seen during the period under review.
免傳染肺癧之法

此症傳染最狠為害甚大，人萬不可沾染傳染之由。因病人所吐之痰乾時經風一吹，就散成粉別

面各處。三吐痰之处或杯子每日要用水洗淨。四病人要用紙做手巾抹鼻，每日用後亦要洗淨。五

房子若在別人來往必要把紙巾手巾扇洗乾淨。六病人不可與別人家住。七病人所住之

房門及窗戶要常開通。八病人吃食之外，吃果子奶最好。九病人吃魚肝油更好。十病人飲食要不離

湘香。十一病人要穿新衣不穿舊衣。十二不可餵鴨片，因食後痰不能吐大有助處。
此症最易傳染，為害甚大，今將防備之法開明於下，

一、

1. 應當到醫院診治，須要吃藥兩年，有任何不適，必須及時治療。
2. 在這兩年之中，不可以用別人的飯菜。
3. 煮飯時，必須用開水煮，不可用別人的飯菜。
4. 飯菜要吃乾淨。
5. 每天要洗乾淨自己的飯菜。
6. 每天要洗乾淨自己的飯菜。
7. 吃飯時，不可以用別人的飯菜。
8. 每天要洗乾淨自己的飯菜。
9. 每天要洗乾淨自己的飯菜。
10. 每天要洗乾淨自己的飯菜。

長沙雅禮醫院
REPORT ON THE HEALTH OF SWATOW FOR THE SIX MONTHS ENDED 30TH SEPTEMBER 1911.

By Dr. C. H. Brangwin.

It is with extreme regret that I have to chronicle the death of Dr. C. H. D. Morland, who prepared the last half-yearly report. Dr. Morland died on the 14th August of acute septicaemia from a wound, probably caused by a sting of an insect on the hand, at the early age of 45. He had been in Swatow since 1900, and his ability had won for him the respect and admiration of all foreigners here and many shipping men along the coast.

From figures kindly supplied by Mr. J. C. A. Holtz, Harbour Master, it is apparent that the rainfall for the months April to August inclusive is considerably below the average.

Some few cases only of plague occurred, and these were of a mild type. So far as can be ascertained, they did not reach a total of seven.

In July and August cholera made its appearance; but, despite the endeavours of the fruitsellers, it never gained that hold on the inhabitants that one would have anticipated who observed the filthy manner in which fruit is cut up and sold in Swatow. The dirty water that is sprinkled over cut fruit to keep it moist and fresh in appearance would, one would have thought, spread the disease wholesale.

Drs. Whyte and Chalmers infused several patients, with excellent results.

One case only occurred amongst Europeans—an officer on board a ship. He was removed to hospital and transfused with hypertonic saline solution. He made an excellent recovery.

A few cases of yaws are seen on coolie steamers; but the Chinese do not seem to take much interest in Western medicine, for they refused free treatment with Salvarsan (606).

Two deaths occurred in the port, besides that of Dr. Morland—one an engineer officer, and the other a lady resident. Both were due to gastro-enteritis.
REPORT ON THE HEALTH OF TENGYUEH FOR THE SIX MONTHS ENDED 30TH SEPTEMBER 1911.

By Dr. RAM LAL SIRCAR.

The general health of this district was not good during the half-year under review. There were numerous deaths in and around the town, due to dysentery, measles, typhoid fever, and malarial fevers, and one death in the hospital from abscess of the liver.

It is gratifying to note that the health of the foreigners was good.

The most prevalent diseases were those of the eye, the skin, the digestive system, dysentery, malarial fever, measles, and typhoid fever.

Numerous diseases are regarded as sequelae to so-called measles, which are said to be responsible for a great mortality among the children. But I did not see any of the cases in their irruptive stages, and was therefore unable to ascertain whether they were ones of real measles or of some other kind of irruptive fever; but, whatever the ailment may have been, the attacks were of a most virulent type.

With regard to the relation of diseases to local and climatic conditions, I must here repeat what I said in my last report—that the profuse use of night-soil in vegetable gardens, and the existence of pools of stagnant, dirty water, due to the inefficiency of artificial drains during the rains, have a close relation to the causes of malarial fever, dysentery, and typhoid fever. There are no public conveniences, and almost every by-lane is resorted to for the calls of nature by passers-by. Though gardeners, pigs, dogs, and fowls modify this insanitary condition a good deal, yet it is a source of great danger and favours the dissemination of diseases. Dysentery and typhoid fever spread quickly among the people and generally prove fatal owing to the want of knowledge of their contagious character, and the total disregard of suitable diet for patients thus suffering. The sick bed is often in a closed, narrow, filthy, and dark room, in which the stools of the patients are kept exposed day and night. The patients are given their customary diet, which must prove most harmful.

Personal uncleanliness and ignorance of the infectious character of many diseases are responsible for the spreading of itch, eczema, ringworm, certain kinds of eye diseases, measles, syphilis, etc., among the people.

Three cases of leprosy were treated during the period. One was an old case of a young woman whom I have known for the last nine years. Her fingers and toes had become ulcerated and some had
Amputation of Leg by Nature.
Incised Wound of Throat.
dropped off. The second case was that of a young man of twenty, a tailor, from Szechwan. His left-hand fingers were seriously affected; they are stiff and crooked, and ulcers had broken out in certain spots. He has a family history, and his eldest sister is said to have died from this disease. The third case was that of a man from Talifu, whose extremities are affected with numbness, wears a stupid look, lobes of ear and face slightly red and swollen, but had no ulceration.

No case of anthrax in human subjects was seen during the period, though the writer's horse died of it within a few hours of the attack.

There was an epidemic of measles and dysentery during the period, which, as stated above, caused a great mortality.

**General and Surgical Cases.**—*Liver Abscess.*—A young woman was brought to hospital, with painful swelling of the right side of the abdomen. On examination, it was found that she was suffering from liver abscess, and four pints of foetid pus were drawn out. Three days after she complained of pain in her right iliac region, which appeared swollen, and a fine trocar and canula were introduced, and about eight ounces of serous fluid were taken out. The patient died ten days after the operation, due to heart failure.

**Amputation of Leg by Nature.**—An old man of 60 was admitted, with ulcer of the stump of right leg just $\frac{3}{4}$ inches below the knee joint. The patient stated that he was bitten by a snake 30 years ago, and he instantly tied his leg just below the knee. The leg became swollen and was very painful, it subsequently became inflamed and sloughed, the flesh and the bone gradually dropping down, leaving the stump as it is now. The ulcer healed; but it again broke out four or five months ago. A photograph of the patient is appended.

"Ya-chang."—A case of proper ya-chang was seen in its last stage. The patient came from Manwyne, a place four days' journey from here on the Burma frontier. He had daily attacks of fever. Previous to this he was suffering from dysentery. A day before the one I was called to see him he suddenly became unconscious. His breathing was hard; there was slight congestion of both lungs; body hot; the skin moist; pupil slightly dilated, and partial lockjaw. He could swallow a little water when given in the mouth. Pulse quick and small, and sometimes intermittent; temperature, 103.4. His bowels had been constipated for eight days. The patient's friends informed me that they tried all the Chinese medicines, including mixtures prepared from cow dung and human faecal matter; they showed me two pots containing the mixture, which they had given
alternately to the patient till my arrival. His bowels were opened by an enema, and necessary treatment was given, but he died at night.

