SANATORIA FOR TREATMENT OF TUBERCULOSIS.

By P. J. TODD, M.D., Canton.

In looking up the literature on sanatoria we find that H. Brehmer established the pioneer sanatorium for the treatment of tuberculosis in Germany in the year 1854. Brehmer came of a tuberculous ancestry, and during his medical course made a special study of tuberculosis. His graduating thesis, 1853, was entitled "Consumption is Curable," and he preached then the cure of tuberculosis by hygiene and fresh air. This thesis was followed by a pamphlet, "The Cause and Curability of Chronic Pulmonary Tuberculosis" and a series of works on the subject. Alexander von Humboldt and Schönlein were impressed by his views, and by their influence the authorities were persuaded to allow Brehmer a concession to start an attempt at a sanatorium such as he advocated. He selected a sheltered valley in Silesia, Cobersdorf, about 1,800 feet above the sea level, and Flugge, of Hanover, ventured to send him the first tuberculosis patients. This was in 1854, and the fine results attained soon spread his fame. He died in 1889.*

It has not been until recent years that a great deal has been done in the way of establishing sanatoria in Europe, Great Britain and America. Only a few years back it seemed to be the opinion of the medical profession that all consumptive cases should be sent to a high altitude and a dry climate. Now we find that sanatoria are being built near the places they are most needed, whether it be near the sea, on the plain or in the higher altitude. However, I think the majority

*American Medical Association's Journal.
SCHISTOSOMA JAPONICA.

Photo. of Case No. 17, Out-patient Notes on a Series.
[See Page 114.]
still agree that high, i.e., 3,000 to 5,000 or 6,000 feet altitude is best for incipient phthisis, and sea air is best for tuberculosis of bones, etc. We find that there is still a difference of opinion among the profession in regard to the usefulness of sanatoria. Dr. Bulstrode, one of the medical inspectors of the British Local Government Board, has issued recently a report of great moment. It deals with the sanatoria and other aspects of the question.

Dr. Bulstrode, after pointing out that consumption has been steadily decreasing in England for the last 30 years, says that the magnitude of the evil has been overrated and that as a matter of fact it is a disease declining at a fairly fast rate. He also draws attention to the greater liability to contract tuberculosis by means of tuberculous meat and milk than by direct infection. Dr. Bulstrode concludes that the usefulness of sanatoria has been overestimated. They are valuable for treating patients in the early stages, or rather for educating such persons in the kind of life they should lead, but otherwise they are of little utility. We find others who advocate home treatment, but the large majority favor treatment in sanatoria. It has been proven so positively that results justify the expending of large amounts of money in building, equipping and maintaining sanatoria that within the last five years the government authorities of a number of European countries are appropriating large sums for this purpose.

The platform on which Governor Stuart, of Pennsylvania, was elected, pledged the administration to make war against tuberculosis. The governor, immediately on his inauguration, requested the Commissioner of Health to formulate a comprehensive scheme to carry out his promise to the people. The sum of $1,000,000 was appropriated in two sums as follows: one of $600,000 under an act to provide for the establishment and maintenance of one or more separate sanatoria, or colonies, in Pennsylvania for the free care and treatment of indigent persons suffering from tuberculosis and making an appropriation therefor; the other, of $400,000, provided for out of the general appropriation act to enable the Department of Health to establish and maintain, at such places in the State as may be deemed necessary, dispensaries for the free treatment of indigent persons affected with tuberculosis, for the dissemination of knowledge relating to the prevention and cure of tuberculosis, for the study of social and occupational conditions that predispose to its development and for continuing research experiments for the establishment of possible immunity and cure of said disease for two years. Acting under this authority, the Commissioner of Health proceeded along the
lines indicated by the letter of the law. A site was chosen on the
State Forestry Reservation, where there was already a camp with
accommodation for about 28 cases. Geographic and topographic surveys
were made to determine on scientific lines what portion of the reserva-
tion was best adapted for the object, as well as to make provision for a
sufficient supply of pure water and for a system of thorough drainage.

The patients at the sanatorium were at first housed in specially
constructed tents and one model cottage after designs by the State
Commissioner. It is planned to erect 50 such cottages, each to accom-
modate 8 persons. The cottages will be one story high, and will be so
arranged that they can be thrown open to the air, but will afford
ample protection from the storm. They will be 25 feet apart and
placed on streets 50 feet wide. A number of pavilions are also
planned for, with the same general construction as the cottages, but to
accommodate 24 persons each. Dining rooms will be in common; one
for each 400 patients. There will be bath houses provided with spray,
douche, and shower, but no bath tubs. A modern steam laundry,
equipped with disinfecting washes, is under way, and plans for store
rooms, servants’ quarters, a central dispensary, mortuary and laboratory
are nearing completion. As patients gain strength they will be fur-
nished light employment in gardening, husbandry, farming, carpentry
and similar out-door manual occupations, and when cured the effort
will be made to find open air situations for them.

It is intended to establish a similar colony on one of the reserva-
tions in the western part of the State. Dr. Dixon anticipates that the
sanatorium will, in a few years, have a capacity of 3,000 patients.*

The State of Illinois has a law that provides that if 100 legal
voters of any city or village shall present a petition to the City Council
or the Board of Trustees, asking for a tax levy for the establishment
and maintenance of a public tubercular sanatorium the question shall
be submitted to the voters at the next regular annual election, and if
the voters approve of the plan, the City Council shall establish and
maintain a public tuberculosis sanatorium. The sanatoria established
under this act are to be free and for the benefit of the inhabitants of
the city or village establishing the institution. All reputable physi-
cians are to have equal privileges in treating patients.

There are no less than eight large sanatoria in and around the one
city of Denver, and they report an average of about 50 per cent.
Improved.

*American Medical Association’s Journal, 1908.
So many sanatoria are being established in America and other countries that it is said they are becoming a "fad." If they are becoming a fad it is certainly a most sensible one.

If it is true, as Dr. Bulstrode says, that tuberculosis has been steadily decreasing in England for the last 30 years, it must be because the people of that country are learning how to protect themselves from it. It will begin to decrease in this country as soon as the people learn that their sleeping and living rooms must be well lighted and ventilated, that it is caused by the bacillus tuberculosis and that they must destroy by fire or chemicals all sputum and discharges from patients suffering from this disease.

Medical mission work has been carried on quite extensively in this part of China for the last 40 years, and still we do not have a sanatorium for the treatment of tuberculosis. I believe that tuberculosis causes more deaths in South China than all other diseases, and as yet we do not have a hospital that will welcome a case of it. It is true that some of us take them into our general hospitals when we have been urged to do so, and the only reason we do it is because there is no sanatorium for them.

There are 31 members in our South China Branch now. We have prospects for a union medical college started, and the next most important undertaking for us is to start a fad for tuberculosis sanatoria. It is all right to circulate tracts and give lectures on tuberculosis, but unless we have sanatoria to demonstrate what fresh air and proper hygienic surroundings will do, we shall have a hard time educating the people of this country up to the point where they will open their houses to fresh air and sunlight, and destroy the sputum of tubercular patients properly.

We should establish sanatoria for at least four reasons:

1. Reports from the sanatoria in the home lands show 50 per cent. or more who are improved and many dismissed as cured. At the present way we have of treating the disease here in China, I think, we should do well if we could show 5 per cent. improved.

2. Sanatoria, properly conducted, will be a practical demonstration of what fresh air, sunlight, proper nourishment and thorough disinfecting of all sputum and discharges of tuberculous cases will do in the way of curing and preventing the spread of the disease.

3. It will segregate just as many cases as we can get to come into the sanatoria, thereby preventing the infection of a vastly larger number.

4. (And not least.) It will give us an opportunity for evangelistic work among a class of grateful people who are, as a rule, more religiously inclined than the average.
Any one of the four reasons would justify the establishment of sanatoria. The four reasons make it imperative that they should be established. In looking over reports of sanatoria in America we find that a great many refuse to take in any but incipient cases. It seems to me out here that we should provide for the far advanced cases as well. It sounds well to have a place where people are cured of tuberculosis and it is well, but it is, if anything, more important to have a place where those who have passed the curable stage can be well cared for and not be allowed to infect others. We find in the advanced stage the sputum is loaded with bacillus tuberculosis, and one case may infect a whole house full of people, so I believe, in this land, where people do not know how, or will not disinfect the sputum, that hospitals for advanced cases are more important than they are for incipient cases.

Where should our sanatoria be located? When our Committee on "Propaganda against Tuberculosis" was appointed one of its duties was "to speedily select a permanent site for the reception of tubercular patients." I am using the plural "sanatoria" because I believe it is imperative that we have more than one place for the reception of tubercular cases. The ideal way might be to have two or three hundred acres of land on the top of a big hill and there build a little city laid out and drained on scientific principles and have in charge a superintendent and staff of doctors and nurses, but if we had this and it was located at Wuchow, Lienchow, Pakhoi, or any of the other distant stations, it would be possible for us to get only a very small per cent. of our Canton patients to go to it, or if it was in or near Canton it would be just as hard to get the patients from the other places to come here. If it was in any one place the object lesson to the other places, at close range, would be lost.

We do not have our millions to spend in building and equipping sanatoria as they have in New York, Pennsylvania, Colorado, and some other places, and we do not need so much in order to do good work.

In Canton we should have one large sanatorium. This should be union in support and control, so that any physician could feel free to send patients to it, and treat them there if he so desire. We cannot have it both high and dry near Canton. If we should go to White Cloud Mountain and build on the top of it, the mist and fog would overcome the advantages of the difference in altitude, so it seems to me the best place would be a hill within one-fourth to one-half a mile of the University School site at Honglok. This would be far enough away from the school, so there would be no danger of infecting the
students, and still be close enough for the students to have easy access to the clinics. The buildings could be matsbeds temporarily, but I think we should look forward to permanent buildings put up on scientific principles. I believe we should to-day appoint a committee to represent through the Missions to the different Boards having work in Canton the great need of a sanatorium for the treatment of tuberculosis at Canton and proceed immediately to raise funds for the purchase of land for a permanent site.

The need of a sanatorium in each one of the interior Mission stations is just as great, that is, in proportion to the size of the city, as it is here in Canton and with the exception of the cities where two or more Missions have medical work it would seem best for them to be established by the Missions having work in that city. Wherever there are two or more Missions having medical work in one center it would certainly be a saving in work and money if they would unite in establishing a sanatorium.

It is not necessary for me to give my opinion as to how a sanatorium should be built. We all know that such a building should be erected so that the patients have fresh air circulating around them freely night and day. It should be light and cheerful. It should be thoroughly drained and the grounds should be large enough to furnish light open air employments for the convalescents. There should be provision made for burning or in some other way disinfecting all sputum or discharges. There should be a separate department for the incurables.

In conclusion I would like to urge the great need of sanatoria in South China. Let us make them a fad. If they become a fad people will soon learn what they are, what they are for, how they are conducted, what the results are, and all about them. They will do more to educate the people of this country how to take care of themselves and protect themselves from infection than any other course we could take.

We could preach that surgery was a good thing all our lives, but if we did not have hospitals and demonstrate by actual work what could be done by surgery the people of this country would never learn to believe in it.
SOME CLINICAL PHASES OF TUBERCULOSIS.

By W. H. Dobson, M.D., Yeungkong.

The duties of the only physician within a radius of two hundred miles afford but little time to write a carefully sifted essay on this hostis humanigenris which you are so bravely attacking. It is a source of much regret that the same reason prevents my being with you and sharing in your discussion.

In view of the fact that we now assign the same general etiology to all affections where the bacillus of Koch is found, these hasty notes will deal with all forms in common and with some in particular. With due regard to the subjects of other papers already presented to this assembly, and passing by well-known symptoms, we may at once proceed to consideration of the details of cause and effect, diagnosis and treatment peculiar to this part of China.

I believe that every form of this disease has presented itself at my clinic. The following forms are rare in this section, namely, integumentary, ocular, miliary, genito-urinary, and meningeal. Procrastination and the native quack having already done their work too well it is seldom that a case presents itself in the incipient or early stages. A glance at the individual is generally sufficient to call forth a sigh of despair as the physician states his inability to offer hope. This veritable death sentence is always lightly accepted, for the Chinese, together with the foreign victim of the disease, entertains the common deception "dum spiro, spero."

A Chinese suffering from this plague in a word,—lacks. Practically every source of health has been curtailed until his stasis has now become a decline. A stagnant decaying animal organism presents most perfect soil for the growth of mould and bacteria. The customary Chinese environment facilitates the creation of such a condition. Recently I attended a case of obstructed labor and performed a mutilating operation which compelled me to remain three hours in a close native house. Several times I felt faint and laid it to the late hour of night. When, however, I reached the outer air a breath or two proved oxygen starvation. What must be the state of men, women and children who continually inhabit these kennels? Sunlight never penetrates these rooms, nor the dark dirty streets and shops which continue by day the damage begun at night. After sunset the average house is practically sealed and encloses human beings and animals which mutually exchange their effluvia during the hours of supposed
recuperation! Further, every rafter and ledge is filled with dust which sifts down at the slightest disturbance of the air, adding accumulated bacterial hordes. Shallow respiration is a general habit. Not only poisonous air but an insufficient supply further handicaps the patient in his fight for existence. It is sometimes impossible for a native to comprehend an inquiry as to whether his house is tightly closed at night; therefore a frequent question in the dispensary is, "Do you feel nauseated upon rising?" In cold weather a great number of Chinese pull the blankets over their heads during sleep, and hold the end of the sleeve over the nose and mouth during waking hours, still further reducing their supply of oxygen.

Flies are, to a greater extent, concerned in distributing disease than in our home lands. Here flies have evidently been trained for centuries as parasites on the genus hominis. Every person arriving at the dispensary has from ten to fifty flies quartered on his back. During his perambulations these flies raise a buzzing chorus until the doctor with difficulty distinguishes between it and the sound of his own cerebral machinery. Your tubercular patient sits on the waiting bench depositing his sputum or pus anywhere from the walls to the bottoms of his feet as he smears the puddles of germs over your floor. Immediately a ring of flies assembles at the feast, and thence with dripping tongues sail away to a leg ulcer, a baby's sore face, or perchance to juicily kiss the corners of one's mouth ad nauseam, ad infinitum. Cornet remarks: "The consumptive in himself is almost harmless, and only becomes harmful through bad habits." Yes, our patient is innocent of personal hygienic laws; he sees no immediate results from them, and therefore passes them by damnum quod non intelligunt.

In food as in everything else our patients lack. By a diabolical arrangement victuals are chosen, which not only do not benefit but on the contrary increase dyspepsia. The poorer classes cannot rise much above sweet potatoes, salt fish drippings and the flesh of diseased animals, while the moneyed class fill their stomachs with edibles equally useless, not forgetting innumerable bowls of native drugs. Clothing seldom sees a wash boiler, and wiping the body with a little warm water is called a bath. "The higher we ascend the social scale the farther we get from water." There is no set time for defecation; such an act is only performed upon a sense of fullness. Small sips of tea or boiling water quench the thirst, but a loaded urine is the consequence. Dejections find their way to patches of vegetables and the bacterial cycle begins anew in some other locality.
In a body so filled with retained excretions all sorts of parasites may be expected. The microscope will often prove the presence of the malarial plasmodium, while a similar examination of the feces will generally reveal ascaris lumbricoides and often the ankylostomum duodenale.

I have never noticed an article in our Journal upon a condition most general in this portion of the country, and that is disease of the tonsils and their associated structures. This neglected infectious nidus opens a door through which the cervical and bronchial lymphatics become involved, contributing to indigestion, rheumatism, and to what is most probable—tuberculosis. It is rare that I see a normal pharynx. If you will take notice you may hear on all sides filthy hawking and spitting, a general habit, and may note more especially that peculiarly rasping clearing of the throat which indicates chronic pharyngitis. Young and old have post-nasal adenoids, and chronic otitis media is very common. After reflecting on the unsanitary conditions of life reviewed above, it is not difficult to imagine the bacterial flora of the Chinese nasopharynx. If this paper can accomplish no other result than that of directing attention to this much neglected region I shall feel that I have not labored in vain.

Recently syphilis has been rated as one of the principal etiologic factors in tuberculosis. This may easily be the case in China where, I am compelled to believe, seven-tenths of all patients present a lowered vitality through this venereal disease. Thus another figure is added to our picture of a Chinese victim of tuberculosis. Finally an opium habit problem contributes its constipation and weakness.

Such is the condition of the patient and his surroundings when he applies to be restored to his pristine health, the proper route to which is a veritable crux medicorum. O tempora, O mores, O Shades of our Preceptors, how shall we deliver this body from death?