_Ague._—There was a case of ague treated in this hospital. The patient was a road coolie on the Burma frontier. At first he suffered from daily attacks of ague, which afterwards became remittent. One night his temperature suddenly rose high and he became semi-unconscious and lost speech; but steps were taken to reduce the temperature and he was watched carefully. He recovered his senses next morning, and speech returned. He was sent away cured.

_Incised Wound of Throat._—A Chinese soldier, in attempting to commit suicide with a sharp knife, thrust the point of the knife vertically to the throat, causing a penetrating wound of the trachea. Finding his attempt unsuccessful, he made another effort by giving a desperate sweep over the throat, which separated the crecoid cartilage from the trachea, with half of the oesophagus. The wound attended from the margin of one sterno-mastoid muscle to that the other, cutting all the structures in front of the throat. His friends, thinking his death imminent, put him outside the main gate, resting his head on the threshold. They were ready to buy a coffin for him. The Chinese doctors dared not touch him. I was called to see him about 20 hours after the occurrence. I immediately advised his friends to carry him to my hospital. I made stitches, both internally and externally, to unite the margins of the separated structures, and one trachiotomy tube was introduced into the trachea, and dressed antiseptically. It was impossible to feed him by the mouth, and an oesophageal tube having proved unsuccessful, he was fed by the rectum with milk and raw eggs for five days. After this he refused to take anything in this way, and he was given congee by the mouth, and could swallow a little at a time; but frequent coughing disturbed him and some of the food escaped through the tube. The patient is disobedient, and moves about frequently disturbing the wound. He is still under treatment and the result is uncertain.

_Midwifery Cases._—Five midwifery cases were attended, all of whom were delivered by forceps. Except two dead babies, the other children and their mothers are doing well.

_Dentistry._—Under orders from the Burma Government, the writer received training in dentistry at Rangoon and was provided with the necessary instruments and medicines, as required in special dental surgery. A room in the dispensary premises has been utilised for
dentistry, and the furniture and fittings needed have been purchased at
the writer's own cost. This is a valuable addition to this institution,
and is increasing in popularity among the inhabitants.

Miscellaneous.—Blood samples of some of the so-called malarial
fevers have been sent to Peking for microscopical examination.

I append a table showing the nature and number (48) of surgical
operations performed during the period:—

<table>
<thead>
<tr>
<th>Operation</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evacuation of abscess</td>
<td>8</td>
</tr>
<tr>
<td>Extraction of teeth</td>
<td>15</td>
</tr>
<tr>
<td>Operation on the liver: evacuation of the abscess of liver by incision and subsequent drainage</td>
<td>1</td>
</tr>
<tr>
<td>Operation on the eyelid, for entropion</td>
<td>5</td>
</tr>
<tr>
<td>Operation on the stomach: washing of the stomach for opium poisoning</td>
<td>1</td>
</tr>
<tr>
<td>Midwifery cases: delivery by forceps</td>
<td>5</td>
</tr>
<tr>
<td>Amputation of finger</td>
<td>2</td>
</tr>
<tr>
<td>Operation on tumours: removal by excision</td>
<td>2</td>
</tr>
<tr>
<td>Operations on the abdomen: tapping of ascitis</td>
<td>2</td>
</tr>
<tr>
<td>Operation on the joint: reduction of dislocation of hip-joint</td>
<td>2</td>
</tr>
<tr>
<td>Operation on the joint: elbow-joint</td>
<td>1</td>
</tr>
<tr>
<td>Operations on the bladder and urethra: passing of catheter</td>
<td>4</td>
</tr>
<tr>
<td>Operation on the male generative organ: incision for phimosis</td>
<td>2</td>
</tr>
</tbody>
</table>

REPORT ON THE HEALTH OF HANGCHOW FOR THE
YEAR ENDED 31ST DECEMBER 1911.

By Dr. D. DUNCAN MAIN.

The general health of the foreign community at this port has been
fairly satisfactory, if we leave out malarial fever, which is very common
here on account of the facilities anopheles have for breeding—the large
tracts of marshy lands and paddy fields. During the autumn and early
winter nearly all foreigners who do not regularly take quinine suffer
from malarial fever, chiefly the intermittent type, but a few the
remittent type, with severe headache, gastric symptoms, nausea, dry
tongue, and great prostration.

Catarrhal affections were numerous in spring, due to sudden changes
in the temperature, and in one of the colleges there was a severe
epidemic of glossitis—most uncommon—the cause of which I was unable
to trace. In the autumn there was a great deal of amoebic dysentery
and many fatal cases. The Chinese have not yet grasped the fact that
ipecacuanha in large doses is a specific in this disease. Having tried
all the newer remedies, with but moderate success, we are convinced
that when ipecacuanha is given early enough in sufficiently large doses, with proper precautions against excessive vomiting, and with suitable diet, it never fails to improve the character of the stools and invariably cuts short the attack.

Cholera usually is met with in sporadic cases; but this autumn we were not called upon to treat it. A few years ago we were visited by a very severe epidemic, when thousands died.

The decrease in the number of opium smokers coming to us to break the habit is very marked. This, to some extent, is no doubt due to the fact that opium smoking is decreasing and also because many now buy so-called anti-opium pills made of morphine, which are sold everywhere, and which are supposed to cure without pain, whereas it is only the exchange of one habit for another, and the latter is worse than the former. Those who now come to be cured usually have good reason for giving up the vice, because it is now difficult for a man who is an opium smoker to get a position of trust and responsibility. Employers feel the necessity of having men who are not addicted to this ruinous habit.

The revolution brought us a good deal of interesting surgery. I mention two cases only. One was shot right through the stomach, the other through the brain; both made a most remarkable recovery. The people are more willing, and in many cases even anxious—often more anxious than we are—to put themselves in our hands, to be dealt with as we think best, and we had more operations this year than ever before. In the early days of our work we had to beg them to submit sometimes to even the slightest operation; but now it is different, and time and again, in opposition to our pressing advice, they have begged for an operation and are willing to run almost any risk at our hands in the hope of a cure.

The sanitary condition requires a word. Improvements have been made, and certainly the streets are much clearer than they used to be; but there is still very much room for improvement. The chief drains are in the centre of the main streets, which can only be washed with heavy downfalls of rain; they in no way prevent the drainage from soaking into the subsoil. The bucket-carriage system of sewage is not only disgusting but dangerous, and no doubt the emanations from foul drains and refuse heaps are responsible for much of the sickness that prevails. Let us hope that this unsanitary state of affairs will be taken in hand by the Republican Government, and before long we shall have the joy of seeing our famous "Heaven Below" swept and garnished.
TRIENNIAL CONFERENCE OF C. M. M. A.

PROVISIONAL PROGRAMME.

Arrive Saturday, January 14th. Social Reception.

Daily:—9.15-9.30 Devotions; 9.30-12.30 Session; 8-10 p.m. Session.

Monday, January 14th. Morning: Business and Reports.

   Evening: Business. Eye Diseases, one paper.

Tuesday, January 15th. Morning: Business. Medicine, two papers.

   Evening: Medical Education.
   PAPERS by Dr. McCracken and Dr. Cochran. Dr. Todd: Plague.


   Evening: Gynecology and Obstetrics.
   PAPERS by Dr. Mary Niles* and Dr. Mary Fulton.*

Thursday, January 16th. Morning: Parasitology.

   PAPERS by Dr. Houghton* and Dr. J. L. Maxwell.* "Some diseases the parasitic cause of which is obscure."

   Evening: Pathology.
   PAPERS by Dr. Eggers* and Dr. Cole.

Friday, January 17th. Morning: Open Session for exhibits, demonstrations, and short papers on miscellaneous subjects, etc.

   Evening: Public Health.
   PAPERS by Dr. W. A. Young and Dr. A. Stanley. "Sanitary Organization in China."

Those marked* have been definitely undertaken. Members are urged to prepare short reports for the Friday morning session. It is hoped that any who have lately been home will report on new methods and appliances, etc., which they have seen.
In Memoriam:—Philip Rees, M.D.

English Wesleyan Mission. Wuchau, South China.

The committee appointed to prepare resolutions on the death of Dr. Philip Rees made the following report which was approved and directed to be forwarded:

"Whereas it has pleased God to take from our midst one of our members, Dr. Philip Rees, of the English Wesleyan Mission of Wuchau, and

"Whereas we realize that we have lost a valued fellow-worker, one who was skilled in his profession, beloved by his associates and by those whom he came to serve, pre-eminently a Christian gentleman,

"Be it resolved that we as an association express to the bereaved wife and family and to the Wesleyan Mission our profound sympathy in the great loss they have sustained, and

"Be it further resolved that these resolutions be spread on our minutes and that a copy be sent to Mrs. Rees, to the Wesleyan Mission, and to the Editor of the China Medical Journal for publication."

Signed on behalf of the South China Branch of the China Medical Missionary Association.

J. ALLEN HOFMANN.
WM. W. CADBURY.
CHAS. A. HAYES.
The China Medical Journal.

VOL. XXVI. NOVEMBER, 1912. No. 6.

The yearly subscription to the China Medical Missionary Association is $4.00 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.

THE PEKING MEETING.

The present number, which is regrettably late in appearing owing to pressure of work at the Press, over which we have no control, contains the provisional program of the triennial meeting of the C. M. M. A. which will be held in Peking from January 13th to 18th, 1913.

The North China Branch have things well in hand, and the meeting ought to be a success if the members will come in force.

Of the two greatest drawbacks, distance and expense, the latter has been made less by the promise of a special rate of one fare and a quarter for the round trip on the Pukow-Tientsin line, and the secretary informs us that there is a possibility of even better terms, which he hopes to be able to announce in the next two weeks. It is possible that the announcement may be received in time for insertion in this issue.

THE TULANE UNIVERSITY SCHOOL OF TROPICAL MEDICINE.

A brief but interesting statement of the first expedition sent out by the School to the tropics for the study of Malaria calls our attention again to the awakening interest at home in this branch of medicine, and the effort of every first-class school to offer to its students courses in this important department. This particular School at Tulane University, New Orleans, starts under exception-
ally great advantages, both on account of its geographical situation and the skill and enthusiasm of its Director and his staff. It is a great pleasure to be able to print the report as we have received it and to wish the new School every success.

THE FIRST EXPEDITION FROM THE TULANE UNIVERSITY SCHOOL OF TROPICAL MEDICINE TO THE TROPICS FOR THE STUDY OF MALARIA.

This expedition was made possible through the kindness of an unknown friend of the School who, through Dr. Isadore Dyer, Dean of the Medical Department of Tulane University, contributed a fund to finance the project.

The United Fruit Company, who has already contributed $25,000 towards the expenses of the School of Tropical Medicine, placed their steamships and other equipment at the service of the School for the transportation gratis of the expedition and apparatus. Colonel W. C. Gorgas, Chief Sanitary Officer of the Panama Canal Zone, with various members of his staff, placed all the material in his hospitals at the disposal of the expedition and extended every possible courtesy.

The personnel of the expedition consisted of two members of the School, Dr. Charles Cassedy Bass, Assistant Professor of Tropical Medicine and Hygiene, and Dr. Foster Mathew Johns, Assistant in the Laboratories of Tropical Medicine and Hygiene.

The object of the investigation was the cultivation of the malarial parasites *in vitro* which had already been accomplished by Professor Bass, but many details of which remained to be elucidated and confirmed.

In this the party obtained complete success. It was found that the malarial plasmodia can be grown in human serum, in Locke's fluid (from which calcium chloride is omitted), and in human ascitic fluid. In the majority of cases dextrose must be added to the medium to secure satisfactory growth. The most favorable temperature for the cultivation of plasmodia is about 40 C.

Positive cultures were obtained from 29 cases of aestivo-autumnal malaria, 6 cases of tertian and one case of quartan. Cultures were carried on for four generations from the parent culture before the expedition left Central America, and can probably be maintained indefinitely.

The full report of the expedition may be found in the October number of the Journal of Experimental Medicine.

In addition to these researches the School has also carried out experimental work on pellagra, leprosy, beri-beri, blackwater fever, filariasis and other tropical diseases, which work will be found in the forthcoming first report of the School.
The School is under the direction of Dr. Creighton Wellman formerly of West Africa and the London School of Tropical Medicine, is an integral part of the Medical Department of the Tulane University of Louisiana, and begins its second year of existence with bright prospects.

WELCOME THE COMING SPEED THE PARTING GUEST.

With this number of the Journal, the Editor retires from an undeserved position into which he was thrust by an inauspicious Fate, and seeks that "innocuous desuetude" which is the haven of rest for all those who have been tried and found wanting.

That the Journal has not attained to the point of excellence that it would have, had the Editor's energetic and devoted predecessor been able to conduct it through the last three years, should be surprising to no one who has followed the fortunes of the Journal through the last decade.

The interest in the Journal has increased, as the greater number of contributors attest; and the Editor is deeply grateful to those who have stood by the Journal and done so much to make it both useful and a credit to the Association.

There is much that may still be done for its improvement, and can be done by a more energetic man with the assistance of more faithful editors of sub-departments.

He firmly believes that the Editor should be a man able to devote most, if not all, of his time to the Journal; though for the present that may be too much of an ideal to attain. He also wishes to express his gratitude to the majority of the members who, though they may not have given active assistance, have borne with patience, if not with resignation, the short-comings of their official spokesman in the hope of that better day which is now about to dawn.

A note to be added to Dr. Plummer's article on Ionic Medication, received too late for insertion with his paper, states that Leclanché Cells, Carbon Electrodes, Voltmeter, terminals, insulated wire, etc., can be obtained at the prices mentioned in the paper from The Economic Electrical Co., Twickenham, London, S. W.
A CORRECTION.

By the oversight of a compositor and the further oversight of the proofreaders, a serious omission was made in Dr. Hayes' article, "The Prophylaxis and Treatment of Dysentery," which appeared in the July Journal.

On Page 232, line 11, the words "of bismuth with \( \frac{1}{4} \) to \( \frac{1}{2} \) grains" were omitted between the words "grains" and "of opium," so that the line should have read thus: "perhaps the use of from 12 to 20 grains of bismuth with \( \frac{1}{4} \) to \( \frac{1}{2} \) grains of opium will be helpful," etc.

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In Memoriam:—Dr. James G. Gibb.

Died October 2nd, 1912.

From Peking Daily News, October 4th.