Prognosis is invariably bad in chronic wasted cases and those with more than a slight involvement of the apices if in a debilitated condition have little to expect at present. The consumptive who comes with a bright face and with only a slight impairment in the lung apex; one who is able to buy proper food, who is amenable to discipline and who expects to exert himself, who does not know more than the doctor and who is willing to learn, may attain health and strength even in South China. I have in mind a physician in Canton whose wife died from pulmonary tuberculosis and who came to me with all the signs of the early stages. He is to-day alive and well, and he ascribes his recovery to the treatment suggested at the time.
Another case was that of a young lad brought down from Canton with an acute tuberculosis of the lung and perhaps a miliary condition as well. His father died of tubercular peritonitis. He regained his health after a fight of three or four months. I have had several other cases successfully treated, but they were all in the early stages. I have had no success in the later conditions. No case of laryngeal tuberculosis has recovered. The reasons for failure cannot be assigned to the physician but to poverty and the unhygienic conditions heretofore described.

Treatment begins with our main resource—prophylaxis. The same rules of hygiene hold good in China as in our home lands. My efforts have been towards opening windows where there were none, introduction of mosquito netting, prevention of covering the head with blankets during sleep, washing the nose and pharynx, and sleeping in the open air. These lessons are drilled into dispensary and ward patients. We all agree on open air treatment, the details of which are too well known to bear repetition. I have open sheds erected for temporary use in the hospital. No consumptive is treated in ward. In the near future I hope to have the whole hospital screened and open rooms arranged for this class of disease. No patient is treated in the dispensary unless he promises to sleep in the open air.

Before we can hope to successfully deal with this plague there must be an educational propaganda to teach these people first to be honest with their physician and second to have Christian common sense. We have to-day knowingly faced a task worthy of a Hercules when we seek to give the Gospel of health and everlasting life to China. ‘‘Ye shall know the truth and the truth shall make you free’’ was not uttered by man. We need not faint for in His strength we conquer. Let us all get together and without doubt of the future put shoulders to the chariot wheels of truth.

Where there is a suspicion of impending tubercular infection I always provide a nasal douche, teaching the patient to wash his nose and gargle his throat instead of hacking and spitting. The bowels especially need proper regulation in this hot climate. If upon simple inspection of the fauces the tonsils are visible they are either removed or swabbed with iodine and glycerine until they retract. I believe a Deaver on tonsils would be as great a boon to the Chinese as our own on the appendix is to us.

Food in proper amount and in proper quality is a most difficult subject in hospital and dispensary; each locality having its own problems. Few patients are willing to forego stuffing rice even should
they be able to buy meats. Milk is out of the question at present. In the hospital, broths and well-cooked vegetable food can be supplied from the kitchen.

I wish to speak of the hospital kitchen as a domestic economy. For several years the patients were permitted to buy and cook their own food. Insufficient and improper diet caused indigestion and trouble for the doctor, not to mention continual running on the streets, irregular hours, and occasional rows between patients because of stolen food or fuel. Recently I have stopped all that and have a kitchen personally supervised. It is well worth the trouble, for now we have better and more plentiful food, regular hours, rest for those needing it, proper regulation of diet, practically no indigestion, happier and better patients, and quicker results from treatment. All this at the rate of fifteen cents per day.

Useful drugs are few, but these few indispensable. Strychnine, arsenic, mercury, magnesia, calcium, morphia, and cod-liver oil internally, a nose douche and iodine and glycerine locally complete the list. I have had no experience with serums. A number of years ago Mays, of Philadelphia, called my attention to the importance of strychnine. He gives it in increasing doses to a maximum of a grain and a half or two grains per day. I have given a boy of seventeen one and one-eighth grains daily for two or three months until he recovered from his disease. This is a routine treatment from which I have yet to see toxic effects. The early cases are the ones benefitted. This drug seems to assist the consciousness of lack of oxygen thus supplying the stimulus of high altitudes.

Arsenic in increasing doses is very useful in improving the blood and stimulating respiration. Quinine does its duty as a specific in ever-present malaria. Calcium lactophosphate or even lime water, together with magnesium carbonate, contribute mineral salts, a supply of which seems to be indicated.* In this connection I hope you will pardon me if I mention a small theory of my own. These people drink boiled water; many of us foreigners do the same. Boiling precipitates most if not all the earthy matter dissolved in water. If this latter is the case it seems to me we have one cause for rachitis, dental caries, necrosis, scrofula, constipation, and tubercular tendencies in the young. I have seen scrofulous gelatinous granulations and fistulae became sound and firm under local treatment with powdered salts of calcium and magnesium.

The local treatment of mouth and teeth, nose and throat, tonsils and glands, to put them into normal action is a long step toward a

cure. A daily routine of douching with a suitable wash and gargling with the same can be followed by all. Tonsils and nasopharynx are swabbed with iodine and glycerine and cervical glands painted with strong tincture of iodine.

We here on the field seldom have time or opportunity for original research; therefore in the preparation of this paper I have drawn from, and give credit to, many sources, claiming only a few local facts and experiences of a dozen years as my own.

SUGGESTIONS FOR TRACTS ON TUBERCULOSIS.

By J. G. MEADOWS, M.D., Wuchow.

Tuberculosis with its many and varied forms is the most frequent and destructive disease of the human race. It is estimated that fully one-half of humanity suffers from its ravages in some form. The whole civilized world is organizing its efforts to destroy utterly this dreaded enemy of mankind and beast as well. The heart of the problem of destroying the "Great White Plague" is never to have it: prevention is our motto and war cry. Proof is not lacking to-day that tuberculosis can be prevented. The key to prevention is education; thus in a single sentence we have the secret of success—education of the public.

Sanatoria are good in their place, but their relative importance in the final solution of this great problem will be small indeed. Any effort towards cure will ever fall short of the real solution of our problem, and moneys invested to-day will yield ten-fold more in educating the public than in any other investment. The real problem we have for solution is education of the people how to prevent tuberculosis.

If tuberculosis is not preventible all effort to prevent it is a useless waste of time and money and a source of anxiety. If preventible, the blood of millions of dead yearly cries out to arouse us to a realization of our responsibility and to a realization of our obligation to save human life. To the general question of preventability of disease, and of tuberculosis in particular, there are these answers: opinion, science, results. The first—opinion—is more or less dogmatism. The answer of science is complicated and often unintelligible to the lay mind, but the answer of results is final; it is the court of last appeal. If certain measures which are said to prevent disease do prevent disease when applied, then disease is preventible. During the past four centuries, the period
of time in which medicine has developed as a natural science, there has been a continual lengthening of human life from 21-2 years to 44 years. During the past century, for five European countries, an average of 11-3 years has been added to the average human life. During the last quarter of the 19th century, that is, since the development of the germ theory of disease, there has been an increase in the average duration of life at the rate of 14 years per century; from 1890 to 1900 four years were added to the average life or forty years per century. Thus it is a proven fact that disease is preventible.

Since Dr. Koch discovered in 1882 that tuberculosis was a germ disease, every precaution has been taken to prevent the spread of it in Germany, and its ravages have been reduced more than one-half up to the present time. Thus if tuberculosis were actually prevented to the degree which has already been proven feasible, one million lives in China alone would be spared annually and human life would be much longer and at the same time broader, that is, healthier, happier and more efficient. With this feasibility before us, the sooner steps are taken and agencies put into operation to secure this new lease of life, this emancipation of millions from such a thraldom, the better it will be. The first step to be taken, as above stated, is education of the public. To go about this stupendous problem without any definite aim of what we want to accomplish and without any definite plan of how it is to be accomplished, is to court waste of effort. This is an age of conservation. Every effort for the betterment of humanity is to be conserved. A clearly defined aim and an organized systematized effort towards its attainment should be held constantly before us. Our aim may be easily stated—the education of the public. The method of accomplishing this aim cannot be so easily stated, but by way of suggestion and for the purpose of promoting discussion, I propose the following plan of attack.

It is essential that medical missionaries in China unite in some plan of campaign to educate the public as to the prevalence, preventability and means of prevention of tuberculosis. To best accomplish this we might divide the work into four divisions: 1. The government officials. 2. The teachers and scholars. 3. The masses. 4. Those who already have tuberculosis in some form.

First a tract should be written for all officials setting forth in a clear, concise statement the prevalence of tuberculosis in China, its causes, its manner of transmission, its cost to the Empire, its preventability, accompanied by proof of fact—and the laws governing the prevention, at the same time urging to cooperation of all officials in
the promulgation and enforcement of these laws. This tract should state that sickness and premature death are not misfortunes falling alike on good and bad without any reference to what they did or failed to do. So long as officials believe that disease is caused by devils, or we might put it "bad luck," to be borne or escaped without any chance of interference on our part, rather than to ignorance of facts, we may never expect them to have a practical interest in the prevalence and prevention of disease. Again, the officials must be shown that sickness not only concerns the afflicted individual and the few persons intimately connected with him, but is a drain on the nation as a whole.

The science of economics has seriously shaken the Gospel of "Each one for himself and the devil take the hindmost." The fortunes of the nation are those of her subjects, and highest and humblest alike are interwoven, and it is impossible to place the welfare of any one human being apart from the rest of his kind. When the devil grabs the hindmost, the wrench is felt by the topmost. As long as the nation remains in ignorance of the exact scope of the evil we have to cope with, that not only the wealth of the nation, but their very existence may be involved in this hitherto unexpected community of fate, so long will this powerful and widespread evil be left largely to the unaided efforts of single individuals or groups of individuals. Until the official classes realize that reducing sickness and death does not end with the safeguarding of one's health by private means we cannot hope for their organized effort and support, and until this organized effort is attained, we shall labor tremendously handicapped in our world fight against the great whitish enemy.

Second in importance to securing the officials' efforts is to secure the support of the book people, teachers and scholars. To move China we need first to move her bookmen. Teachers will have a tremendous influence in the fight against tuberculosis because the successful eradication of the disease will depend in good part upon the extent to which the rising generations of citizens are taught concerning its spread, prevention and cure. A tract should be written for this class and put into the hands of every teacher and preacher of the Confucian religion in the Empire.

In this tract for the teacher, indicate that the curing of tuberculosis is not the most important phase of the work, but that the far-reaching educational influence is of still greater value. Show the necessity of a place in their curriculum of study in all grades of all schools, and require that every pupil in the elementary schools memorize the rules
regarding the spread and prevention of tuberculosis. Teach the advanced students the value and cost of health and its bearing on all life. Have the work of the anti-tuberculosis crusaders described, and have one day in each year observed as a health day when simple rules for right living are emphasized. Air, sunlight, food, cleanliness, exercise and rest all have a vital part in the solution of our problem, and there is no better place to bring them into effective service than in the class room.

Our third plan of attack will be to inform the masses themselves. For this purpose many tracts will be necessary. Every phase of the subject will need to be agitated. Hand bills, leaflets, booklets, tracts, calendars, posters and colored pictures all have an important place under this heading. Conduct mass meetings in all the centers where foreign physicians are located and employ native physicians to go into interior places and conduct similar mass meetings. Have all the literature available published in all the religious magazines and papers, all the government magazines and bulletins and all the daily papers in the Empire. Every effort should be made to secure the industrial and mercantile elements of the country to cooperate with the government on the one hand and the missionary and public-spirited citizens on the other for the purpose of establishing human existence on a sound physical basis. All sanitary and hygienic measures taken serve as safeguards not only against tuberculosis but against any kind of disease. The rules of living that are taught and preached, will affect life in all its phases. Habits of health and ideals of physical efficiency are established, and this means inevitably a rising of moral and mental efficiency. Lastly, special tracts for tubercular patients themselves dealing especially with the causes, means of communication, means of prevention, treatment and cure. It will be our opportunity to treat many tubercular patients who will leave without being fully cured, but every such patient should leave with a new knowledge, new powers, and new chances of life. Before treatment the ignorance of such sufferers made them a menace to other individuals and foredoomed victims in the fight with the disease. They must be taught not only how to treat themselves but how to protect others from contagion as well. Upon re-entering society every such patient becomes a walking object lesson spreading abroad the double truth that tuberculosis means death if disregarded, and that it need be no object of terror if properly treated. We know that every form of disease means false adjustment somewhere, and is removable only through the correction of that adjustment.
Health may still be a boon that money cannot buy, but it can certainly, to a large extent at least, be bought through intelligent exertion, provided that such exertion be made not only by private individuals but also collectively by groups of men bound together morally, racially, economically or politically. In behalf of the 2,000,000 who die annually of tuberculosis in China alone, we plead that every effort exerted to a right adjustment, will be worth while.

SUGGESTIONS FOR AN ANTI-TUBERCULOSIS CRUSADE IN CANTON, CHINA.

By Wm. W. Cadbury, Univ. Medical School, Canton.

Everyone has realized how his spiritual faculties depend to a great extent on his physical well-being. We are here in China primarily to mould and develop the spiritual nature of the Chinese, but to accomplish this we must not lose sight of the necessity first to insure normal and healthy bodies and minds in those whose souls we desire to reach. If there is any disease that can be accused of impairing the spiritual capacity of a man, it is that one which impairs his physical vigour for the greatest length of time. Such a disease par excellence is tuberculosis.

It therefore behooves us as missionaries as well as physicians to inaugurate an active campaign against this foe of mankind, often seeming more obdurate than the devil himself.

When we informed our friends that we intended to come to China, they warned us to beware of leprosy, plague and cholera. As a matter of fact, however, I would venture to state that tuberculosis has claimed more missionaries than the other three diseases combined.

But what about the susceptibility of the Chinese themselves. We live here in a great city. Philip of Edinburgh estimates that in a European city of 500,000 there are from 10,000 to 20,000 sick with the disease and an annual mortality of 3,000. James W. Glover estimates that New York city alone suffers a loss of $12,000,000,000 per annum from this one cause. Where energetic efforts toward the improvement of sanitary conditions and an active campaign directed against the disease itself have been started there has been a very rapid decrease. Thus in the northern cities of the United States the mortality rate has fallen from 250 per 100,000 in 1890 to 185.3 in 1906. Surely such figures should make us take courage.
Suggestions for an Anti-tuberculosis Crusade in Canton.

In China it is very difficult to procure accurate statistics, but that the Chinese is susceptible to the disease, all of us who are doing any medical work here are only too well aware. Data collected in the United States show a frightful susceptibility of the inhabitants of the China towns in the various cities. From the United States Census of 1900 the following figures have been secured:

Of white males 13.6% of all deaths were caused by tuberculosis.
Of negro males 19.7% of all deaths were caused by tuberculosis.
Of American Indian males 30% of all deaths were caused by tuberculosis.
Of Chinese males 36% of all deaths were caused by tuberculosis, or 350 deaths out of a total of 971.

In New York city, in 1902, 50% of all deaths of the Chinese were due to tuberculosis. The other races are represented as follows:

<table>
<thead>
<tr>
<th>Race</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irish</td>
<td>41.98%</td>
</tr>
<tr>
<td>Negro</td>
<td>41.55%</td>
</tr>
<tr>
<td>Scotch</td>
<td>38.25%</td>
</tr>
<tr>
<td>French</td>
<td>34.2%</td>
</tr>
<tr>
<td>German</td>
<td>32.43%</td>
</tr>
<tr>
<td>Scandinavians</td>
<td>30.25%</td>
</tr>
<tr>
<td>Austrians</td>
<td>30.09%</td>
</tr>
<tr>
<td>United States</td>
<td>30.07%</td>
</tr>
<tr>
<td>Canada</td>
<td>29.17%</td>
</tr>
<tr>
<td>Russians</td>
<td>29.05%</td>
</tr>
<tr>
<td>Italians</td>
<td>21.9%</td>
</tr>
<tr>
<td>Germans</td>
<td>32.43%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

For the entire country 44.56% of all deaths of the Chinese were due to tuberculosis.

Woods Hutchinson (see Third Annual Report of the National Association of the United States for the Study and Prevention of Tuberculosis, p. 201) made a study of tuberculosis in the Chinese on the Pacific coast. While the Japanese exhibited a more chronic form of the disease, the Chinese suffered from a more acute form than the white races. In the China towns of Portland and San Francisco there was a mortality of more than double that of the surrounding white population. He attributes this high mortality to the manner of living of the Chinese, crowded in lodgings that a white man could not endure for a single night.

In Japan there is a great susceptibility to tuberculosis. According to Iyo Araki San, of Tokyo, 25 per cent. to 40 per cent. of the population suffer from the disease, while among the factory employees, mill hands, etc., the figures range from 55 per cent. to 70 per cent. The people are very resistant to treatment. The residences of the Japanese appear to be unusually well ventilated with their sliding windows and doors, but unfortunately these are all tightly closed at night and the houses are then as badly ventilated as the homes of the Chinese. A startling statement is made by Kitasato to the effect that tuberculosis is spreading more and more rapidly in Japan because of the rapid development of railroads and other means of communication from one place to another. Previously only small gangs of workmen were em-
ployed. Now large groups of men are gathered together in factories with poor ventilation and sanitary facilities. The gulf between rich and poor is growing wider. If this be true in Japan it seems only likely that with the growth of industrial institutions and the wealth of China the prevalence of tuberculosis will make rapid strides unless most energetic efforts are made to stay its ravages.