James Glenny Gibb, Doctor of Medicine and Master of Surgery (Durham) and Fellow of the Royal College of Surgeons, England, is no more! Cruel death has robbed him from our midst long before his proper time was up. Apparently he had succumbed to toxæmia (bloodpoison) brought on by a severe attack of dysentery. The whole of Peking and a large part of Northern China now mourn his loss, for Dr. Gibb was one of the ablest and most experienced medical men who had settled down in China. Educated partly in London and partly at Newcastle-on-Tyne, he showed a brilliant record during his student days and qualified with high honours at both places. He took his M.B., B.S., in 1905; M.D., M.S., in 1908; and passed the final F. R. C. S. (England) in the same year. He was both Ophthalmic House Surgeon and House Surgeon at St. Bartholomew's Hospital, and House Physician at Westminster Hospital, London. He specialized also in Bacteriology and did valuable work under Professor Klein, Bacteriologist to the Local Government Board. Few medical men had come out to the East as well equipped as Dr. Gibb had, and he found on his arrival in Peking in 1908 a rich field for his skill and knowledge. When medical colleagues encountered difficulties in the course of their work in surgery, eye-diseases, diagnosis or treatment, it was to him that they turned for a final decision. How often had I availed myself of his opinion and assistance, always rendered willingly and enthu-
In Memoriam :—Dr. James G. Gibb.

siastically! When I required a colleague in January 1911 during those plague times, it was to him that I turned. And he came readily to share the cold, the hardships, and dangers of Harbin, leaving his wife and little child behind. How heroically he worked—regardless of self and ever sympathetic towards the plague-stricken and dying! We visited the hospitals together, we drove to the burning pits together, we consulted with the Russians together, and every day in the evenings we gathered and compared notes together. When the plague had abated, Dr. Gibb returned and was thanked by the Chinese Government on whose behalf he had toiled. He, however, declined the honour of a decoration which it was proposed to confer upon him, preferring to be judged by his deeds than by any reward. He was as modest as he was unselfish.

During the Revolution he again did yeoman service to the Northern Government by proceeding to the front and organizing the work of the Red Cross Society. The excellent way in which he handled this organization, so new to China, showed his capabilities as an administrator.

After a year of very trying work, he decided to spend August at Peitaiho with his family. Unfortunately, the humidity of the atmosphere at that sea-side resort did not agree with him, and he returned to Peking poorer in health than when he went there. At one time it was feared that he had appendicitis, but it passed off and an unforeseen attack of dysentery crept in with fatal results.

Dr. Gibb's untimely death will be mourned by a wide circle of admirers and grateful patients, both among Chinese and foreign residents, to whom he was ever the kindest and most painstaking of doctors. The greatest sympathy will be extended to his widow and two children, who with their father were to have returned to England by next Tuesday's train de luxe. In him many have lost the best of friends and the ablest of colleagues

Wu Lien-teh.
Publication to be issued by The Tropical Diseases Bureau:—

In November the Tropical Diseases Bureau, which replaced the Sleeping Sickness Bureau on July 1st, will commence the publication of the Tropical Diseases Bulletin. The tropical and sub-tropical diseases of man will be grouped in sections, which will be in charge of the following sectional Editors: Fleet-Surgeon P. W. Bassett-Smith, C.B.; Lt. Col. C. Birt, B. A., M. C.; Dr. W. Carnegie Brown; Prof. George Dean; Dr. H. B. Fantham; Dr. Edward Hindle; Dr. R. T. Leiper; Dr. David Thomson; Dr. C. M. Wenyon. Groups will be taken also by the Director and Assistant Director. The Bulletin will be under the general editorship of the Director.

Each number will consist of about fifty pages containing classified summaries of the current literature of the tropical diseases; they will appear, as a rule, twice a month; single numbers 1/6. Orders and subscriptions should not be sent to Bureau, but to the publishers, Messrs. Baillière, Tindall & Cox, 8, Henrietta Street, Covent Garden, W. C.

The tropical disease of animals will be treated in a separate publication, the Tropical Veterinary Bulletin. This will appear quarterly, from October, and will be in charge of Mr. A. Leslie Sheather, B. Sc., M. R. C. V. S., of the Royal Veterinary College, London. For this the annual subscription price will be 10/-; single copies 3/-. Orders and subscriptions to be sent to Messrs. Baillière, Tindall & Cox, as above.

Blakiston’s Son and Co., kindly report the following books recently published:—

Pratt. Materials and Construction. A Text-book of Elementary Structural Design. By James A. Pratt, Mech. E, Director of the Williamson Free School of Mechanical Trades; Member of the American Society of Mechanical Engineers. With 85 Illustrations and numerous tables. 12mo. xi + 196 Pages. Cloth $0.90 Postpaid.


This edition has been reset from new type, and new wax engravings have been made to illustrate the work. It contains 70 more illustrations than the second edition.
Book Notices.


Hawk. Practical Physiological Chemistry. A Laboratory Handbook, designed for use in Courses in Practical Physiological Chemistry in Schools of Medicine and Science. By P. B. Hawk, M.S., Ph.D., Professor of Medical Chemistry and Toxicology, Jefferson Medical College. Formerly Professor of Physiological Chemistry, University of Illinois. Fourth Edition. Revised. With 6 Full-page Plates in Colors and 137 Text Figures, of which 12 are in Colors. 8vo. xx+475 pages. Cloth, $2.50.

Bundy. A Text-book of Anatomy and Physiology for Nurses. By Elizabeth R. Bundy, M.D., Member of the Medical Staff of the Woman's Hospital of Philadelphia, etc., etc.; late Adjunct Professor of Anatomy, and Demonstrator of Anatomy in the Woman's Medical College of Pennsylvania; formerly Superintendent of Connecticut Training School for Nurses, New Haven. Second Edition. With a Glossary and 215 Illustrations, of which 42 are in Colors. 12mo; xii+335 pages. Cloth, $1.75.

Molinari. General and Industrial Inorganic Chemistry. By Ettore Molinari, Professor of Industrial Chemistry to the Society for the Encouragement of Arts and Manufactures and of Merceology at the Commercial University Luigi Bocconi at Milan. Translated by Dr. E. Feilmann, B. Sc., Ph. D., London. With 1 Lithograph, 2 Phototype Plates and 280 Text Illustrations. From the Third Italian Edition, carefully revised and brought up-to-date. Octavo xvi+704 pages. Cloth $6.00. The Organic volume by same author is rapidly nearing completion.

Stoddart. Mind and Its Disorders. By W. H. B. Stoddart, M.D., F.R.C.P., Assistant Physician to Bethlehem Royal Hospital. Second Edition Revised and Enlarged. Octavo xvi+518 pages. With 74 Illustrations, of which 6 are printed in Color. Cloth $4.00. This edition has been enlarged by thirty pages.
Bran& Reports.

SOUTH BRANCH OF THE CHINA
MEDICAL MISSIONARY AS-
SOCIATION.

The meeting, held at Cheung
Chau, near Hongkong, August
28th to 29th, 1912, was opened with
devotional exercises and these were
followed by the usual routine of
business. The work of the Branch
for the past year may best be
summed up by giving the report of
the Program Committee combined
with the President's report. This
was presented by Dr. P. J. Todd.

There were four regular meetings
of the Branch held during the year with
an average attendance of eleven and a
half. The first meeting was held at
Cheung Chau. After the conclusion of
the regular business two papers were
read: one by Dr. J. Kirk on "Some
Thoughts on the Present Situation of
Medical Missions in Canton, a Retro-
spect and a Prospect;" the other paper
was read by Dr. J. M. Wright on
"Malaria."