It has been said that before starting any campaign we should make a careful study of the existing conditions and then find out how to meet them. We have now seen that we are face to face with a problem that is likely to become more serious from year to year if we do not fight it most energetically. Let us now consider what are the means at our disposal in this conflict.

We know in the first place that tuberculosis is an infectious disease, and secondly that it ramifies throughout the whole social order as does no other disease of modern times. We have to deal with a condition rather than a disease; that is, a condition caused by improper food, poor clothes and impure air. At the present time nothing whatever is being done in most of the great cities of China to oppose tuberculosis in its resistless march. Canton is adopting foreign institutions more rapidly than any other native city. Let us see to it that the tuberculosis crusade is not left out, or the rapid increase noted in Japan will surely be repeated here.

Probably no man has had greater experience in the work of an antituberculosis campaign than Livingston Farrand, Executive Secretary of the National Association for the Study and Prevention of Tuberculosis, of the United States. In a recent contribution to the subject he states that in starting a campaign three lines should be pursued:—

I. Acquire a knowledge of local conditions.
II. Provide and care for those sick with tuberculosis.
III. Education of the people.

I. A casual walk through the streets of the city will give one a general idea of the housing conditions, but why is it that every Chinese has not died of some plague? There must be some ameliorating factors in his habits of life which help to counteract the bad conditions. What these are we should endeavor to find out. Of the factors that favor the invasion of the tubercle bacillus I need only mention the sleeping quarters devoid of ventilation, un nutritious food, extreme poverty, and hard labor. To overcome these conditions are doubtless the hardest problems that stand before us, but we should not lie back and give them up. One by one, take up each of these problems and work out the best solution that is possible. Data should
Suggestions for an Anti-tuberculosis Crusade in Canton.

be collected showing the percentage of tuberculous patients that attend our hospitals and dispensaries. What per cent. of the deaths that we know of may be attributed to tuberculosis? When we find a tuberculous patient, go to his home to discover just what is at fault there.

Again we should try to find out how the Chinese themselves look upon the disease, what the native doctors give for treatment and with what results. Have the Chinese any ideas as to the infectiousness of consumption and the connection of the different forms of tuberculosis? All these facts must be known if we desire to speak intelligently on the subject to the people.

II. The second line of effort in the anti-tuberculosis campaign is the proper care for the sick. In combatting other disease we use various methods. Thus for typhoid fever and cholera, purification of the water supply are most essential. Plague calls for careful quarantine and the extermination of rats. For malaria and yellow fever nothing is so essential as a vigorous campaign against the mosquito. Leprosy on the other hand can only be checked by the careful segregation of all those infected.

When we come to consider how to properly deal with the consumptive there are seven important factors to consider, viz., the hospital for advanced cases, the dispensary, sanatoria, home treatment, day and night camps, specific treatment, general health conditions.

1. First in regard to the hospital.—In China at least there seems to be little possibility of infection from cattle, so that the human consumptive is the chief and probably the sole carrier of infection. He is most dangerous in the late stages of the disease. A hospital for advanced cases of tuberculosis is essential therefore if it is desired to check the number of cases infected. If we could put aside a certain number of our beds in our hospitals and reserve them exclusively for tuberculous cases, we may save many cases of disease by this method of isolation. The hospital should be used for hopeless and dying cases. Any campaign which provides sanatoria for incipient cases and neglects to provide accommodations for those in an advanced stage is woefully negligent and is doing but one-half of its duty. It is the advanced and hopeless case that is the chief source of infection. These cases are rarely safe in their own homes. If the diseased parent or child cannot be removed from the home, then by all means remove as many members as possible from the source of infection.

2. The second factor is the dispensary.—If possible a certain day in the week should be devoted entirely to treating the consumptive cases.
All cases seen on other days should be referred to that day for return visits. The room should be decorated with suitable placards and statistical charts, signs giving in concise form some of the principles of action of the campaign. A tract should be given each patient with the important rules of treatment and prevention simply explained. The dispensary should be a general information bureau for anyone desiring to know about tuberculosis. If possible fresh eggs and even milk should be dispensed to the poor.

3. The third factor is the sanatorium.—This should be reserved for the curable and convalescent cases only. Hopeless cases have a very detrimental influence upon those who are making a hard fight to get well.

4. The fourth factor is home treatment.—A certain number of cases will insist on remaining in their homes and will request the physician to visit them there. These cases will be the most difficult to deal with, and probably, as a rule, little can be done for them. However we should not be discouraged and insist at least on the necessary measures to prevent the infection of other members of the family.

5. The fifth factor, day and night camps, has accomplished much in America. In the former the ambulant sick spend the entire day in tents or in the open air and are supplied with milk and eggs. At night they return to their homes. The night camps are for those who have no proper sleeping accommodations and who have work to do through the day. Every evening upon coming to the camp temperature is taken and they are given a proper supply of food. They then are allowed to sleep in a tent or properly ventilated room.

6. The sixth factor, specific treatment with tuberculin, will have little place in our work here. The uncertain nature of this material and the varying opinions of the greatest specialists as to its virtue make it undesirable for the missionary hospital, except for diagnostic purposes.

7. Finally there are general factors in the health of the individual which may have an important bearing on the occurrence of the disease. This is emphatically brought out by Victor G. Heiser in a contribution to the sixth International Congress on Tuberculosis. It may be found in the fourth volume of the reports P. 131. He states that among 3,000 prisoners in the Bilibid prison at Manila, after every effort at perfecting the sanitary arrangements of the building there remained a constant mortality of 57 per 1,000 per year. 50 per cent. of these deaths were due to tuberculosis. It was later discovered that 84 per
cent. of the prisoners were infected with intestinal parasites. Special measures were directed to the eliminating of these and by this single means the death rate dropped from 75 to 20 per 1000. He concludes by saying: "It is believed that the foregoing facts warrant the assertion that in tropical countries, where tuberculosis and hookworm disease are coexistent, the elimination of the hookworm will produce better results in diminishing the mortality from tuberculosis than any measure that has as yet been tried upon a large scale; at the same time the general mortality can be markedly reduced."

Having now considered first how we should study existing conditions and secondly how we should deal with the consumptive himself, we come to the third and last factor in the anti-tuberculosis crusade, viz., education of the people.

III. It may be well to choose some telling watchword or motto. An emblem may be chosen, and perhaps there is no better than the double red cross the emblem throughout the world of the Anti-tuberculosis war. In Detroit during a local campaign a blue star on a white background was the sign used. Whatever the emblem is, it should be emblazoned conspicuously on the literature and posters that are distributed.

In the educational work there must be no bigotry. Every agent available must be employed. Even the half trained drug clerk and the old style Chinese doctor should be called into the fight, just as at home in our campaign we welcome homeopaths, osteopaths, druggists, clergymen, the trained nurse and every one who will lend means and time to the work.

There are five lines which may be pursued in an educational campaign as follows: Exhibitions, Lectures, Posters, Newspaper Articles, Tracts.

1. Nothing is more telling in an anti-tuberculosis campaign than a good exhibition. A central location should be chosen. Admission must be free. Statistics can be most graphically shown by models or blocks of varying sizes. Small models of the right sort of houses for consumptives to live in, is the most graphic way of showing to the people what is meant by good ventilations. The phonograph may also be used, constantly repeating a lecture on the disease.

2. To reach all classes lectures should be delivered by men prominent in the various classes to whom the lectures are delivered. These talks may be given in medical schools, colleges, chung hoks, siu hoks, churches, the shin tongs, to the self-government association, and to other organizations.
Statistics if given at all should be put in a graphic form, for example comparing the numbers killed in the China-Japanese war with the estimated deaths per year in a population of 400,000,000.

The meeting should be advertised by posters and special cards distributed to the people from whom the audience is to be drawn. An example would be:

CONSUMPTION.

Will you help to drive the disease from our city?

Why?

Learn

How?

(Then the date and location of the lecture.)

Popular titles may be chosen such as: Our Duties to the Consumptive Poor; The Tuberculosis Problem and How it May be Solved; Joyful News of the Preventability and Curability of Tuberculosis; Victory over the Great White Plague; Duties of the Government and Individuals in the Fight with Tuberculosis.

The lecture should consist of some general facts about the disease, how the germ enters and is distributed, the clinical forms of tuberculosis. Statistics showing its wide distribution and great mortality and then as the main theme of the lecture: How the layman may recognize the disease in a friend or relative; how he may prevent himself and his friends from acquiring the disease and the fundamental principles of treatment, fresh air, nourishing food, and rest.

Lectures have been already arranged for the Presbyterian Church at Kukfau, Miss Noyes' school for girls, the church of the L. M. S., the students at the Christian College, the Viceroy's College and the school of foreign Languages and probably other places of which I am not aware.

An effort should be made to procure a good set of lantern slides for using in illustrated lectures. I have already written home for a set of these.

3. Another factor in the educational campaign is the poster which should be printed in bright colors with large characters and distributed throughout the city and the villages. Missionaries may take these with them on itinerating tours.

4. Articles should be contributed to the daily press and wherever possible full reports of lectures given should be recorded.

5. Another very important adjunct is the tract. These should be given away after a lecture and should be freely distributed to patients
in the dispensaries and hospitals. They may also be given away by missionaries to any Chinese who can read.

Finally the evils of patent medicine should not be overlooked especially here in China where so many forms are exploited by the conscienceless agents. An excellent tract on this subject has been issued by the Department of Health of New York (See Report of the Sixth International Congress. Vol. III. P. 668).

Such are a few of the methods usually employed in Europe and America in conducting an anti-tuberculosis campaign. In no country is there greater need for such a crusade than China and it is for those of us who are here to push this work with the utmost vigor, as we love our fellow men in this land and desire for them all that health and vigor will give them.

LES ÉPIDÉMIES PESTEUSES.

du foyer chinois de Pak-Hoi.

par M. le Dr. Abbattucci,

médecin-major de se classe des troupes coloniales, détaché au consulat de cette ville.

(Concluded from January issue.)

D. Il est intéressant de rechercher si la loi précédente s’accorde avec les faits observés en Chine ailleurs qu’à Pak-Hoi?

Yunnam.—À Mongtze’, dit en substance le docteur Michaud, la peste commence régulièrement chaque année à l’époque de la plantation du riz, c’est-à-dire en mai, avec les premières pluies et chaleurs. Elle ne dure pas plus de trois à quatre mois en général : quelques cas en mai, fastigium en juin, décroissance progressive au fur et à mesure que les pluies deviennent plus abondantes et disparition complète en septembre (Rapport Michaud, 1893-1894).

En 1899 le Dr. Reygoutaud observe également que les pluies étant survenues de très bonne heure, il n’y a pas eu de peste.

Quang-Si.—À Long-Tcheou, en 1895 (Rapport Delay), elle se montre en avril d’abord, dans le courant de juin ensuite, et l’apparition de la maladie coïncide avec une prolongation insûtie de la sécheresse.

A Ping-S’ Hiang, à 40 kilomètres de Long-Tcheou et à 35 kilomètres de Lang-Son, elle est observée en mai-juin 1898 par le Dr. Shoulon.

Quang-Tong.—À Ou-Tcheou, dit le Dr. Roderik Macdonald (in Report 1899), elle a duré quatre mois, tantôt en décroissance, tantôt en augmentation, diminuant, par exemple, le 12 mai, avec recrudescence
le 25 du même mois ; mortalité variable dépendant des causes diverses : importation de cas nouveaux, température et humidité favorables au développement du bacille spécifique, effets de pluies entraînant les couches d'immondices superficielles, etc.

A Quang-Tcheou-Wan, où j'ai assisté à la fin de la meurtrière épidémie de 1901, qui fit plus de 4,000 victimes sur notre territoire, la néfaste influence de la sécheresse était signalée par les missionnaires. L'épidémie débuta fin février et brûlait encore ses dernières cartouches dans la deuxième quinzaine de juillet.

Canton.—L'épidémie de 1894 commence en mars et finit en juin, avec fastigium à la mi-mai. Elle est précédée par les mêmes phénomènes, ainsi que le constate le tableau suivant du Dr. Rennie :

<table>
<thead>
<tr>
<th>Année</th>
<th>Mois</th>
<th>Cas</th>
</tr>
</thead>
<tbody>
<tr>
<td>1893</td>
<td>Novembre</td>
<td>10000</td>
</tr>
<tr>
<td></td>
<td>Décembre</td>
<td>00025</td>
</tr>
<tr>
<td></td>
<td>Janvier</td>
<td>02000</td>
</tr>
<tr>
<td>1894</td>
<td>Février</td>
<td>07750</td>
</tr>
<tr>
<td></td>
<td>Mars</td>
<td>04575</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>14450</td>
</tr>
</tbody>
</table>

En mai et juin, les pluies tombent en telle abondance que les rues sont inondées. La température demeure relativement peu élevée. Mais ces deux facteurs, dit le Dr. Rennie, semblaient plutôt favoriser la propagation de la maladie, car au commencement de juin, elle se repandait dans les faubourgs de l'Ouest, aussi bien que dans les villes et villages environnants.

Nous ferons remarquer que le fastigium a été constaté à la mi-mai. Il y a donc eu décroissance depuis cette époque, c'est-à-dire depuis la venue des pluies, ce qui nous paraît encore une fois confirmer l'énoncé général : l'infection constituée, l'épidémie continue, mais la contagion décroît.

A Swatow, elle est signalée pendant les mois d'avril, mai, juin, juillet, en 1895.

A Macao, de mars à juillet, en 1895.

A propos de Hong-Kong, voilà ce que disent les auteurs anglais :

"In Hong-Kong and Bombay, it was suggested that the increased prevalence of the disease about three months after the rainy season, was due to the rise of subsoil water causing expulsion of polluted ground air, but the fact is that the heavy rains drove coolies and others into the infected houses to sleep instead of sleeping in the streets as they generally do in the summer."

Quoi qu'il en soit, nous pouvons conclure de l'enquête sommaire à laquelle nous venons de nous livrer, que la règle édictée ne rencontre que d'assez rares exceptions.
E. Les modes de contagion à Pak-Hoi.

Tous les modes d’infection connus peuvent être invoqués avec un égal succès à Pak-Hoi :

1° La voie cutanée, sans doute le mode le plus fréquent, par contact direct avec le sol ou des objets souillés, ou indirect par les piqûres d’insectes parasites, punaises, puces, etc.

L’inoculation directe, d’ailleurs indiscutable,* devient particulièrement facile chez le Chinois, étant données les brèches multiples que présentent ses téguments (ulcères, ecthyma acarien, lésions de grattage pédiculaire, herpès compliqué, etc.), leurs habitudes de malpropreté corporelle et les précautions négatives qu’ils prennent pour se préserver.

Nous avons observé chez une de nos malades une véritable pustule d’inoculation au niveau de l’épine de lomboplate gauche. Elle était du volume d’une grosse lentille violacée, ombiliquée à son centre et reposant sur une zone rouge circulaire inflammatoire. Elle présentait en un mot tous les caractères de la pustule vaccinale, et étant donnée la situation spéciale sur une région exposée aux frottements et au contact avec le sol, ainsi que la coexistence d’un bubon axillaire du même côté, on pouvait la considérer comme la voie certaine par où s’était faite l’inoculation du virus pesteux.

L’inoculation indirecte par les puces, signalée par le Dr. Simond, a donné lieu à bien des controverses.† Mais, quoi qu’il en soit, il n’en demeure pas moins établi que leur rôle n’est point négligeable, et nous avons noté, pour notre part, les deux faits suivants :

A. La pullulation des puces à Pak-Hoi se fait au printemps, et on a pu observer cette année, en avril surtout, une véritable invasion.

B. En mai 1901, à Quang-Tcheou, j’avais été chargé de désinfecter des bâtiments destiné à la troupe et où s’étaient déjà produits des décès chez des soldats européens. C’étaient d’anciennes constructions, fort mal aérées et élevées sur l’emplacement d’un ancien fortin chinois, infecté sans doute avant notre occupation. Je procédai à l’opération en faisant monder le sol, les murs et les trous à rats avec de pleins arrosoirs de permanganate de potasse à 4 p. 1000 ; dans la chambre où s’étaient précisément produits les cas et dont le plancher, au lieu d’être

* Inoculations positives accidentelles ou voulues des Drs. Aoyama, Sticken, Whyte, Rosenfeld, etc.

† Quelques auteurs (Nuttal, Galli-Valerio, etc) reprochent principalement au Dr. Simond son ignorance de la forme des puces (Battlecher on admet jusqu’à 80 espèces !) et contestent l’infection de l’homme par les puces des rats ou des souris, la “Typhopsylla muscari” notamment.
en briques, était simplement en terre battue, il s'est élevé du sol une véritable armée de puces. Le bas de mes pantalons blancs était littéralement noirci de leur piqueté brunâtre, et je vois encore les tirailleurs, assaillis par les puces, sauter au milieu de l'invasion.

2° Voie pulmonaire.—Elle est possible chez les Chinois, qui se gardent bien de détruire les vêtements et objets ayant appartenu aux pestiférés et peuvent en respirer les poussières.

3° Voie digestive.—Le Chinois peut-être également exposé à ce mode très rare d'infection. Nous avons vu la gardienne d'un de nos malades ramasser avec ses doigts les crachats collants à la bouche et négliger ensuite l'élémentaire précaution de se les laver.

Quant aux autres causes, ressortant du domaine de l'hygiène générale, elles ont déjà été indiquées : encombrement, aération insuffisante, etc. Les médecins anglais, aux Indes, attribuent une importance capitale à ce dernier facteur : The measures for the prevention of the disease, that we have found most efficient, are the removal of all obstructions to the admission of light and air (Weir, cité par le Dr. Thompson).

Certaines particularités curieuses demanderaient à être commentées. Pourquoi, par exemple, en 1883, y a-t-il eu épidémie à Lin-Tcheou et non à Pak-Hoi ? Pourquoi apparait-elle à Kao-Tak eu août seulement (1899), alors qu'elle a déjà disparu de Pak-Hoi ? Pourquoi, pendant l'épidémie actuelle, les centres pestes d'On-Pou et de Kin-Tcheou ne participent-ils point aux manifestations générales, alors que la peste se montre dans les villages voisins de Sai-Tchung et de San-Héon ?

Sans parler des faits d'importation de voisinage, des facteurs divers et complexes doivent donc intervenir pour provoquer le revêtement des épidémies locales. Il semble que, dans une même région, chaque milieu bacillaire suit son évolution propre et n'acquiert que dans certaines conditions les caractères de virulence voulus. Il paraît également possible, étant donnée la diversité d'habitats où il a réalisé son adaptation, que le bacille de Yersin ait réussi à créer des espèces polymorphes ; le bacille du milieu tropical de Quaug-Tong, par exemple, serait différencié du bacille mongolique, qui résiste à des froids de 35 degrés, et aussi de celui du Yunnam, où il affecte des caractères de virulence particulière.*

*En Mongolie, dans les épidémies très graves, les mouches crèvent (Dr. Matignon) : "Au Yunnam, dit Mgr. Fenouil, cité par le Dr. Michoud, dans les plaines visitées par le yang-tâi-ping, la première victime est invariablement le rat, dont le museau est toujours tout près de terre ; successivement et en ordre régulier sont ensuite attaqués : le cochon, le chien, le chat le boeuf, et finalement l'homme, dont la bouche est plus distante du sol."
Les Épidémies Pestifères.

LE SÉRUM DE YERSIN.

Ayant reçu dans le courant d’avril 1902 un envoi de sérum du Tonkin, je fis répandre aussitôt la nouvelle en ville que je me mettais à la disposition de tous ceux qui voulaient bénéficier de son emploi.

Mais je me heurtai tout d’abord à l’indifférence générale. Le remède, croyons-nous, était nouveau à Pak-Hoï et les insuccès antérieurs de la médication symptomatique n’avaient fait qu’augmenter le scepticisme naturel des Chinois à notre égard. Enfin l’absence de tout local d’isolement ne me permettait pas de recueillir les quelques épaves quasi-abandonnées de leurs familles.

Peu à peu, cependant, devant les menaces croissantes du fléau, je réussis à obtenir quelques vaccinations préventives et, enfin, un petit nombre de malades à traiter. Mais, là encore, les difficultés commencèrent ; mes pesteux étaient éparpillés un peu partout, l’un d’eux m’obligeant à faire 15 kilomètres par jour pour le visiter, ce qui rendait toute surveillance efficace impossible. La plupart étaient isolés dans de simples abris en paille, les “mouroirs” obligatoires des pesteux en Chine, et livrés à des soins mercenaires d’un dévouement plus que douteux.

C’est donc dans les conditions les plus mauvaises que nos malades ont été traités et les résultats auraient été certainement meilleurs s’ils avaient été placés dans un hôpital.

Vaccinations préventives — Un décès s’étant produit dans les premiers jours de mai parmi les élèves de l’Ecole Française, nous avons obtenu l’autorisation de procéder à leur vaccination, ainsi qu’à celle d’un certain nombre de chrétiens. Nous avons pu pratiquer 38 et aucun des inoculés n’a contracté la peste.

Par contre sur 3 élèves, qui refusèrent de se soumettre au traitement, l’un d’eux en fut atteint et succomba à l’affection.

REMARQUES AU SUJET DES INJECTIONS DE’ SÉRUM.

Injections curatives.—Elles ne nous ont pas paru présenter la certitude d’efficacité des précédentes. A notre avis, il semble qu’il y ait lieu de distinguer dans l’évolution pesteuse deux périodes distinctes :

1° L’une de courte durée est caractérisée par de hautes températures, à exaspérations vespérales, du délire, vertiges, vomissements, adénite etc. Nous la dénommerons période pesteuse proprement dite. Sur cette dernière par les modifications qu’il imprime à la courbe thermique, le sérum nous a paru présenter une réelle action thérapeutique.
Ce fait s'accorde d'ailleurs avec les observations bactériologiques :

In one remarkable case, which died six days after admission from double broncho-pneumonia and under full dose of mercury, the German scientific Plague Mission found plague bacilli on three different days in the blood cultures and the day before death, and at the post-mortem not a single plague bacillus could be demonstrated in the blood or any of the organs. Their conviction was that the patient died from the severe complication and had his vitality been greater and no complication supervened he would certainly not have died of plague, all the bacilli being destroyed. (Thompson, A Treatise on Plague).

2° la période post-pestéreuse avec phénomènes d'infections secondaires, résorption purulente ganglionnaire, etc. C'est la période de toutes les complications. Elle nécessite une attention constante, une alimentation surveillée, des soins minutieux et devoués. A ce stade de l'affection, les injections de sérum ne nous ont pas paru présenter une action thérapeutique quelconque.

Les injections hypodermiques ont été faites généralement sous la peau du flanc ou,— en cas de douleurs abdominales trop vives,— à la cuisse; et au bras ; les injections intraveineuses en piquant une veine de l'avantbras à travers la peau.

Ainsi que nous avons pu nous en rendre compte sur nous-mêmes, elles ne sont douloureuses que par la piqûre de l'aiguille. Elles se résorbent en quelques heures. Chez deux sujets, très adipeux, l'injection sous-cutanée dans le flanc a donné lieu à un peu de rougeur locale, douloureuse à la pression, phénomène qui a disparu en quarante-huit heures sous l'influence d'un pansement humide.

Un autre a présenté, le sixième jour après l'infection dans le flanc droit, et successivement, de l'adénite inguinale, de l'adénite axillaire et de l'adénite sous-maxillaire droites avec température de 37°5 un seul jour. Un quatrième, injecté à droite, a eu également le septième jour 37°5 avec une légère adénite crurale du même côté. Ces phénomènes se sont d'ailleurs rapidement dissipés et ne gênaient pas les inoculés pour leurs occupations habituelles. Ces réactions locales très béduines sont-elles imputables au sérum ? Y-a-t-il eu propagation lymphangitique par les ganglions superficiels de la moitié sus-et sous-ombilicale de l'abdomen qui vont respectivement converger aux ganglions axillaires et inguinaux ? Cela est douteux, car la région inoculée était indolore et on n'y découvrait plus trace d'injection; d'ailleurs, les symptômes ganglionnaires ne sont apparus que le sixième ou septième jour. L'injection a-t-elle déterminé une peste atténuée chez des sujets déjà touchés par le virus ou encore y-a-t-il eu simple
coincidence ? Quoi qu'il en soit, tous deux ont été réinjectés quelques jours après, sans avoir réagi cette fois d'une façon quelconque.

L'injection intra-veineuse transdermique nous a été facile, lorsque le malade présentait des veines bien apparentes et que l'on prenait soin de les faire saillir en placant un lien constricteur temporaire. Elles n'ont été difficiles que chez quelques sujets à veines affaissées et peu visibles. Nous avons également évité de flamber l'aiguille avec la seringue chargée de sérum, car il se produit de petits coagula intérieurs, qui l'oburent facilement, et le mieux est d'avoir plusieurs aiguilles de rechange préalablement stérilisées.

INQUESTS IN CHINA.

By Edward M. Merrins, M.D., Wuchang.

In accordance with that peculiar concatenation of the changes and chances of medical work which at intervals brings three cases of an unusual kind to the hospital or dispensary in quick succession; on three occasions recently, the writer was called to see persons who were already dead before his arrival, either to give assurance that death had actually occurred, or to explain unusual circumstances in connection with the decease.

The first case was that of an elderly man who had been kicked in the head by a horse. Life was quite extinct, and had been so for some time when the examination was made, but the magistrate conducting the legal proceedings wished to receive professional confirmation of the fact.

The next case was that of a pretty little girl belonging to a well-to-do family, who had died suddenly during the day after a brief illness. By the time the house was reached, the child had been dead about three hours, and the body, decked in the gorgeous habiliments of the dead, lay in a coffin. The limbs were stone cold, but the abdomen still retained a little warmth, and this led the father to think that perhaps life had not altogether departed. When told there was no hope, his quiet grief was pitiable to witness.

The third case was that of an elderly scholar who died in a Chinese inn, where he was a stranger. After writing several letters one evening, he retired to his room. The next day, as he did not appear, the room was entered, and he was found dead. The letters gave no hint of pecuniary or other trouble. While waiting for the relatives to come and take charge of the funeral, the body was left in the room for
three days without inspection. On the fifth day, when they looked at the corpse, interlacing reddish or purplish streaks were noticed covering the neck, upper part of the chest and groins, in addition to the usual *post mortem* discoloration. This gave rise to the suspicion that he had been poisoned. With the aid of a native assistant, a thorough investigation was made, and as there was really not a particle of evidence to justify the suspicion, the opinion was given by the writer that the man had died from natural causes and that the streaks were due to the decomposition and escape of the blood in the veins.* This opinion was satisfactory to all the parties concerned, and the corpse was taken away.

Professional calls of this kind raise certain questions which it may not be uninteresting to consider. In the second case mentioned above, the father feared that his child might be buried prematurely. Is the risk of premature burial greater in China than elsewhere? How often may it be said to happen? In Western lands, where a body cannot be buried unless a death certificate is produced, signed by a legally qualified practitioner of medicine, premature burial in these days can rarely or never happen. Yet it must be admitted that now and then there are very narrow escapes. To cite but one instance: in England a few years ago, six hours after the body of a young woman had been laid out for burial, the undertaker, while measuring the body for the coffin, noticed signs of life, and the woman ultimately recovered. If there is risk even to this extent in the West, where there are so many safeguards against premature burial, the danger must be much greater in China, where death certificates are not required, and anyone who chooses may practice medicine without preliminary training.

Of course when adults die, the burial customs of the country, in the absence of criminal intent, are a strong safeguard against this mishap. The worship of ancestors requires that scrupulous care shall be expended on the washing and shrouding of the corpse, and it takes considerable time to propitiate the powers of the underworld on behalf

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* "In certain parts of the body, the cutaneous veins are seen as red cords in the midst of patches of paler color." —Guy and Ferrier's Forensic Medicine, p. 255.

"Very soon after death, particularly in warm weather, the tissues immediately around the subcutaneous veins of the neck and thorax and in other situations, may become stained of a bluish-red color from the decomposition and escape from the vessel of the coloring matter of the blood." —Delafield and Prudden, Pathological Anatomy, p. 5.

"The discoloration appears to depend on the decomposition and infiltration of the fluids of the body, especially of the blood, into the skin. In the neck and limbs it is observed to be more marked in the situation of the large venous trunks, and sometimes indeed the course of the superficial veins is accurately traced out by greenish blue, or dusky lines, which have been mistaken for marks of violence." —Taylor's Medical Jurisprudence, p. 70.
of the deceased, to make provision for the different stages of his ghostly journey until his destiny is determined, to select a grave which the geomancers finally declare meets all religious requirements, and otherwise prepare for the burial. During this period, which lasts from one to seven weeks according to the wealth of the family, the coffin remains in the house. Further, until the corpse is coffinied, on the third, fifth, or seventh day as the case may be, it is watched night and day by near relatives. It would seem that the least manifestation of life before burial can hardly escape notice. After the body has been placed in its coffin and the lid fastened down, life, even at its lowest ebb, is quite impossible.

With little children the case is different. When they die it is believed they perish utterly and forever, and as prayers and other ceremonies are obviously unnecessary, they are usually buried on the day they die. Consequently for them the danger of premature burial is much greater. The Chinese themselves say it happens sometimes, but as their stories are legendary, hearsay, or bear a suspicious resemblance to the stories on this subject which circulate in the West, one has to withhold belief. But the following incident, which Dr. Ruth Massey, of the London Mission Hospital, Wuchang, kindly permits me to report, is quite authentic, as the resuscitated child came under her personal care. A little girl, about six years old, after a few days illness, apparently died. The parents were poor, and other families with children were living in the same house with them. These neighbors insisted that the parents must not touch the body of their unconscious child, as they had the superstitions fear their own children would be harmed by contact with those who had touched the dead. For the same reason they demanded that outsiders should come immediately and take away the body. Accordingly, covered only by a thin cloth, it was put in a coffin, carried outside the city, and left in a field until the next morning, when men came to carry it to the place of burial. On lifting the coffin, the bearers heard a cry or groan, and in great excitement returned to the city and told the father. In the course of an hour he arrived at the place, opened the coffin, and found the child still living. Indeed, the natives reported it was then able to drink a little tea. By direction of Dr. Massey, to whom the father sent a messenger, it was brought in all haste to her hospital. On arrival, it was still breathing, but respiration and circulation both ceased before stimulants could be administered.

Premature burial may not happen often, but one indisputable instance in a district is quite sufficient to cause more than the usual
anxiety and doubt, in the presence of death attended by inexplicable circumstances, especially as to the ignorant and credulous minds of the Chinese, the gulf between the living and the dead is not so deep and fixed as to be altogether impassable. Thus at the time of writing, it is being reported that one of the idols in a temple not far from the city of Wuchang, is showing signs of life, as it seems to be perspiring. The explanation is simple; for the last two or three months there have been heavy and continuous rains; consequently, in the very humid atmosphere, many inanimate objects, idols included, are covered with beads of moisture. If it is thought possible for a senseless thing like an idol to show signs of life, it is easy for them to think that a human body from which life has just departed, may not be dead beyond recall.

Hence in all cases where foreign physicians are called to say whether life is extinct or not, although convinced beyond the shadow of doubt that the subject has gone to the bourne from which no traveller returns, it may be wise to demonstrate the fact to the relatives by all the means in our power, in order to allay their uneasiness. In addition to the time-honored methods usually employed, it may be well to try some of the newer ones, such as the weird impressive test of Icard, i.e., to inject deeply into the cellular tissue a solution of fluorescein. If the circulation has not stopped completely, the skin becomes intensely jaundiced, and the eyes become green, so that each eye seems "like an emerald set in the orbit." What the effect upon the Chinese would be if they saw a man or woman apparently dead return to life with emerald green eyes, it is hard to imagine. Fortunately for the person resuscitated, this uncanny condition is transient. An important measure which the native authorities should be urged to adopt to dissipate the fear of premature burial, is a law forbidding interment without a properly signed death certificate.

In the third case there arose the question, Had the subject died an unnatural death? As the Chinese very rarely give permission to perform a full post-mortem examination, the decision of such question in a way to satisfy one's own professional conscience in not easy. All that can be done is to inquire fully into the circumstances, inspect the body carefully, use such simple tests as are allowable, and then, if satisfied there has been no foul play, deliver a common-sense judgment with all the dignity one is able to assume. If there is direct accusation of crime, and the circumstances are very suspicious, then permission to make full investigation should be demanded. If the authorities and relatives concur, the examination should be made with the same care.
and in as favorable conditions as at home, so that the report, whatever it may be, shall furnish no reasonable ground for controversy. If permission is refused, or if the examination cannot be properly conducted, then it is surely better to confess ignorance of the cause of death and lay the blame for this unsatisfactory conclusion on their defective methods of medico-legal procedure.