The second meeting, held at Dr. Mary
Fulton's, was devoted to the completion
of the Union Medical School scheme.
At this meeting the Branch decided to
be responsible for the publication of a
Chinese Medical Journal. At this time
it was also decided to invite the members
of the Far Eastern Society of Tropical
Medicine to Canton. The invitation
was accepted and about thirty members
were entertained January 29th, 1912.

The third meeting was held at the Uni-
versity Medical School, February 28th,
1912. This meeting saw the Chinese
Medical Journal well started by the
completion of its editorial and business
staff, after which two papers were read
and discussed. The first: Etiology,
Symptomatology and Differential Diag-
nosis of Dysentery, prepared by Dr. T.
M. Li. The second paper: Prophylaxis
and Treatment of Dysentery, was read
by Dr. C. A. Hayes. These papers were
much appreciated by all as was shown
by the free discussion on them.

The fourth meeting was held at the
home of Dr. J. Oscar Thomson, May
14th, 1912. This meeting was devoted
to skin diseases. Two interesting cases
were brought in by Dr. P. J. Todd for
study and discussion. A paper was read
by Dr. E. C. Machle on the Chinese
Terminology of Skin Diseases with
special reference to "Fung" and "Sin."
At this meeting, Dr. E. C. Davenport
was elected as an Associate member of
the Branch.

Medical educational work has been
almost at a standstill for the past year.
There were two reasons for this; first,
the Revolution, and second, the Board of
Directors of the University Medical
School did not know definitely that
other Boards had come into the union.
However, the atmosphere has been clear-
ning up within the last few months. We
have received from the University Medi-
cal School Board a basis of Union which
they have agreed upon and while it may
need a little readjustment I believe it
can with a few changes be made per-
fectly satisfactory.

The Medical Journal (published in
Chinese) which was proposed at our last
autumn meeting has become a realized
fact. The May and July numbers you
have all seen. It is to be hoped that the
General Association will take over the
Journal at the conference in Peking this
coming winter and that the members from
all over China will take hold and help
make it a great power for good to the
medical profession of China for many
years to come.

While we as an association have not
been making use of tracts as we should,
still, I think the tracts or little booklets
prepared by Dr. Mary Niles, which
have been distributed, will do good.
Our committee would do well to get
out others on different subjects for
distribution, and now since I have made
one suggestion may I be allowed to
make others before turning over the
chair to the new president:

1st.—That we complete the scheme for a Union
Medical School and get it started early next
year.

2nd.—That we have more clinical material and
clinical discussions at our autumn, winter, and
spring meetings, than we have had in the past.

3rd.—That we invite the general association
to meet in Canton at its next conference after
the one to be held in Peking this coming winter.

4th.—That we have a special course during the
New Year season, and last but not least that we
each one feel personally responsible for some
good material for the Chinese Medical Journal.

(Signed) P. J. TODD.
The substance of the Report of the Tract Committee for the past year is incorporated in the President's report. The report of the Research Committee is appended herewith.

Following the reading of the various reports of committees the election of officers took place with the following results:

President:—Dr. J. A. Hofmann.
Vice-President:—Dr. F. C. Machl.e.
Secretary-Treasurer:—Dr. Wm. W. Cadbury; address, University Medical School, Canton, China.
Chairman of Program Committee:—Dr. J. O. Thomson.

Wm. W. Cadbury, Secretary.

Report of Research Committee.

August 13th, 1912.

To the South China Branch of the C. M. M. A.

Gentlemen:—In presenting the report of the Research Committee for the year 1911-1912 I regret to state that I have received a report from but one of the mission hospitals in all South China. Does this imply that but one of these missionary institutions is carrying on its work in a scientific manner? I think not. I sincerely hope, therefore, that all here present may bestir themselves and during the coming twelve months may produce some piece of research work which will be a stimulus to us all and an aid to the advancement of medical science.

No line of research is more fruitful of interesting results, than the study of intestinal parasites. The comprehensive plans of the Rockefeller Sanitary Commission may well stimulate us to emulation. To quote from an editorial in the Journal of the American Medical Association (June 22nd, 1912, Page 1946):

When the Rockefeller Commission began its work in 1909 the country people of the south did not know hookworm infection as a disease, and, although many of them were experiencing its effects, it was extremely difficult to get them interested in their own proper welfare. In the short space of two years, the effect of missionary work has been such that the people entirely of their own accord, now flock to the public dispensaries and clinics in great numbers. During the present year nearly a half million people have been reached by means of public lectures, newspaper articles, bulletins, and personal visits to teachers.

Through the agency of the department of state, the commission sent to American representatives in all foreign countries letters asking for information. The results show that hookworm disease belts the earth in a zone about sixty-six degrees wide, extending from parallel 36 north to parallel 30 south latitude. Practically all the countries between these parallels are infected. Of the fifty-four countries found to be infected the disease is confined to mines in six—Wales, Germany, the Netherlands, Belgium, France, and Spain. In at least forty-six countries aggregating a population of about 920,000,000, the disease is general and widespread. The total population of the infected states in this country is about 20,000,000. Together these constitute 58 per cent. of the earth's estimated population of 1,600,000,000.

The degree of infection is heaviest in AmericanSimon, where it is found in 70 per cent. of the population; in the southern two-thirds of China, in 75 per cent. of the population; in India from 60 to 80 per cent. of the 300,000,000 population have the disease; in Ceylon 90 per cent. in many parts; in Natal 50 per cent. of the coolies on sugar and tea estates; in Egypt 50 per cent. of the laboring class; in British Guiana 50 per cent. of all; Dutch Guiana 90 per cent. in many parts; in Colombia 90 per cent. of those living between sea level and 3,000 feet, which includes most of the population; in 1904, 90 per cent. of the working population of Porto Rico were infected.

The economic loss from the disease is enormous. A physically sound coffee picker in Porto Rico picks 500 or 600 measures a day; the anemic picker averages from 100 to 250 measures. The disease has lowered the average labor efficiency of the island to 35 or 50 per cent. of the normal. Dr. Herbert Gunn, special inspector for the California Board of Health, states that a twenty per cent. loss of
efficiency in the mines is a conservative estimate of the actual results of the disease in that state. Estimating the infection to be present in 50 per cent of the miners, he believes that a mine employing 300 men would sustain a loss of $20,000.00 annually. Taking this as a basis, the question is very pertinent as to what is the annual money loss in India with a 70 per cent infection.

It is sometimes maintained that an acute disease may strengthen a race by removing the weak, but hookworm disease is characterized by its chronicity. It works subtly through long periods of time and its cumulative effects—physical, intellectual, economic, and moral—are handed down as an increasing handicap from generation to generation. What the disease has done for India, Egypt, and China, it is now beginning to do for the United States. It is a menace and an obstacle to all that makes for civilization. It destroys economic efficiency and social development on the one hand, as it undermines physical and mental health on the other.

An important factor in the spread of hookworm disease in the United States is immigration. Every country which imports coolie laborers from India is bringing in a constant stream of heavy infection. Of 600 coolies going into Assam, only one was free from infection.

The attention of the government at Durban was called in 1908 to the heavy infection among coolies on the sugar estates of Natal. The next shipload from India was examined and 93 per cent were found infected. Last year at San Francisco a shipload of Indian coolies had 90 per cent infected. Quarantine was established at once against further immigration of this type. Every group of Indian coolies in California is a center from which the infection is spreading in that state.

The results of the survey show plainly that hookworm disease is not a local infection or of merely local concern. It is of international significance, and the measures directed toward its complete eradication must be international in scope.