The prejudice against autopsies not only impedes the investigation of crime and administration of justice; it is also a serious hindrance to progressive medical work by physicians in the field, except perhaps in such branches as bacteriology and helminthology. Who has not had in his wards obscure, atypical cases of disease in which, on their fatal termination, he would gladly have given a good deal for the privilege of making an autopsy? An ingenious and perhaps correct theory of the nature of the illness may have been formed, but as it cannot be verified by post-mortem findings, it has little or no value. Consequently the ardor for original work in this direction is dampened, and medical cases often continue to be treated in routine fashion, in marked contrast to the interest and satisfaction displayed in the surgical cases.

It is also a bar to sound teaching in our medical schools, as the pathological effects of internal disease cannot be demonstrated to the students, to say nothing of the impossibility of obtaining material for anatomical dissection. The study of anatomical charts, manikins, and models, the dissection of frogs, cats, and other of the lower animals, cannot take the place of actual dissection of human bodies. Perhaps it is hardly wise to refer to this subject at the present time, yet a frank avowal of what is really necessary for the teaching and practise of medicine, at some time or other, must be made.

The reasons for the objection of the Chinese to autopsies may be briefly considered. Here as elsewhere there are those to whom the possibility of their own or their friends' earthly remains being cut and handled by strangers is most displeasing, and among the ignorant and prejudiced of the Chinese, the aversion to the procedure is intensified by the suspicion that foreigners use parts of the dead human body for medicinal purposes and occasionally do not hesitate to sacrifice the living. Hence the exodus of little children from Shanghai during the rioting caused by the plague preventive measures. Considering that hundreds of thousands of the natives pass annually through the hospitals and dispensaries of that city, it is rather depressing to find such foolish and harmful suspicions so persistent. But many of those in constant contact with foreigners are just as stupid. "Shanghai
side too muchee fear doctor cut up, " was the reply of a fireman em­ployed for many years on one of the Yangtze steamers when asked why he was taking his four-year old boy with him on the steamer to Hankow at the time of the rioting. What can be done to allay these suspicions it is hard to say. It may be that the following suggestions are not quite superfluous:—

(1). Newcomers should be impressed with the value of conservative surgery until experience has been gained of the character of the Chinese.

(2). In every case the nature of the surgical operation it is intended to per­form and its possible consequences shall be fully explained to the patient and his friend, and a written guarantee (£• p|) obtained from them of exemption from blame or liability if the result is not what is desired.

(3). Every hospital should have its own incinerator, in which soiled dressings and other things from the operating room—particularly the other things—can be destroyed. Nothing of this kind should ever be found on the public garbage heaps.

(4). For flushing offensive drains running from the hospital compound, solu­tions of potassium permanganate should not be used. The knowledge of chemistry possessed by the "man on the street" in China is very elementary.

(5). Anatomical and pathological specimens should not be displayed too openly, and it would be well if medical students said as little as possible to outsiders about the specimens they study. As this is a very important question, perhaps others may offer more valuable suggestions.

But the strongest objections of the Chinese to autopsies probably rest on religious grounds. To permit mutilation of the body is regarded by them as a breach of the laws of filial piety, as it is their bounden duty to preserve intact the body received from their parents. As the mutilation is supposed to be perpetuated in the body received in the next life, it is an eternal loss whether desired or not. Therefore decapitation, because more far reaching, is held to be a worse punish­ment than strangulation, though the latter is a slower and more painful death. In this as in almost everything else, Chinese ideas are opposite to those prevalent in the West, where those who had the unenviable privilege of choosing their mode of execution, generally preferred the headsman’s axe to the hangman’s rope. “In one of his essays, Montaigne tells of a French soldier who,” “when he heard that he was ouely condemned to have his head cut off, he seemed to take heart of grace againe, and to be sorie for what he had done, and tooke some comfortable drinks, which before he had refusen, greatly thank­ing the judges for his unhoped gentle condemnation.”

Further, ancestral worship implies that family ties are not broken by death, but that the dead continue to exercise their authority over the living and have the power either to help or to injure them. If a corpse remains unburied beyond a certain time, the offended ghost, according to popular superstition, may reunite itself with the body
and bring evil to all concerned by changing into a *chiang sz* (龜戶), a ferocious, horrible creature, covered all over with long white hair, who kills people in a few minutes by sucking their blood like a vampire. It is possible that the fear of giving offence to the dead may be an obstacle for a long time to come to the holding of autopsies.

What can be done immediately to remove these and other objections? An appeal to a Chinese official of a progressive turn of mind may succeed in a special case, but, as a rule, the officials are loth to offend public religious sentiment unless their own interests are in jeopardy. Yet the changes made by them in the last few years, in spite of religious prejudices, are astounding. Not long ago reverence for the dead and the powerful superstition of *fung-swei* (風水) were thought to be insurmountable obstacles to the construction of railways, the erection of telegraph poles, etc., through large tracts of country covered with graves. Yet the officials overcame the religious antagonism of the people without much trouble. Perhaps when the administration of justice in the native courts is more in accordance with Western law and practice, autopsies will be more frequent.* Quite recently the officials ordered a professional examination to be made of the body of the ricksha coolie whose death gave rise to the deplorable riot in Hankow. The people recognised the value of the procedure. According to the newspaper report “the inquest on the ricksha coolie has had a satisfactory issue. The Chinese are satisfied that death was due to natural causes. All is quiet.”

The majority of the Chinese people, however, apart from the officials, do not seem quite ready for the advance, though a step forward was taken when they demanded of their own accord that a *post-mortem* examination should be made in the unfortunate case of the man in Kinkiang who died, so it was alleged, after a blow from a foreign policeman. But that was an occasion when the feelings of the people were deeply stirred. In ordinary hospital cases it is very hard, if not impossible, to obtain their consent. A change of sentiment can only be wrought by the teachers of religious and scientific knowledge. When the Chinese are led to believe that the mortal body after death disintegrates beyond the possibility of reconstruction, and that its mutilations and decay have nothing whatever to do with the spiritual body received hereafter, many, many grotesque superstitions will vanish, and the consequent benefit to medical science, direct and indirect, will be very great.

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*According to later information the inquest was nothing more than a superficial examination of the body and verbal inquiries made by Chinese officials.*
SOME ADVANCES IN SURGICAL PRACTICE NOTICED DURING FURLOUGH 1909.

By B. M. Livingstone Learmonth, M.B., Simminfu.

This paper is addressed to those who have been out in China for some time and who may wish to learn, from one who has just returned, a few of the practical changes which have come into vogue in the West. One often longs to know how many of the new methods one has read of in the medical journals have met with the approval of the leading surgeons at home. I must crave the forbearance of those who like myself have recently returned from furlough and the indulgence of those who, having come fresh from the stocks, will see nothing new in the things which struck me. I trust that they will make up my deficiencies in the discussion which will follow.

My remarks are based on observations made in the Edinburgh Royal Infirmary.

TREATMENT OF FRACTURES BY MOBILIZATION AND MASSAGE.

One of the most noticeable changes is in the treatment of fractures. Many fractures of the arm are treated from the first without splints, only a sling; and in nearly all fractures of the extremities the limb is massaged daily and passive movements carried out according to the practice of Lucas-Championnière. He lays down one or two important rules. Massage must be gentle and on no account give pain. Mobilization must always be of very short range, gradually increasing.

Reasons for this treatment.—One of the great hindrances to rapid repair is the contraction, spasm of the muscles, and this is more efficiently overcome by the soothing action of stroking massage than by rigid apparatus. It is impossible to effect immobilization without, to some extent, interfering with the circulation and so delaying repair.

Results.—The results obtained by this treatment are very satisfactory. There is a great alleviation of pain and spasm; thus overcoming the tendency to shortening. The patient has the full use of the limb by the time that under the old method firm union had taken place; he is saved the long period of stiffness and pain which followed his release from splints. The stiff joints which so often result from fracture near a joint and which last longer the older the patient, and in so many cases are permanent, are avoided or greatly ameliorated.

One drawback is the drain on the surgeon's time. In a large hospital several trained masseurs are constantly employed, but I am
told that there is a danger of even experienced masseurs carrying out mobilization not at the adjacent joint but at the seat of fracture. But the loss of the surgeon’s time is the gain of the patients.

A practical hint is to use French chalk on the hands when massaging.

GLOVES.

Rubber gloves are now largely used for operating. Most surgeons use them regularly, but some prefer to use them only in septic cases; even they use thick rubber gloves while scrubbing the skin of the part before an aseptic operation.

The cost for gloves at the Edinburgh infirmary for one year was £90 or gold $450. At first sight it seems as if the cost of gloves would be prohibitive in the conditions under which most of us have to work, but the cost of gloves is now much reduced, probably however, it has risen again since the rubber boom. Mine cost 2/6 a pair for medium thickness, 2/3 for thin. As for durability; there is no doubt that if frequently subjected to high pressure steam they after a time become friable, but there is no need for this, as they can quite well be sterilized by rubbing in strong antiseptic solutions, which do not seem to injure them, as I have been using six pairs constantly for six months without any apparent deterioration.

They are a great comfort, as they prevent the cracking of the skin, which is inevitable during the cold winters if the hands are frequently immersed and scrubbed in antiseptics which are effective.

They are a powerful reminder both to oneself and one’s Chinese assistants against touching any unprepared surface.

If not frequently dipped in lotion they become sticky, so that they obviate the risk of one’s becoming so engrossed in the operation as to forget to frequently dip one’s hands. They are of at least three thicknesses—thick, medium, and thin. Of the medium and thin two kinds are sold, rough and smooth. The object of the roughening is to afford a better grip of instruments, but I find that a perfectly good hold can be taken with the smooth, and naturally they are more readily sterilized by antiseptics.

Just at first one is apt to prick them or push the butt of the needle through them, but one quickly becomes used to them and the holes are easily repaired by means of a bicycle repairing outfit and pieces of a torn glove.

They should be ordered half a size smaller than one uses in kid gloves, so that they may fit tightly and prevent puckering, with the
consequent liability to be pricked. I find those of medium thickness most suitable. Before putting them on, the hands must be well cleansed and dried with sterile gauze, and then both hands and the inside of the gloves must be dusted with French chalk. Some thin finger stalls must be in readiness to slip over a finger in case of puncture, or the gloves must be changed, as the hands perspire and the wound would become infected.

The gloves must be taken off before bandaging, or lifting a patient, or they will be torn.

**STERILIZATION OF THE AREA OF OPERATION BY MEANS OF TINCTURE OF IODINE.**

The part is well washed the day before and covered with dry lint. Just before the operation the part is painted with tincture of iodine, which soaks into the crevices of the epithelium. No washing is done except the day before, lest these crevices should be filled with wet epithelial débris, which prevent the entrance of the iodine. Acetone has been used as a solvent of the iodine on account of its greater penetrative power, but I have had no experience of that. This tincture of iodine method is of very great use in treating out-patients. I am informed that the Japanese surgeons during the Russo-Japanese war used to sterilize the tips of their fingers by this means. I have found it irritating to the skin sometimes as in operation through the scrotum and prefer Harrington's solution for that part.

**ADMINISTRATION OF ETHER BY DROP METHOD.**

Having been trained in Edinburgh, where one was so to speak brought up on chloroform, one could not fail to notice the advance of ether as an anaesthetic. It will strike our American colleagues as extraordinary that during my medical course—1891-96—I never saw ether administered. Now I found that even in Edinburgh ether is being used, but only in special cases, or where during chloroform administration the heart shows signs of failure.

No elaborate apparatus is used, as it is believed that much of the post-ether lung troubles have been due not so much to the ether as to the want of cleanliness of the rubber bag. An ordinary wire mask is used, such as is used for chloroform, but covered not with lint but with a layer of cotton wool about a quarter of an inch thick. A strip of the same thickness—two inches wide—is placed under the edge of the mask to raise it off the face and fill up all crevices between it and the face.
The ether is poured into the mask from a freely flowing drop bottle. As a much greater quantity of ether is necessary, its administration is more expensive than that of chloroform.

To one only used to the administration of chloroform—the cyanosis—is alarming, but it is said to be really less dangerous, and it may be entrusted to even a careless administrator without fear. The breathing also becomes stertorous from the accumulation of phlegm in the throat, but that may be prevented by the injection of $\frac{1}{10}$ grain atropine about $\frac{1}{2}$ hour before operating.

It is found specially useful:

1. In abdominal cases where the vomiting following chloroform is to be feared.
2. In order to avoid the post-chloroform poisoning which has proved fatal to many children within a few days after operation, specially abdominal operation.
3. In cases where the heart is weak.

Chloroform is generally, but not always, used first to put the patient 'over'.

**IMPRESSIONS OF ETHYL CHLORIDE AS A GENERAL ANÆSTHETIC.**

Having read of the advantages of ethyl chloride over chloroform I made enquiries on arrival in Edinburgh, but found no surgeon to recommend it.

However in the dental department I saw it used and administered it several times. It was only used in conjunction with nitrous oxide. After 30 seconds' inhalation of laughing gas, a measured quantity of ethyl chloride was tipped during an expiration into the bag. The anaesthesia lasted about 50 seconds, and in a short time the patient could be led off to one side. They were putting through the patients at the rate of 15 per hour. This rapidity appeared to be the chief advantage of the method, for most of the patients went into a condition resembling an epileptic fit with clonic spasm of the muscles, a condition most unsuitable for a surgical operation.

**BIER'S ACTIVE HYPERÆMIA AND PASSIVE CONGESTION.**

In a modern out-patient department a surprising number of glass bells are in use of varying shapes to suit all manner of acute inflammations, such as whitlows, boils, carbuncles, etc. The edges of the bells are smeared with vaseline to make them fit close to the skin, and to the domes are attached rubber tubes, through which the air is abstracted by means of rubber balls or any form of aspirator. As rubber balls are so apt to spoil in this climate, I use an antitoxin syringe and a clip to pinch the rubber tube when a sufficient quantity of air has been withdrawn. It is often left to the patient to apply the exact amount of suction to relieve pain, and this may be taken as a test of the effective
amount of suction. The object of course is to bring a fresh supply of opsonin-bearing lymph and leucocytes to the part and so a free incision is made where necessary.

The other method of passive congestion by means of constriction of the limb above sufficient to impede venous return, is now much more largely used than formerly, not only for tubercular disease but with even more success in other chronic ailments, such as chronic rheumatoid arthritis, indolent ulcer of the leg, or chronic sinus. I have used it with great success combined with splints in tubercular elbows with sinuses; the sinuses gradually closing and the joint recovering a considerable amount of mobility.

Patients must be warned against applying the bandage for more than 1 hour a day. I saw in Edinburgh a man who had been so pleased with the result of the treatment that he thought he could improve it by applying the bandage for 24 hours or more continuously; the result was that his leg appeared as if he had elephantiasis.

I have been very much pleased too with the similar method of treatment suggested by Sir A. Wright in cases of carbuncle or any acute inflammation where the pus is thick and no adequate flow follows upon incision, namely the internal administration of sodii citras in dram doses three times a day. This decreases the coagulability of the blood and causes increased flow of lymph. The principle is the same as Bier’s method, but it can be applied in some cases where it is impossible to apply constriction or any glass suction apparatus.

SCHISTOSOMA JAPONICUM INFECTION IN AN AMERICAN CHILD.

Cutaneous Symptoms following Infection. Schistosoma japonicum Infection in a Fox Terrier. Is the Kiukiang Wading Fever caused by Schistosoma japonicum?

By O. T. LOGAN, M.D., Changteh, Hunan.

While at Kuling in July, 1910, a patient with dysenteric symptoms was given into my charge by another physician who had to leave the mountain soon after the patient came up. Having the belief that one should know whether he is treating amebic or bacillary dysentery, I made an examination, expecting to prove the presence or absence of amebae, but, to my surprise, I found every field of the microscope filled with eggs of Schistosoma japonicum. As this is the first case
that, to my knowledge, has been found in an Occidental, I thought it should be reported. The history is as follows:

C. H., male, aged 13, returned in fine health with parents from furlough in U. S. A. in March, 1908. After spending the intervening time at station near Yochow, on Tongting Lake, where he waded and swam in the lake after weather became warm enough, he arrived at Kuling on July 4th.

At Kuling he went bathing once or twice a day in the pool or stream. The latter part of July he was taken ill of diarrhoea, which two days later was followed by a rash on face, neck and arms. This rash in turn was succeeded by large blotches on arm, body and legs. Largest blotch was on outside of right thigh, which covered nearly the whole of that region. These blotches were paler than the normal skin and were elevated 1/4 to 1/8 of an inch. Stools at this time contained a little blood. Fever lasted six weeks, but half of this time did not exceed 100 F. No microscopic examination of feces was made. The cutaneous attack was regarded by the doctors who saw it as neurotic edema and the fever suspected to be typhoid.

In September, 1908, he went back to station and felt fairly well most of the winter, but passed blood at intervals of three to four weeks, also had occasional attacks of fever, which lasted only a short time, apparently giving way to quinine.

In the spring of 1909 he had dysenteric symptoms steadily for a month and continued to have intermittent seasons of bloody stools. During the spring and early summer of this year he waded a good deal in the ponds and swam in the lake. He went to Kuling again early in July and was soon taken ill of fever and bloody stools, being confined to bed three weeks. In October, 1910, he had his first rigor, and during the winter he had several more. Bloody movements always followed these rigors.

In the spring of 1910 his symptoms were similar to those of the preceding winter, and he felt disinclined for study. Wading in ponds and swimming in the lake being his chief diversion, these were continued. Once, after wading in a pond in July of this year, he had a papillary rash on both legs up to the knees. A week later he was taken ill of a bad headache and fever with vomiting and pain in the bowels. A day later, July 11th, pain and fever were very great. Pain was localized in right inguinal region, and parents thought he was having an attack of appendicitis. Fever was 103-104 F. (maximum) for a week, abdomen was very hard and breathing
difficult; the latter doubtless being dependent upon peritoneal irritation or inflammation. Bloody stools did not begin until he had been ill five days.

He was taken to Kuling, July 22nd, 1910, and on the 24th I was called to see him.

Physical Examination.—Patient anemic. Abdomen soft and slightly tender. Liver and spleen normal. Digital examination showed rectum thickened 2½ inches inside sphincter; the feeling to the finger being that of a ring with small lumen, in which papillomata are felt instead of normal mucous membrane. Temperature 103.8 F in afternoon.

Microscopic examination of feces revealed great numbers of eggs of Schistosoma japonicum.

Later Dr. Houghton, who kindly saw the patient with me, called attention to exaggerated reflexes and slight ankle clonus, which he said was characteristic of many of his Chinese cases in Wuhu.

On September 3rd a differential count of the blood showed.

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16%
Number of cells counted, 350. Mononuclear cells larger than the average polynuclear were counted as "large," and those smaller than this standard were classed "small."

It is my opinion that the patient contracted the disease through his skin or mucous membrane, as it is almost certain he never drank unboiled water. That this is the usual method of infection would appear from information recently received through Hume, of Changsha. He writes in a personal letter under date of December 21st, 1910: "Houghton has just sent me an article by Katsurada (Centralblatt f. Bakteriologie, February, 1910), showing that he could not infect cats with *S. japonicum* by feeding, but could infect cats and dogs heavily by one and a half hours immersion in infected fields."

In connection with this subject it may be worth mentioning that last summer a fox terrier suffering of dysentery at Kuling was found to be passing stools containing eggs morphologically identical with those of *Schistosoma J.* This dog, belonging to a resident of Hankow, was discovered by Dr. Berkin, who asked me to examine its feces, as she suspected it was suffering of schistosomiasis. I was told that this dog, that was having a stool every few minutes, was frequently seen in the bathing pool of the above resort. This disease has, until recently, been known as a disease of man and cats, but now it is practically certain that dogs are also victims. Attention is called to the fact that our patient was taken ill at Kuling after a residence of two or three weeks (in 1908), during which time he was an enthusiastic bather in the stream and pool, which bathing places unfortunately have been shared by the dogs from the time of opening. It is impossible to say, owing to present lack of knowledge of incubation of the disease, whether the primary infection was obtained at Kuling or at the mission station. Houghton, in consultation over this case, called my attention to the similarity between the cutaneous signs presented in the incipiency of our patient's apparent infection and those of Lambert's wading patients.* Most unfortunately my number of the *China Medical Journal* containing a description of Lambert's wading fever and skin eruption has been destroyed. As memory serves me, his patients have invariably been men who waded bare-legged in the fields and marshes around Kiukiang, and such exposure has been followed by a train of symptoms not unlike those of C. H.'s. It would be interesting to know whether any of Lambert's cases have since developed schistosomiasis. Houghton, who relieved Lambert for several weeks, informed me that every patient from a

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The China Medical Journal.

district near Kiukiang presenting at the dispensary at Kiukiang had *Schistosoma japonicum* ova in his stools.

At present we have in our hospital, being treated for traumatic stricture, a man who has been a barber in Hankow for eleven years, during which time he has only waded in water once; that was five years ago and for a very short time. He has never been the least inconvenienced by the one or more *Schistosoma J.* parasites he harbors and seems in perfect health, although his eosinophile count is 10%.

Dr. Adams writes me under date of November 18: "I have been able to trace schistosomiasis to the lake shore in front of the school (of which C. H.'s father is principal). One of the students has it who has been in the habit of playing there and nowhere else. He is from the city here and has had no other occasion to become infected." He adds that C. H. left for the U. S. in October, feeling quite well, and that he continues to improve in physical strength after arrival.

**CONCLUSIONS.**

1. It is evident that missionaries and other foreigners in China must be careful about wading and bathing in endemic areas which, as our knowledge of the nosogeography of China increases, seems to comprise a large part of the Yangtse valley with its myriad of tributaries.

2. There is a probability that the disease described by Lambert, of Kiukiang, may be incipient schistosomiasis.

3. Dogs, as well as cats, and doubtless other animals, are agencies in spreading the disease.

4. The term dysentery, unqualified, has long since failed to convey the idea of a proper diagnosis of diseases characterized by the passing of blood associated with tenesmus.

5. The microscope is the court of appeal in diagnosis of diseases presenting dysenteric symptoms, not, however, to the neglect of other methods of diagnosis, especially in the absence of positive microscopic findings.
Hints on Litholapaxy.

HINTS ON LITHOLAPAXY

By P. S. Sturrock, M.B., B.C., Dunfermline, Scotland.

Passed on by Fred H. Judd, M.B., B.C., Javaoch.

Not a few of us who have had little experience in lithotrity or litholapaxy must have been helped by Dr. Roys' practical paper on the subject in the July number of this magazine. Wishing to try the crushing operation I wrote some months ago to a friend and fellow-student, Dr. P. S. Sturrock, for advice. He was stationed in Baghdad in connection with the Church Missionary Society, and during five years operated on over 500 cases of vesical calculus with, I believe, only five deaths. Over three hundred of these were by the crushing operation. He has kindly given me permission to pass on these hints, copied from a private letter. As he has had no opportunity to correct or revise them I take the blame for any mistakes.

"Litholapaxy, with a very little practice and a certain surgical instinct, is really a very easy operation. If any one will give chloroform for you, you need no assistance whatever. You would be surprised how large an instrument for evacuating the fragments you can use on a patient. On male patients I usually used a 17 evacuator catheter—quite straight—no curve at all on it. But the Arabs struck me as having very large urethras. Yet on a tiny boy, say of five years or so, a No. 7 was quite easy, and I even used that on babies.

The secret is careful passage of the lithotrite, crushing as much as possible before evacuating, so as to avoid a frequent passage of instruments, keeping the instrument on the base of the bladder and crushing only with the point looking upward. After experience one can take great liberties with this rule, but not at first. Keep the bladder comfortably full while crushing, don't crush with a comparatively empty bladder, or there is a great risk of damage from inclusion of a fold. My experience extended over 300 litholapaxies, and only two died—one from pneumonia and one an old man who went to bathe in the river in the evening after being operated upon. He developed cystitis, and cardiac failure carried him off. The operation I had only seen once or perhaps twice done at "The London" before I began, for my colleague in Baghdad always did lithotomy until I went out. I only tell you this to let you see that ordinary care is needed to ensure success.
I don't know the kind of stones you have, but soft ones are the most difficult to do, for they make it difficult to know when you have stone between the blades and not mucous membrane. Uric acid are the best; they split clean, and there is not a shadow of doubt in one's mind as to when a fragment is between the blades. Wash out the bladder with weak boracic lotion; it is cheap, clear in solution, and the fragments can be easily seen.

Albuminuria would in no way debar me from operating; it does not complicate the case at all. Some cases developed high temperatures for 24 hours, but I got not to worry in the slightest, and I believe some of the temperatures were probably malarial in origin. Of course the operation takes time, far longer than lithotomy, but with practice it is wonderful how fast the operation can be done. My brother [the late C. A. Sturrock, Esq., F.R.C.S.E., of Dunfermline (F. H. J.)] gave me a lithotrite to operate on children. I did 40 adult operations first, and in answer to a letter he wrote me about the operation on kiddies I said: 'What is chiefly needed is patience and a strong back!'

If the stone is very hard, as is detected by it not at once splitting when caught in the lithotrite, after catching it in the lithotrite screw up slowly and not too far and stop and in all likelihood you will find if you wait 30 seconds or so it will suddenly snap, and the rest of the operation will be easy. If on the other hand you have a very hard stone and you screw up very quickly you may break the lithotrite, and the usual place it snaps is at the bend of the male blade. Of course in such an event suprapubic must be done. This leads me to say it is most important that the lithotrite be a very good one made of the best steel, otherwise if you have the misfortune to meet with such a stone and do not succeed with it the lithotrite will bend and not break, which is a very serious thing indeed, as it will not be able to be withdrawn. At my 40th operation I broke my lithotrite over a very hard stone; it taught me the lesson I am now handing on to you, and though I operated after that over 360 times I never had another accident, though plenty of hard stones. I once had a lithotrite sent me by a friend. I tried it, but found it most dangerous, as it tended to bend. I would most strongly recommend Down Bros., of London; their instruments may be equalled, but cannot be beaten. After returning home I was one day in a surgical instrument makers and asked to see their lithotrites. They were very inferior instruments, and had any doctor not known about such instruments they would have got a very poor one.'
Dr. Sturrock very kindly selected and sent out to me a lithotrite and evacuator. Both are Milton's—Figs 3092 and 3075 in Down Bros.' Catalogue—the former size 1/8, the latter with one straight (size 14) and three curved catheters (sizes 11, 12, and 13) with stilettes.

Dr. Sturrock must possess a good deal of what he calls "a certain surgical instinct," and is to be congratulated upon having had such success; we regret that he has been prevented from returning to the Mission field, where he did such good Christian and medical work and where his heart still is.

ON THE USE OF ARGYROL IN OPHTHALMIC AND URO-GENITAL PRACTICE INFLAMMATIONS.

By Harold Balme, F.R.C.S., Eng.

Ever since the efficacy of solutions of silver nitrate for inflammatory conditions of mucous membranes was first discovered, pharmacologists have been seeking to find similar preparations of silver salts which, while possessing all the potency of the nitrate are at the same time free from the obvious disadvantages of that drug. Various synthetic products have been placed upon the market from time to time, mostly originating from German laboratories, but only two of them seem to have met with anything like widespread favour, viz., protargol and argyrol, and to this day the majority of surgeons consider that even these two preparations fall very short of what is really desired and are not even to be compared with argent. nit. in many respects.

There are some conditions, however, in which argyrol has proved to be a remedy of marked value, especially where one is anxious to obtain the specific action of a silver salt without running the risk of the slightest irritation, such as is so inseparably associated with silver nitrate solutions, and the following notes of cases may serve to illustrate one or two of such conditions.

CASE I. Acute Trachoma, with unusual onset.—The patient was a foreigner residing in the interior, who sought advice for a very acute form of inflammation of the right eye, which had commenced but a few hours previously. There was intense injection of the whole conjunctiva, both palpebral and ocular, and its general appearance, coupled with the character of the discharge, strongly suggested an acute blennorhœa. The lids were at once painted with silver nitrate
(15 grains to the ounce) and a film preparation prepared from some of the discharge which, however, to one's utter surprise, failed to show any trace of Neisser's organism. Constant washing out of the conjunctival sac was kept up day and night, together with protective measures for the left eye, whilst the affected lids were carefully painted daily with the silver nitrate solution. In spite of this, however, a large corneal ulcer developed in the course of a day or two, which soon threatened to spread over the whole cornea. It was quite impossible to continue the use of silver nitrate, as even the weakest solutions aggravated the ulcer to a most dangerous extent, and instillations of argyrol (25 per cent.) were therefore employed in its place day and night. Under this change of treatment the corneal ulcer soon began to show signs of improvement, and even the lids became less inflamed. About this time the true nature of the condition became apparent, typical granules appearing on the upper lid as the more acute stage began to subside. With this in view, it was felt that some stronger preparation should be employed for the lids. Weak silver nitrate, copper sulphate and lapis divinus were all tried in turn, but on each occasion the corneal ulcer began at once to light up, and it was found that argyrol rubbed daily into the lids would alone enable the ulcer to heal and at the same time keep the inflammation of the lids in check. This was therefore employed until all signs of ulceration had cleared up, when copper sulphate could be safely used for the few granules which still remained.

Case II. Vesical Calculus formed around Foreign Body: Cystitis.—This patient was a young countryman of 28, who had some time previously passed a stalk of Kaoliang into his urethra, and had been unable to get it out again. For a time he felt no ill effects, but gradually began to suffer from difficulty of micturation, combined with considerable pain in the region of the bladder. On admission to hospital an examination of the urethra by means of a sound revealed what appeared to be the encrusted foreign body impacted at the neck of the bladder, and an attempt was made to extract it by a median urethrotomy. Whilst, however, able to seize it in calculus forceps, it was found to be much too large to extract without running the risk of very severe damage to the urethral wall, and in the absence of crushing instruments, it was decided to remove it by a suprapubic operation. This was performed a few days later by my friend, Dr. Wheeler, of Peking, who was visiting me at the time, and the stone successfully removed from the pocket where it was lodged behind
On the Use of Argyrol.

the neck of the bladder. The accompanying illustration gives a good idea of its formation around the Kaoliang-stalk nucleus.

The vesical mucous membrane was found to be in an appalling condition of chronic cystitis, and for the next few days the discharge from suprapubic and perineal wounds was something terrible. Irrigation of large quantities of boric lotion seemed to have but little effect, and it was therefore decided to leave some argyrol solution in the bladder after each lavage; about two drachms of a ten per cent. solution being employed for the purpose. The effect was magical; discharge and pain and offensive smell being markedly reduced from the very first injection and soon disappearing altogether.

It is needless to go into full details of other cases in which this preparation has been found to be of special value, but they may be briefly mentioned. An obstinate case of vaginitis and urethritis (gonorrhoeal) in which prolonged douching failed to bring about a cure, yielded readily to injections of argyrol solution, whilst in ophthalmic practice it has been found very valuable in many cases of corneal ulceration. As a preliminary to cataract extraction, where there is chronic conjunctivitis, it is also very efficacious, and we used it successfully in one instance for rubbing into the lids of a child with gonorrhoeal ophthalmia. In phlyctenular conjunctivitis it has been more disappointing; some cases clearing up rapidly whilst others have remained quite unaffected.
# Out-patient Notes on a Series of Schistosoma Japonicum

**By F. F. Wills, M.R.I., C.M., Tanoshin.**

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<td>Occupation</td>
<td>Age</td>
<td>Residence</td>
<td>Complains of</td>
<td>Fever</td>
<td>Diarrhoea</td>
<td>Blood in Stool</td>
<td>Physical Condition</td>
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<tr>
<td>15. Farmer, cloth</td>
<td>25</td>
<td>Lake side</td>
<td>Thin, big abdomen, swelled legs, bloody diarrhoea</td>
<td>Began 8 years ago; night fever, well by dawn; every other day; lasted 1 year; no fever the last 4 years.</td>
<td>Must run on rising; diarrhoea at night; requires to drink cold water; abdomen is hot.</td>
<td>Blood in day.</td>
<td>Ascites.</td>
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<td>weaver.</td>
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<td>?(?) Spleen -</td>
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<td>16. Farmer, with</td>
<td>27</td>
<td>Lake side</td>
<td>Big abdomen, spleen -</td>
<td></td>
<td>3 months ago, fever daily. 3-4 years ago; fever lasted for 2 years, being daily or every other day, lasting all night, all this began after exposure in the water in summer.</td>
<td>Diarrhoea 6 months ago; watery stool with brown mucus; 3-5 times daily; sometimes at night. Never needs to run to stool.</td>
<td>Blood for 1 month after start.</td>
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<td>much wading.</td>
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<td>17. Farmer.</td>
<td>24</td>
<td>Lake side</td>
<td>Dyspepsia p. c. spleen -</td>
<td></td>
<td>Last year, fifth month, began fever; daily, hot and cold turns with no regular times.</td>
<td>Comes on if eating bad food; straining and mucus and blood. At night occasionally. Has to run to stool on rising. If he eats the lotus root, diarrhoea is better; he only has indigestion. Began last year sixth month.</td>
<td>Blood for 1 month after start.</td>
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IN MEMORIAM.—THE REV. W. RIDDEL, M.A., M.D.