Report from Dr. E. W. Kirk on the Medical Work at Ko-long. For the Year 1911-1912.

With regard to general conditions, leprosy, tuberculosis, vesical calculi, ovarian and parotid tumors are all common. Beri-beri occurs in both dry and dropical forms. Diabetes mellitus has been met with twice in out-patient departmant. Tetanus neonatorum is as rampant as in other parts of China.

Appendicitis. We do not find this rare among Chinese of our district here. In last year four cases of localized appendix abscess occurred and one appendix abscess which did not need operation.

Actinomycosis. One case occurred. A boy about eighteen, a field worker, came with swelling of right cheek. From a sinus, yellowish pus escaped with typical pin-head flakes shewing the streptothrix. Case did well under treatment with Volkman's spoon and Tincture of Iodine (strong). Potassium iodide internally was discontinued as it raised the temperature.

In Midwifery most of the usual complications have been met with. We have not heard of any case of eclampsia.

Facial Examinations. Ascaris Lumbricoides, Tricercophalus, Tricercus and Ankylostoma Duodeni are as common as ever. In treatment of the last named excellent results are obtained with Beta Naphthol, administered after a calomel and salt purge and twenty-four hours starvation. This is given in a double administration at intervals of an hour, fifteen grains of Beta Naphthol each time. Two hours later two ounces of Mist. Senna Co. with a drachm of Pulv. Rhei Coup, are administered. As a rule all ova are expelled after three treatments. It seems worthy of mention that the anemia and sometimes amenorrhea of ankylostomiasis, very rapidly cleared up after expulsion of parasites and with the administration of iron and arsenic.

Opisthorcis Sinensis. This parasite has been noticed three times. Each case showed marked anemia and complained of little except extreme tiredness. One case had lately developed tuberculosis of apices of the lungs, evidently the result of lowered vitality. Purgation and Beta-Naphthol did not dislodge any adult parasites and patients were after a time discharged with the ova as abundant as ever. In spite of this, anemia improved under hygienic treatment and iron and arsenic tonic.

Fascilopsis Buski. This was noted in one case, being a double infection with opisthorcis. No adult was recovered.

In behalf of the research committee this report is respectfully submitted.

WM. W. CADBURY, Chairman.
Further Experience of the Specific Curative Action in Amoebic Disease of Hypodermic Injections of Soluble Salts of Emetine.

BY LEONARD ROGERS, M.D., F.R.C.P., I.M.S., PROFESSOR OF PATHOLOGY, CALCUTTA.

In the British Medical Journal of June 22nd last I recorded cases illustrative of acute and chronic amoebic dysentery and acute hepatitis respectively in patients who were unable to take ipecacuanha by the mouth, but were rapidly cured by subcutaneous injections of soluble salts of emetine, without the production of vomiting or marked nausea, which are such serious drawbacks to the use of full doses of ipecacuanha by the mouth. During the two months which have elapsed since that note was written I have had frequent opportunities of using the new treatment in suitable cases, thanks mainly to the kindness of my I.M. S. colleagues in the different Calcutta hospitals, to whom I tender my best thanks. The results have been more than confirmatory of my first very favourable impressions, and leave no possible doubt as to the great practical importance of the discovery. Some of them are, indeed, so surprising that they must be seen to be fully appreciated, as words can convey but a feeble impression of the rapidity and completeness of the recoveries effected in very grave cases. In dealing with the more extensive material now available it will be well to classify the cases into different clinical groups.

I.—Extremely Acute Amoebic Dysentery with Marked Thickening and Tenderness of the Bowel, and High Leucocytosis.

The most serious form of amoebic dysentery is a primary attack, or an acute exacerbation of a chronic one, in which parts of the large bowel can be felt through the abdominal wall as very tender, greatly thickened, rounded or sausage-shaped masses, showing that the whole thickness of the gut is involved, including the peritoneal coat, and nearly always accompanied by an extreme leucocytosis of from 30,000 to 50,000 per cubic millimetre. The prognosis in these cases is exceedingly grave, as gangrene, perforative peritonitis, or post colic abscess are frequent fatal complications. I find I have earlier notes of 13 such cases with leucocyte counts of from 25,000 to 49,250, 7 of which proved fatal within a few days, 4 were taken away in a dying condition by their relatives, and only 2, or 15 per cent., recovered, in spite of ipecacuanha having been given in quantities of 30 to 60 grains or more a day. The fact is that sufficient ipecacuanha cannot be administered quickly enough by the mouth to save more than a very small percentage of such cases. The following are examples of this class treated by emetine salts hypodermically.

CASE 1.

Native male, aged 30, admitted to my ward for cholera with a history of having passed fifteen stools in the last twelve hours, the last containing blood. Specific gravity of blood 1059, blood pressure 112. On examining the stools no cholera organisms were found either microscopically or on culture, but very numerous small amoebae were present. The abdomen was distended and the caecum could be felt as a greatly thickened mass, extending into the hypogastrum and very tender to the touch, while the sigmoid showed less marked, but similar, changes. He gave a history of three previous attacks of dysentery, the last being one month ago. Hypodermic injections of emetine hydrobromide were at once begun, and the progress of the
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III.—Chronic Amoebic Dysentery Rapidly Cured by Emetine.

The patient with dysentery of three and a half years' duration, recorded in my first paper as rapidly cured by emetine, has continued free from all dysenteric symptoms. One further case belonging to this class may here be mentioned.

CASE VI.—Chronic Amoebic Dysentery of Six Months' Duration Rapidly Cured by Emetine.

A Eurasian, aged 25, was admitted to my ward with a history of having passed four or five stools, containing blood and mucus, daily for six months. He had slight tenderness over the caecum, but no thickening could be felt. Leucocytes 12,000 per c. mm. Stools of pure blood and mucus were being passed, containing very numerous active amoebae, as many as six or eight being seen in some fields of the microscope. Half a grain of emetine was injected once a day for three days, after which ipecacuanha 20 grains was given every evening. Twenty-four hours after the first dose of emetine the stools were free from blood or mucus and no amoebae could be found. No further signs of dysentery ensued during the seven days he was in hospital, and I saw him three weeks later, when he was still keeping quite well.

IV.—Acute Hepatitis Threatening Liver Abscess Formation Cured by Emetine.

The remarkable effects of ipecacuanha in preventing liver abscess by curing both acute and chronic hepatitis, which was demonstrated by me in 1907, has been repeatedly confirmed by other workers, including a recent paper in the Journal of the London School of Tropical Medicine.
V.—Amoebic Abscesses of the Liver and Spleen Cured by Aspiration and Emetine Injections.

As early as 1902 I showed that unopened amoebic abscesses of the liver are, in the great majority of cases, sterile as regards bacteria, and therefore suggested removing the pus by aspiration, and injecting soluble salts of quinine into the cavity to kill the amoebae in the wall of the abscess, in the place of the exhausting open operation with prolonged drainage. Later, I advised in addition the continued administration of full doses of ipecacuanha after any form of operation on such abscesses. This method is being used with increasing success in Calcutta at the present time, although it fails in some cases. The proof afforded in my recent paper that soluble salts of emetine rapidly kill the amoeba of dysentery when used in much higher dilutions than the quinine salts, clearly indicates the former drug as the more efficient one for the purpose just mentioned. Moreover, the evidence above recorded in this paper, to show that emetine can be given in sufficient doses to kill off rapidly all the amoebae in the greatly thickened wall of the large bowel in acute dysentery, made it highly probable that it would act equally well on the parasites in the walls of amoebic abscesses of the liver. The following remarkable case will show that this is actually the case.