The Rev. William Riddel, M.A., M.D., of the mission of the Presbyterian Church of England, died of typhoid fever on the 18th October, 1910, in his 57th year. He was the first medical missionary to the Hakkas of the Kwangtung province. A son of the soil, he came from that mother of sturdy and brainy Scots, Aberdeenshire. Ambitious of a large equipment he qualified in both medicine and theology. For the first 20 years (he reached China in 1881) his work was mainly that of a ministerial missionary, but in his frequent itineraries he was as much the medical as the evangelistic and pastoral missionary. He took his medical colleague's place during furloughs, and on that colleague's removal to a new station, he took over the large hospital and devoted himself to the medical work. He passed through several epidemics of typhoid, but this autumn he himself received the infection and his exhausted frame succumbed to the malady.

Dr. Riddel was a man of many and varied interests. His great hobby was map-making. Equipped with a small plane-table made by the local carpenter and brass sights made by the brass smith, with one of his wife's hairs neatly inserted, he did fine work during his early years on foot or by chair or in boat, taking bearings as he travelled. Latterly his armamentarium was more elaborate, but he was one of those men who can do first class work with simple home-made instruments. On one of his furloughs he draughted a large and detailed map of the district with lithographic ink, and so was able to produce economically a splendid and valuable map in sections to the great advantage of all touring the country and to the financial betterment of the medical work.

But he was a man full of interests. His collection of ferns was a most comprehensive one. He was interested as one has said "in everything in heaven above or earth beneath." He had an original and interesting way of looking at things and speaking about them. Even in his laughter he was unlike anyone else. As the laughter of the others died away, his would come rolling in, richer and heartier for the pause to silently enjoy the joke. His topical verses were always looked forward to. In fact he was one of those whose presence relieves the too common dead level of monotony in our life and work in the interior, and whose departure for the Homeland leaves us all the poorer. It was the writer's good fortune to know Dr. Riddel well, and
he cannot forbear penning this tribute to one who worked well and
faithfully for the people of the Hakka hills and glens and yet whose
name is known to but few of our members.

P. W. C.

IN MEMORIAM—ARTHUR FRAME JACKSON, M.B.
(Cantab.), D. T. M.

Doctor Arthur Frame Jackson, of the United Free Church of Scot­
land Mission at Moukden, Manchuria, who had only within a few
weeks arrived at his station to assist Dr. Dugald Christie, died in that
city January 25th of pneumonic plague contracted in line of duty. He
was the son of the late Robert Jackson, of Liverpool, and was
brought up in the English Presbyterian Church.

He is described by a friend of the writer, who met him in Mouk­
den shortly before his death, as one of the finest type of men he had
ever met; fine physique and presence and a thoroughly whole-souled
Christian gentleman.

Late in January a train load of four hundred coolies was en route
from Kwanchengtze to Shanhaikwan on their way to their homes in
Chihli, when between Moukden and Newchwang plague broke out on
the train and two died; the Chinese government ordered the train to
be run back to Moukden and the coolies to be held in quarantine there,
which was done. A large empty building was pressed into service
and the survivors put in there, where they soon began to die at a rapid
rate. For service in this house of death Dr. Jackson volunteered and
remained for several days until he was stricken, when he at once
reported to his colleagues, and though all that was possible was done
to save him, he died in twenty-nine hours from the onset of the disease.

His was a life of loyal, unostentatious service to the Master, and
the cheerful, fearless spirit in which he faced almost certain death has
left his profession the richer by his noble example and those whom he
came to help the poorer for the loss of such a friend.
The yearly subscription to the China Medical Missionary Association is $4 Mex., payable in January of each year. This includes the Journal and postage on the same, whether local or foreign.

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

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

Editorials.

THE PLAGUE.

Since the January number of the Medical Journal went to press the latter part of December, epidemic plague in its worst form (pneumonic) has been raging throughout Manchuria, and has been carried by the coolies, returning home for the New Year holidays, into the provinces of Chihli and Shantung.

Those of our readers in Central and Southern China who see the Shanghai and Hongkong daily papers, have been able to keep informed of the conditions in the stricken region.

The Chinese government has been thoroughly aroused to the seriousness of the situation, and is doing much, and probably more than it has ever done before, to stamp out and limit the spread of the present epidemic. Much time was lost at the start through the apathy of local officials, but on the whole the officials have cooperated very heartily with the foreign physicians who have been placed in charge of isolation and quarantine work, and the only obstructions have come from the ignorant and fatalistic populace.

The Waiwupu has sent out urgent calls for volunteer physicians, both native and foreign, from all parts of the Empire. Most of the missionary physicians in North China who could possibly be spared from their fields, have volunteered, and are doing good work in the most stricken areas; the civil physicians in the large treaty ports of the north are also hard at work, and the Russian, Japanese, German, and some other governments are
hurrying trained specialists to the assistance of China, and, as the Moukden correspondent says, many of the laymen in the consular, military, police, and railway services in the north have worked most heroically.

Many of the foreign-trained native physicians, especially those in government service in the north, are already at the front, and at the present writing Dr. Taylor, of the Canton Leper Hospital, and eight native physicians from that region, as well as Dr. Brown, of the C. M. S. Hospital in Ningpo, have passed through on their way to Manchuria.

The latest reports indicate a slight decrease in some of the larger centers, but at the same time all indicate that the plague is spreading in the smaller villages. The later reports all refer to the utility of inoculation, but state that there seems to be a period of a week before immunity is established. The Journal has received a most interesting letter from Dr. W. H. Graham Aspland, of the Union Medical College of Peking, written from Harbin, which is printed in this number.

This epidemic, like most others, has not been without its medical heroes, and a number of physicians and nurses have fallen victims; the only two known to us by name being Dr. Mesney, of the Tientsin Medical College at Harbin, and Dr. A. F. Jackson, of the United Free Church of Scotland Mission at Moukden.

DR. H. W. BOONE.

Word has just been received by his mission that Dr. Henry W. Boone, of St. Luke's Hospital, Shanghai, has decided, on account of physical disability, that he will not return to China. The news will be received with sincere regret by hundreds of missionaries all over China, by his medical colleagues and associates, and by many of the older citizens of Shanghai, to whom he was a familiar figure and a friend. Throughout his long residence in Shanghai his home was always a center of hospitality for his friends, both missionary and layman, and his professional skill ever at their service. Dr. Boone was to Shanghai more than his name and service to his mission would imply. In the life time of his illustrious father, the first Bishop Boone, he spent part of his boyhood here, and
later, after the American Civil War, he returned here and engaged in private practice from 1864 to 1869. After an absence of about 12 years in the States he returned to Shanghai in 1880 as a missionary physician in the service of the American Episcopal Church Mission, of which his father had been the founder, and his brother was at that time Bishop. The following year he started St. Luke's Hospital in two native houses very near its present location, and for thirty years he worked and succeeded in building up the hospital to a high degree of efficiency. Eleven years ago he was joined by Dr. W. Hamilton Jefferys and six years later by Dr. A. W. Tucker, who have added strength and efficiency to a constantly increasing work.

For the past ten years or more Dr. Boone has suffered much from troubles incident to hard work and advancing years, but has borne up bravely and was very loath to give up his active connection with the work which he had so ably begun.

He was one of the founders of the Medical Missionary Association, and probably its oldest member; his only seniors in point of actual service in the mission field being Doctors H. T. Whitney, of Foochow; Mrs. L. H. King, of Tientsin; Alexander Lyall, of Swatow, and Peter Anderson, of Formosa.

He was heartily interested in medical education, and has been, since its foundation, the dean of the medical department of St. John's University, Shanghai. Dr. Boone left Shanghai in May of last year to seek relief from a chronic bronchial affection that for some years has kept him in a condition of almost constant suffering, and has now settled in San Bernardino, California. Mrs. Boone and his youngest daughter are with him.

THE GOVERNMENT CALL.

The Imperial Chinese Government has recently sent urgent telegrams calling for physicians, both native and foreign, and medical students to come north and take up the work of plague prevention and quarantine, and offer remuneration of Tls. 300 per month to physicians and Tls. 150 to medical students with 10,000 Tls. and 5,000 Tls. indemnity to their families in case of death and funeral expenses.
Though the work is very urgent, probably very few men, at least foreigners, from the south could be released from their present stations even if they desired to go, and it is certain that no other motives than pure altruism, Christian or otherwise, would influence a man to take up work of that kind. The Editor feels confident in making the statement that the mere salary and post-mortem benefits offered would have no weight whatever with the missionary physician or any physician worthy of the name in his decision to go or stay.

EXECUTIVE COMMITTEE.

Held 23rd February, 1911. Present: Dr. Stuart, in the chair; Drs. Lincoln, Venable, Cole, Barlow, Davenport, and Tucker, by invitation.

Business. (1). Chinese Journal.—Dr. Stuart and the secretary reported having received answers from Drs. Duncan Whyte, Hume, S. Cochran, Cormack, Christie, McCracken, Jas. Maxwell, Wilkinson, Lyon, and the C. C. M. M. A. All expressed interest in, and sympathy with, the effort, but little or no help was promised. Dr. Cormack's letter was read, pointing out what was being attempted in connection with the Union Medical College, Peking. Dr. Stuart emphasised the fact that he must have collaborators to be able to carry on the Journal. It was pointed out that once begun probably many Chinese medical men would join in, and the proposal was unanimously carried (1) that Dr. Stuart be asked to go forward and get out the first number as soon as possible; (2) the title of the Chinese Journal should be the same as the English edition; (3) Dr. Tucker to see to procuring advertisements at once; charges to be liberal.

In this connection Drs. Venable, Barlow, and Davenport were appointed a sub-committee to go into the question of the formation of a Chinese medical association, affiliated with our own, and working together with it; the committee to report later.

Statistics.—So far 90 returns to hand. The question arose whether they should be issued tabulated under individual heads or collectively under the individual Mission. The meeting favoured the former plan, and Dr. Barlow kindly offered to undertake the work, and as far as possible get returns from those as yet unreturned.

Accounts.—The statement of the Journal accounts as presented by the Press, was accepted and passed for publication. The publication fund being in Dr. Cousland's hands no statement was available. December 31st the Press had a balance of $4,800. February 20th the Bank had in hand some $4,500.
### Financial Statement for 1910

C. M. M. A. Journal Account with Presbyterian Press

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Insets sent out in Journal.—In future only those approved of by the Executive to be sent out in the Journal.

Unpaid Dues and Subscriptions.—A list of 110 names, sent in by the Press, owing in all $567, was brought forward. The secretary reported that he had notified each one early in January the sum owing, but up to date only 21 had responded. He asked for further instructions. The fact was emphasized that the yearly payment of $4 was due in January. It was decided in the present case that a further notice should be issued, after which, if payment was not forthcoming, the Journal would be discontinued.

In connection with finance, Dr. Venable brought up the question whether the Publication Committee could not reduce somewhat the price charged for our books, of course safeguarding its own position; at the same time the secretary was instructed to write Dr. Neal on the matter.

Mailing List was gone through and revised.

PUBLICATION COMMITTEE NOTES.

It has not been found possible to get the letterpress of the Anatomical Atlas ready so soon as expected, and the Atlas will not be published until the end of March. This has allowed more rapid progress to be made with Heath’s Anatomy, which will be finished towards the end of this month (February), and can be had in one volume or in five volumes. Through some mistake the price of the English Heath was given in the last number of the Journal at 2s. 6d. instead of 12s. 6d.

At present date of writing no “copy” for Vol. III. Rose and Carless, has come to hand, and the volume cannot be ready before the end of April.

Fuchs’ Ophthalmology, a condensed translation by Dr. J. B. Neal, is now in the press, and may be ready by the end of March.

Dr. Roys is publishing a limited edition of the pharmacy section of his book on Pharmacology and Pharmacy. This is interleaved, and intended for the use of students in their pharmacy class. It is to supply a present demand until the complete book is ready. Copies can be had from Dr. Roys, Weihrsien, Shantung. Price 15 cents.

The prolonged delay in issuing the second edition of Hare’s Therapeutics is due to the very thorough revision almost amounting to a retranslation. Dr. Ingram assures me that it will be ready in March.

It will be noticed from the advertisement page that stocks of our books are carried at Peking and Canton. Sometimes when an edition is nearly exhausted copies can be obtained at the branch depots when there are none left at Shanghai or vice versa.
It is not unlikely that the result of the plague epidemic in Manchuria and the resultant scare in Peking will be a clearer perception on the part of the government of the importance of medical education. It is to be sincerely hoped that it will result in government recognition and encouragement of our work. But it behoves us to be up and doing, perfecting our plans for union schools that we may be able to take advantage of changing conditions. "There is a tide," etc. The help afforded by many of our members in the north and the willingness of many officials to take their advice must have its due effect.

P. W. C.


A guest is counted guilty of a breach of manners who, at the table of his hosts, criticises the feast to which he is invited. So in the pages of the China Medical Journal, a reviewer of this work from the pens of its editor and of an editorial associate finds himself essaying a task of dubious propriety if he should set to work as a critic. Yet indiscriminate praise of their book could but be distasteful to such searchers after the hidden truths of pathology and teachers of the known truths of medicine as Drs. Jefferys and Maxwell. So the writer of this note on "Diseases of China" endeavours to set his course midway between this Scylla of flattery and that Charybdis of fault-finding in his attempt to set forth the impressions formed by a perusal of their statement of the problems of disease as seen throughout the extent of this empire and the neighbouring lands of Formosa and Korea.

At the outset criticism is disarmed by the professions of the authors as to the scope of their work and also by some self-depreciation of the results of the work they have attempted to do. Thus "this book is not in any sense intended to be a general text-book of medicine, nor even to cover the whole ground of the diseases met with in China. Our aim is to present to medical men working in China, both Chinese and foreign, a concise account of the special diseases they will meet with in their own practice in this Empire." "What we have to present is on the face of it incomplete, and we would make it very plain that this is so, and this chapter (Nosogeography, Chap. II) is, as it were, but a preliminary presentation of a study which the future must bring to completion." Dudgeon, 'the Diseases of China,' 1877, "is largely
a study of hygienic conditions, with the results of which we are in very little accord. And indeed the whole is so out of date that it is not worth the reading at the present day except for its historic interest, as shall be said of our own study (Nosogeography) after thirty years."

This, then, is a "book of Genesis," a record of the beginnings of scientific medicine in China. The sources of its origin as mentioned are various: Reports of Customs Medical Officers to the Inspector-General of the Imperial Maritime Customs of China, Manson's, Scheube's, and other books on tropical diseases, the CHINA MEDICAL JOURNAL, an extensive correspondence with the members of the Medical Missionary Association of China, and much personal observation and study. This last is indeed a chief characteristic of the book. There is necessarily much compilation, but the marks of personal individuality are strong throughout, and while the aim is always towards a high scientific ideal, there is a most refreshing recognition of the practical limitations. "We are of the opinion that most surgeons will find it necessary to vary their treatment of gonorrhoea and its sequelae quite radically from that which is accepted as the best practice at home; the argument being that it is better to be permitted to use the milder methods of treatment than to be refused permission to do anything at all. W. H. J., p. 596." "Nothing impressed us more in our own work among the poorer classes in London than the filthiness of the method of using ring or other pessaries for the support of a prolapsing uterus. Among the Chinese, especially where owing to distance our patients often see us only at long intervals, the objection to pessaries is multiplied many fold. We never use pessaries, and we advise our readers to follow this rule. J. L. M., p. 608."

Of the 24 chapters (with appendix) of which the book consists, the division is about equal between the two writers; indication of authorship being made by initials attached to the chapters in the Contents pages. There is also in style frequent suggestion of the American and the British writer. [In this connection one usage of a word may be remarked upon; p. 13 "graft" is employed in the sense which China-coast slang gives to the word "squeeze" (Giles, Glossary of the Far East "extensively applied both as a verb and substantive to peculation of any kind.") In Australian slang "graft" means hard work, and to say that a man is a "grafter" is to compliment him as a "hard worker" with no suggestion of dishonour as in the American slang use of the word.]

The work opens with an introductory chapter on The Conditions of Practice in China, in which it is made plain that while there is occa-
sional reference throughout the book to the Customs medical officer, the port doctor, and other medical practitioners among foreigners, the real subject-matter of the book is The Diseases of China among the Chinese. Of the native practice of the country it is said: "There is a rational, semi-scientific, and certainly dignified, empirical practice which dates back for hundreds of years, which represents the thought and experience of many bright minds, and deserves the respect and consideration of our larger outlook. There is not the slightest antagonism between the scientific practitioner and the native empirical practitioner. Practically, an intelligent cooperation could not be arrived at, but the man who refuses to recognize the legitimacy of native practice or treats the native practitioner as a quack and a charlatan is provincial and narrow-minded."

The study of the distribution of disease in China (with maps), which is practically altogether new, is of great value so far as positive facts are stated. As the authors themselves point out, the amount of information from the different provinces of China varies so greatly that the absence of statements regarding the presence of a disease by no means indicates that the disease is not existent. Here are two notable statements. "China gives more syphilis than she gets." "We have never felt convinced that China, except on paper, owes the commencement of the opium habit to Great Britain." W. H. J., p. 43.