**Case IX.—Acute Amoebic Dysentery with Multiple Liver Abscesses, in which all the Amoebae in the Latter were Killed by Subcutaneous Injections of Emetine.**

A native male, aged 30, was admitted in a very low state for severe dysentery of two months' duration. I examined the stools and failed to find any amoebae, but as he was not improving ¼-grain doses of emetine were injected twice on two consecutive days, making a total of 2 grains in all. The dysenteric stools decreased in number and much improved in character, but he remained in a low condition, and died twenty-six hours after the last injection. At the post-mortem examination I found extensive ulcers of the amoebic type throughout the large bowel, but, with the exception of one extensive sloughing one in the caecum, their bases were clean and their edges overhanging, as if they had recently lost the usual tawny yellow gelatinous infiltration. The cause of death was found to be very numerous small recent amoebic abscesses of the liver from ½ in. to 2 in. in diameter, scarcely a square inch of the cut surfaces being free from them. The pus from several of them proved sterile as regards bacteria on culture. I spent a long time examining scrapings from the walls of a number of the abscesses, but failed to find a single living amoeba, although in similar cases I had always been able to detect them with the greatest ease. On adding to the pus a little watery methylblue a few unstained granular degenerate amoeba-like cells were found, similar to amoebae which have been subjected for a short time to the action of a very dilute solution of emetine. These observations left no doubt in my mind that every amoeba in the liver had been killed by the emetine injected subcutaneously during life, as the body was fresh and the temperature very favourable for the preservation of the parasites. Moreover, sections of the walls of some of the smaller abscesses stained with haematoxylin also showed no amoebae, although they are readily demonstrated in this way when emetine has not been used in the treatment.

This case, taken with No. 111 above recorded, appears to me to afford strong evidence that emetine salts administered hypodermically in sufficient doses will kill all the amoebae in both the intestinal and liver abscess walls, and thus explains the extraordinary results recorded in this and my former paper, and affords good hope of even more uniform success in the treatment of the deadly and wide-spread amoebic infections when the new method is fully worked out and the most useful and safe doses ascertained.

The Disappearance of Leucocytosis as Evidence of the Cure of an Amoebic Abscess of the Liver.

When using the above method it is often difficult to decide if the
abscess is completely cured, or if some pus has again accumulated, necessitating a further aspiration. Here leucocyte counts are of great value, for I have frequently found that if an original actual or relative leucocytosis has not disappeared within about a fortnight after an aspiration, pus will usually be again found on exploring; while, if the original increase in the white corpuscles has vanished, the abscess is really cured, and further aspirations are negative, although usually harmless.

**Dosage.**

Either the hydrochloride or the hydrobromide of emetine is equally useful, the former being the more soluble, while the latter requires about 2 c. cm. of sterile water or saline to dissolve it. At first I chiefly used ½-grain doses, but now very seldom employ less than half a grain at a time, and often give as much as two-thirds, the equivalent of 60 grains of ipecacuanha, and have twice injected 1-grain doses subcutaneously without any vomiting or depression, but such a quantity is only required in extremely acute amoebic dysentery. The salts can be safely boiled for a very short time, but it is better to dissolve them in sterile saline, or to boil the solution first and then add the emetine salt. I have arranged with Messrs. Burroughs and Wellcome to put up the drugs, both as tabloids and already dissolved in sealed ampoules, while Messrs. Parke, Davis are also supplying them in the latter form.

**Conclusion.**

We have, then, in my method of the subcutaneous injection of soluble salts of emetine a specific treatment of amoebic hepatitis and amoebic dysentery, which is so rapidly beneficial in the latter as to be also of great diagnostic value between that and other causes of the passage of blood and mucus in the stools. Yet, strange to say, this remarkable remedy—probably the most active specific in the whole range of medicine, not excluding quinine and salvarsan—has for long been thrown away by those who pinned their faith in ipecacuanha sine emetina.

Since the above was written I have tried the effect of giving emetine hydrochloride by the mouth on an empty stomach, and have found that doses of one or two of Burroughs and Wellcome's one-third of a grain tabloid thus administered rarely cause any sickness or nausea, and are very efficient in the treatment of amoebic dysentery. The further discovery will greatly extend the scope of the new line of treatment under conditions which do not readily allow of the repeated hypodermic use of the drug.
Nurses’ Association of China.

President, Miss Gage, Changsha.
Vice-President, Miss Murdock, Hwaian.
General Secretary, Miss Clarke, 2 Shantung Road, Shanghai.
Editorial Secretary, Miss Henderson, 17 Brenan Road, do.
Treasurer, Miss Hood, Soochow.

Registration Committee: Mrs. Davenport, Shanghai.
Miss McCracken, Wuhu.
Miss Lowe, Anking.
Miss Hope Bell, Hankow.
Miss Simpson, Foochow.

Interesting and enthusiastic meetings of the N. A. C. were held at Kuling during the summer. The first, a business meeting with election of officers, was held on July 18th. Among other business discussed it was decided to arrange at once a registration of nurses. The chairman was asked to appoint a committee on curriculum, the special topic of the second meeting as previously arranged. At this meeting on August 1st, Dr. Mary Stone read her interesting paper on Dietetics which was published in the last number of the Journal. The discussion on curriculum was postponed in order to allow more time for preparation of the subject.

At the third meeting on August 8th, Mrs. Rowley read a paper which will be published during the winter. The committee brought forward the out-line scheme of a uniform curriculum, and regulations to govern a national examination for Chinese nurses under the N. A. C. The proposed scheme was fully discussed ad seriatim, and adopted provisionally, to be laid before the M. M. A. at the Pekin meeting for its criticism or approval. It has been the understanding of some of the nurses that they have so kindly occupied heretofore as examiners for the nurses, and of responsibility in their training. The scheme as it stands includes Government and private hospitals in its scope, and plans its regulations with the view of eligibility in the International Association.

We hope for a frank discussion of this and other matters suggested by the scheme. Correspondence on the subject should be addressed to the Secretary, Miss Alice Clarke, London Mission, 2 Shantung Road, Shanghai.

NURSES’ ASSOCIATION OF CHINA.
REGULATIONS GOVERNING CANDIDATES FOR THE ASSOCIATION’S DIPLOMA FOR NURSES.

COURSE OF TRAINING AND STUDY.

1. The Course of Training must cover a period of at least three years, and must be taken in a Hospital which is registered under the Association.

2. The Course of Study shall include the following subjects:

First Year.

Elementary Anatomy and Physiology. 
Hygiene and Elementary Bacteriology, (including theory of sepsis, infection, contagion, etc.).
Chinese Dietetics (including cookery of special foods).
Bandaging (roller and triangular bandages, preparation of splints, plaster of Paris, etc.).
Simple Materia Medica (doses, effects, administration of drugs, etc.; common poisons and their antidotes). General nursing principles.

Second Year.


SURGICAL NURSING—Theory and Nursing—treatment of:—fractures, burns, septic conditions, and haemorrhages. Preparation for, and after nursing of, general and emergency operations, with special attention to abdominal, lithotomy, brain, throat, and mouth (and tracheotomy) cases. Preparation and conduct of operation theatres, including sterilization and care of instruments, ligatures, dressings, etc.

Nursing of children—medical and surgical cases.

Third Year.

Ophthalmic Nursing.

Gynaecological and obstetric nursing. Genito-urinary cases (for men and women).

Ambulance and First Aid.

N. B.—It shall be understood that the whole course must be covered, but the order in which the subjects may be studied is quite optional.

Time of Examinations.

3. Examinations for the Diploma shall be held once a year in the month of May or June.

4. A candidate may take the examination any time after the full three years of training have been completed, and when the candidate has attained the age of twenty-two years, foreign reckoning.

Examiners.

5. The examiners shall be three in number, and shall be appointed each for a period of three years, one examiner retiring annually.

6. Every examiner must be a full member of the N. A. C., and shall have spent at least three years in China.

7. The examiners shall be appointed at the annual business meeting. Should a vacancy occur at any time on the Board of Examiners the President and Secretary, in consultation with the examiners, shall be empowered to fill the vacancy.

8. The Examiners will set papers in the following subjects:—

   1. On first year syllabus (see regulation 2).
   2. On medical nursing.
   3. On surgical nursing.

   4. For women—on gynecological and obstetric nursing.

   5. For men—on genito-urinary nursing.

N. B.—Terms used will be those found in the Medical Missionary Association’s Standard Terminology (Dr. Cousaud).

9. The examiners shall send particulars of the examination results to the Secretary for presentation to the Executive Committee.

Conduct of Examinations.

10. Every candidate, before taking the examination, must present a certificate to the Secretary of the Association, duly signed by those in charge of the Training School to the effect that:—

   (a). The applicant has given satisfaction in character and general conduct, and in the practical work in the wards.

   (b). The applicant has had at least three full years of training as a nurse.

   (c). The applicant has regularly attended classes for instruction.

11. The above application, together with the name and address of the person responsible to whom the examination papers shall be sent, must reach the Secretary of the N. A. C. not later than April 1st, i.e., at least one month before the examination takes place.

Practical Examinations.

12. Arrangements shall be made by two members of the N. A. C. appointed by the Executive Committee for practical examinations to be held at the local centres.

Results of these practical examinations should be forwarded at once to the Secretary of the N. A. C.

13. Fees.—The fee for the examination shall be $1 (one dollar Mexican) for each candidate, payable at the time of application for examination.

14. Marks.—70% on the examination result shall be the minimum for a “pass,” and 85% must be obtained to secure “honors.”

15. Any candidate failing to pass an examination may present himself or herself at the next or any later one of the annual examinations.

Examinations in Midwifery.

Candidates for the special N. A. Diploma in Midwifery shall comply with the following regulations:—

1. They shall be twenty-two years of age, foreign reckoning.
Nurses' Association of China.

2. They must already hold the diploma of the Association for proficiency in nursing.

3. The examination in midwifery cannot be taken less than one year after the Nursing Examination.

4. They must present a written statement signed by the staff of their Training School, that they have satisfactorily delivered and attended at least twenty cases of confinement.

5. They shall be required to pass an examination in midwifery which shall be both written and oral, and including practical demonstration on a model.

6. A minimum of 75% marks shall be required on the whole in order to pass.

Syllabus for Examination.

The Syllabus adopted was that prepared by the Central China M. M. A. Board of Examiners. This has already appeared in the number of the MEDICAL JOURNAL.

Special Regulations.

It is fully recognized that for some years to come there will be many well trained Chinese nurses who are quite unable to pass a written examination. Such nurses may gain the diploma of the N. A. C. up to, and including, the examination period of 1915, under the following conditions:

1. The candidate must comply with the general regulations 3, 11, 13; and as far as possible with regulation 2.

2. The candidate may take the examination any time after five full years of training have been completed, and when the candidate has attained the age of twenty-two years, foreign reckoning.

3. Every candidate, before taking the examinations, must present a certificate to the Secretary of the Association, duly signed by those in charge of the Training School, to the effect that:

(a). The applicant is quite unable to take a written examination.

(b). The applicant has given satisfaction in character and general conduct.

(c). A statement should be made as to applicant's age; number of full years completed in the Training School; position held; and as to his or her general proficiency in the practical work of the wards.

4. An exhaustive practical and oral examination shall be conducted by two members of the N. A. C., appointed by the Executive Committee, with power to co-opt one member of the M. M. A.

Note.—These examiners must in no case be members of the staff of the Hospital and Training School to which the candidate belongs.

5. A full record of the examination, signed by all examiners, shall be sent to the N. A. C. Secretary for presentation to the Executive Committee. The Executive Committee shall have power to decide whether the Diploma shall be awarded.

6. A minimum of 80% of marks must be obtained by the candidate.

7. Regulation 15 does not apply to this class of candidate.

Regulations Governing the Registration of Nurses' Training Schools Under the Executive Committee.

1. All Nurses' Training Schools in China, whether under missionary or Government or private control, may be registered (under the Executive Committee) if the Training School can meet the requirements of the Executive Committee as to moral standard, hospital discipline, and intellectual training of its nurses.

2. All Training Schools registered under the Executive Committee shall adopt the uniform course of study and examinations required by the N. A. C.

3. Any superintendent wishing to register her Training School should fill out the blank form prepared for the purpose by the Executive Committee and return it to the Secretary of the N. A. C., who shall present it to the Executive Committee.

4. The Executive Committee shall have the power to decide whether a Training School may be registered.

5. If the Executive Committee should decide that a Training School does not meet the requirements, the N. A. C. shall notify the superintendent to that effect, and a later application may be made after there has been time for readjustment.

6. A Registration Certificate, signed by the Executive Committee shall be sent to each Training School when it registers. A list will be kept of the Training Schools registered under the Executive Committee.

7. There shall be a charge of $1.00 (one dollar Mexican) when a registration certificate is issued.

Form for the Registering of Training Schools Under the N. A. C.

Any superintendent desiring to register a Training School under the
Executive Committee should fill out this form and return it to the General Secretary of the N. A. C.

1. Name of Hospital with which the Training School is connected?
2. When was the Hospital established?
3. Kind of Hospital:—"General" or otherwise.
4. Number of in-patients last year?
5. Is there an out-patient department?
6. Total number of all patients last year.
7. How many beds in Hospital?
8. When was the Training School organized?
9. What standard of scholarship is required of the pupils on entrance to the Training School?
10. For how many years are the nurses in training?
11. Has the Training School followed the course of study required by the N. A. C.
12. Names of Doctors in charge of the Hospital?
13. Of what Medical Colleges are they graduates?
14. Are they members of the M. M. A. C.
15. Names of graduate nurses connected with the Hospital?
16. Of what Training School are they graduates?
17. Are they registered? Where?
18. Are they members of the N. A. C.?
19. What textbooks have the nurses used?
20. Superintendent of Nurses? Name and Address?
21. Date?

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**Personal Record.**

**BIRTHS.**

*At Newton House, Carlisle, England, September 8th, the wife of Harold Balme, F.R.C.S., English Baptist Mission, Taiyuanfu, Shansi, N. China, a son.*

*At Highgate, London, September 13th, to Dr. and Mrs. A. P. Laycock, China Inland Mission, a son (John Dixon).*

*At Shanghai, September 22nd, to Dr. and Mrs. D. Fuller McKinley, Canadian Methodist Mission, a son.*

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**DEATHS.**

*At Canton, October 3rd, Sara Manatt, wife of Dr. William W. Cadbury of the University Medical School in Canton.*

*At Peking, October 2nd, Dr. James Glenney Gird, F. R. C. S., of the London Mission.*