The opium habit is very fully dealt with in Chapter XI.

All through the book there is much original information both as to the forms which disease takes in China as distinguished from the text-book types, and as to the treatment to be followed out, with reasons for the particular method advocated.

The authors agree with Manson and others in describing "yaws" as a different disease from "syphilis." Jonathan Hutchinson, 1909, says: "The question as to the identity of yaws and other allied maladies with European syphilis may, perhaps, be best stated in the terms: Are they variants or specifically distinct? That there are differences no one doubts, but are they capable of return to type? It remains still possible that the one may transform itself into the other and that mixed or indefinite forms may be plentiful."

Speaking of acute hepatitis the writers say, p. 239: "The disease has received little or no attention from the writers of our systems of medicine and is almost universally confused with simple congestion or liver abscess. The aetiological factor in acute hepatitis would seem to be diarrhea or dysentery." Leonard Rogers, 1908, in his masterly book, "Fevers in the Tropics," goes very fully into this question and
reaches the same conclusion: The liver affection is secondary to amœbic dysentery, p 184."

The chapters on parasitic diseases, skin diseases, and tumours are remarkably well illustrated from a series of original photographs and microphotographs, constituting a valuable pathological picture-gallery.

In surgery the authors advocate simplicity and finality in procedure, Jefferys writing with a bias towards "aseptic" methods, and Maxwell with a bias to the use of "antiseptics." The anesthetic question is thus stated, "British surgeons almost universally employ chloroform, American surgeons very frequently employ ether. In China even American surgeons prefer for routine work chloroform to ether."

Chapters on hygiene, hospitals and hospital construction (with plans and pictures) and an appendix on laboratory methods complete a very interesting book. There is a good index, but no list of illustrations, although there are full contents pages. The book is well printed on heavy paper with an elaboration of differential type which, however, in a few instances fails to mark plainly the beginning of important subjects. There are a fair number of obvious misspellings of ordinary words and of names. Figure 312 is printed on p. 646, but is not mentioned there, while it is referred to on p. 48.

To sum up, the writing of this book on the Diseases of China is a great task greatly begun.

H. C. P.

A CORRECTION.

"THE OPIUM HABIT."—Page 26, fifth line from the top (January issue) should read:

"If they had to wait for ten weeks to complete the cure, and the final cessation is confessedly by all observers painful, nothing is gained, but time and resolution would almost certainly be lost, for few patients —none of my Chinese patients—would submit to seclusion, bed, and slow torture for so many weeks."
THE NORTH CHINA BRANCH.

The increasing number of doctors that meet at Peitaiho, the great North China summer resort each year, makes it an ideal place for all kinds of conferences and conventions. For the last few years the medicals have had meetings in August for the reading of papers, discussing the questions of general interest to the profession.

It was the thought of those who took an active interest in the formation of this branch that the constitution should be made broad enough to include community doctors, trained nurses, and medical students, but when some of our members appeared at the Hankow Conference last spring, as delegates from the N. C. B., they were informed that there was no N. C. B., that it was not constitutional, but that as members of the C. M. M. A. they might "go away back and sit down." But the hospitality and generosity with which the brethren elect of the Hankow and other orthodox branches treated our heterodox brethren from the north, quite proved that with all our faults they love us still. The matter of making our constitution orthodox was discussed and a motion to make the necessary changes at our next meeting carried. It was also suggested that the next general meeting of the C. M. M. A. be held in Peking.

The conference convened for four days, and papers of special interest were read by Doctors Learmonth, Aspland, Phillips, Millowney, and Watson. Copies have been sent to the Editor, and if of sufficient interest to the profession, will appear in the JOURNAL later.

A special feature of the conference this year was the question box, and many who could not attend the conference, made their requests known by mail. Questions, such as: "What can we do to prevent the growth and spread of disease among the boys and girls of our schools?" To this most important question, a special committee submitted the following suggestions:

1. That all scholars be carefully examined on admission to schools.
2. That teachers be requested to report all suspected cases of disease to the physician in charge without delay.
3. That isolation wards be provided for tubercular, infectious, and any suspicious cases.
4. That where possible a medical man be appointed as health officer in matters of sanitation, ventilation, diet, etc. And that this health officer be consulted in the matter of buildings.

I am glad to say that these rules are already bearing fruit in the mission of which I am a member, and it is evident that other missions, and even the government schools, are taking steps in the same direction. All would do well to read again the splendid article in the September No. of the JOURNAL,
by Dr. Merrins, bearing on the same question. . . . How many missions represented here are using the individual communion cup? Practically all were in favor, and not a few using it. . . . How many hours a day would you apply Bier's congestive treatment in acute congestive cases with suppuration, as in whitlows, boils, etc., and would you apply the treatment before incision? . . . What is the general opinion as to granting a certain percentage of the fees received from private patients to qualified assistants? . . . What has proved the most successful method of skin grafting in the ordinary leg ulcer among the Chinese? . . . How many opium smokers have applied to you for treatment during the past year? . . . What is the best method of disposing of soiled dressings? . . . What are the latest findings regarding the cause and treatment of that disease formerly known as "Spleenic Disease" marked by enlargement of the spleen, emaciation, necrosis of the upper and lower incisors, etc.? Has anyone present used the mercurial treatment in T. B.? and the anti-T. B. serum for purposes of diagnosis? . . . These are but a few of the questions partly answered, should there be those who want fuller information on the discussion of these questions, write the secretary or any of the officers. . . . But the last and most debated question was. . . . What shall we do with the Y. M. C. A. and a few young inexperienced clergy who in convention at T'ungchou organized a so-called student volunteer movement, but refused admission to some students from the Union Medical College, Peking, on the pretext that the organization was for preachers only? After much debate and two public meetings the following plea, with resolutions appended, will explain themselves.

As a result largely of Pastor Ding's meetings in Peking and T'ungchou, the T'ungchou Student Summer Conference inaugurated an "S. V. movement for the ministry in China" with the object of binding together and helping those who have been called of God to devote their lives to the preaching of the Gospel.

We rejoice at the formation of this movement, because we realise how greatly the S. V. declaration helped us to remain true to the call of God, and how precious has been the feeling of unity with other volunteers of many denominations and proposing to serve on the field in many different forms of Christian service. We realise its power and permanence as being the natural outcome and expression of a religious revival amongst the students of the north.

At the same time there has begun a similar religious movement among the medical students at the Union Medical College, Peking. During Pastor Ding's meetings some ten or more, at the call of one of the students, rose to show their purpose of devoting their lives to Christian service. We realize the urgent need of something to help keep these men true to this profession. The first real manifestation of the Spirit's power in these meetings was a most pathetic testimony from one of the leading Christian students somewhat as
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follows: "In the Boxer year I had such a wonderful escape that I decided to devote myself to the ministry. After a while I changed my mind and decided to serve the church as a doctor, so I entered the Medical College. While I have been here I have gradually changed my mind until I had decided that after I had served the Mission for the five years to which I am bound by my agreement, I would go into practice for myself. Tonight I have seen how wrong I have been. I dare not keep this to myself, for I am so weak that I should change again. So I tell you that I have to-night given myself to God's service, and I ask you to pray that I may be kept firm to my purpose."

Some of our students who were present at the conference at T'ung-chou were anxious to sign the Volunteer Declaration and were bitterly disappointed and quite broken up because they were shut out.

So we feel that we are driven as a result of this spiritual movement in our midst to a S. V. movement for our medical students. The temptations to our students to leave the church work for secular service are tremendous. In the past we have tried to combat this by offering fairly high salaries, but the result has not been a happy one. We still do not keep our best doctors. We raise a feeling of jealousy among the preachers who are getting a lower salary and introduce an unhealthy competition. The medical school offers to those of mixed motives a greater monetary inducement than the Theological Hall. Worst of all we largely destroy the sense of vocation in our medical men. That method has failed. Only a strong and abiding sense of the call of God will keep these men true, and of this the S. V. declaration with its lifelong dedication to Christian service is the outward expression. The alternatives then seem to us to be two. The first is that the S. V. movement, already started and expressly limited to students for the ministry, should be continued, and that a separate S. V. movement with a different declaration should be started for medical students. Before long there would probably be an S. V. movement for teachers working in our church schools and possibly other organizations for women students and other branches of Christian service.

Surely in these days of union such a course cannot be contemplated. We have only just begun to obliterate these distinctions in our foreign ranks and to recognize that clerical, medical, and educational missionaries are equally ministers of the Gospel. This, we believe, is largely due to the influence of the S. V. movement at home. Already in the Chinese church there is this chasm opening between preachers, medical evangelists, and teachers. We feel most strongly that no distinction whatever as to sense of vocation or sacredness of calling should be made between different classes of Christian workers who are equally desirous of devoting their lives to the evangelization of China.

The only other alternative is to broaden this S. V. movement in China under a common declaration of purpose to devote one's life to definite Christian service. Such a movement would secure:

1. Doctors and teachers, etc., with the same sense of vocation as we seek in our preachers, voluntarily bound for life to Christian service.

2. Doctors, teachers, etc., prepared to take a comfortable living wage on the same scale as our preachers, despite the superior monetary inducements of service outside the church. This is the only way to meet this temptation and avoid jealousy and competition between the various classes of Christian workers.
3. A union—such as we foreign S. V.'s are so gratefully conscious of—between all the workers of the Christian church of China.

We would therefore most earnestly urge on the committee to whom the subject is referred for final action to so frame the S. V. declaration that there may be included in this S. V. movement in China all students who propose to devote their lives wholly to Christian service.

There are some whose criticism of this proposal is that it is impossible to broaden the present declaration in this way without making it possible for any consecrated Christian to sign it. At home the issue is clear cut, viz., service as a missionary in the foreign field. At present in China the issue is equally clear cut, viz., the Christian ministry. We feel that the distinctive element should be—work in connection with the Christian church.

We would therefore suggest as a possible form of the declaration:

“It is my purpose, if God permit, to devote my life to the evangelization of China as an agent of the Christian church.”

We would also suggest that at the foot of the pledge card there should be a space left for the branch of Christian service that each purposes to follow. At conferences and such like, sectional meetings could be arranged for the various classes of workers, but they would all be united in church life by the common declaration.

Resolution passed by Peitaiho Medical Association, August, 1910:

“That the association views with regret any attempt to organise a branch of the world-wide S. V. M. in China, however tentatively, which will limit the possibility of membership to any one class of students.

We believe that such limitation is contrary to the spirit of the organisation, and is already creating disunion by the rejection of applications for membership of such students, whose devotion, however great, is not included in the ministerial class.”

Resolution passed by the reunion of Student Volunteers at Peitaiho, August 20th, 1910:

“That it is the sense of the Conference of Foreign Student Volunteers at Peitaiho in August, 1910, that the recently inaugurated “Student Volunteer Movement for the ministry in China” should be so enlarged as to include in its membership all students who declare their purpose to consecrate their lives to Christian service.

And that we urge the committee, to whom the subject is referred for final action, to alter the present pledge so as to include all such.”

After a report from the officers, which did credit to each in his own department, and to the treasurer in particular, which showed a balance on the right side of
something over $776.41, the following officers were elected for the ensuing year:

President, Dr. Aspland, Anglican Mission, Peking.
Vice-President, Dr. Lewis, Presbyterian Mission, Paotingfu.
Treasurer, Dr. Ida Stevenson, M. E. Mission, Tientsin.
Librarian, Dr. Charles Young, American Board Mission, Peking.
Secretary, Dr. Keeler, Ch'ang-li Hsien, North China.

The conference finished up as usual, with a picnic on the beach, where upwards of one hundred, medicals and friends, sat down to a spread which did credit to the ladies that planned it and the Chinese cooks that prepared it. The voluntary programme that followed was a feast of fun, the remembrance of which, to this day "doeth good like a medicine." With three cheers and a tiger for the new president, those "jolly good fellows" went back to their duty better fitted to help and heal, and we trust they will not forget to come again.

Faithfully and fraternally yours.

J. L. Keeler,
Secretary.

December 27th, 1910.

CENTRAL CHINA BRANCH.

The year which has just passed has been on the whole a good one for the Association. It has seen the completion of several pieces of work undertaken in previous years, and in the fortnightly meetings held throughout the year interest has been well sustained and often very profitable discussions have taken place.

The membership of the Association numbers fourteen resident in the centre, and of these three have been away on furlough for some portion of the year. Attendance at the meetings has been better than last year; and has improved during the last half of the year; the average for the year being 6.3.

The programme adopted at the last annual meeting has been carried out with two exceptions, viz., one paper which failed to appear was replaced by a clinical meeting; and owing to other meetings in Hankow, one meeting at which a paper on plague should have been read by Dr. Booth, was dropped out. There have consequently been nine papers, one discussion, and seven clinical meetings, making a total of 17. At the discussion on "How to conduct our clinical meetings" a good form of procedure was finally evolved, but unfortunately it has seldom been adhered to in its entirety, owing largely to the fact that members seldom bring full notes of their cases and very seldom hand them to the secretary. It has, however, served as an ideal and perhaps in time our clinical meetings will come up to its standard.

The papers read during the year have comprised: one by Dr. Skinner on "A Review of Some of the More Practical Points in Recent Bacteriological Work;" two summaries of work seen in the homelands while on furlough, by Drs. Fowler and MacWillie respectively; a very interesting paper on "Problems of Heredity," by Dr. Merrins; one on
"Ankylostomiasis," by Dr. Huntley; one on "Gynaecological Work in the Out-patient Department," by Dr. Massey, and one on "Midwifery in the Homes of the People," by the secretary.

At the open meeting this year an account was given by Dr. Glenton of the system of nursing adopted in her hospital at Wuchang, and a discussion on the general subject followed.

The president's address was given at the end of the year instead of at the beginning as in former years, and had for its subject "The Present Function of Foreign Medical Missions in China—An Example." It laid before us an ideal of perfection in every department and side of our work which some of those present wished could have been presented at the beginning rather than at the end of the year. It also presented an ideal in philanthropic work for the Chinese church which we would fain have them see and follow.

At the clinical meetings a great number of cases have been shown, chiefly surgical, but with a sprinkling of chest cases and cases of nervous disease. Among them were: Tumors of breast, both male and female, simple tumors of the lower jaw, several cases of fixation of jaw, a case of multiple exostosis, one of progressive muscular atrophy, and a few undiagnosed cases. Microscopical specimens of feces, blood, sections of tumors have been shown, besides numerous tumors, calculi, etc., removed in the various hospitals.

In addition to the papers and cases discussed at the meetings, some business has also been put through, and we are able to report at the end of the year that:

(1). The Health Tracts which have been evolving for some three or four years have finally reached a condition satisfactory to the Association and have been put into the hands of the Central China Religious Tract Society for publication. They comprised popular tracts as: tuberculosis, diarrhoea, constipation, feeding of infants, etc., and had already been accepted by the Tract Society.

(2). The scheme for examination of nurses has also become an accomplished fact and the certificates also have been brought out, and this year eighteen have been granted to candidates who passed successfully the examinations held during the years 1908, 1909, 1910.

(3). A scheme has been drawn up for the examination in obstetrics of nurses already holding the nursing certificate. Three nurses have also been granted certificates in this branch.

The presentation of certificates took place at a specially arranged public meeting held at Hanyang, at which several speeches were delivered by both foreigners and Chinese emphasizing the high calling of the trained nurse which we hope will inspire those who have not yet entered for the examination to exert every effort to obtain the fullest knowledge they can of their work.

This is an important feature of the Association's work, and it is a matter for congratulation that this stage has been reached in the development of a thoroughly equipped nursing staff for every hospital.

H. M. Byles, Hon. Sec'y.
SOUTH CHINA BRANCH.

The October meeting of the South China Branch was held in the rooms of Dr. Cadbury, Hong-lok, October 20th, with an attendance of fourteen members. There was a morning and afternoon session of two hours each, and the whole time was devoted to the subject of tuberculosis.

There were four papers read and discussed. Dr. Cadbury read the first paper, "Suggestions for an Anti-tuberculosis Crusade in South China." The second paper, "Sanatoria for the Treatment of Tuberculosis," was read by Dr. Todd. The third paper, "Clinical Phases and Treatment of Tuberculosis in South China," was written by Dr. Dobson and read by Dr. Oldt. The last paper, "Suggestions for Tracts on Tuberculosis," was read by Dr. Meadows.

After the discussion there were three motions carried:

1st. That a committee be appointed to raise money for the purpose of establishing a sanatorium for tubercular patients.

2nd. That all available tracts on tuberculosis be handed over to the Committee on Tracts with instructions that the committee choose at least two and have them translated into Chinese and printed.

3rd. That a committee be appointed to secure lecturers to fill hours allotted to hygiene and sanitation at the next Teachers' Institute in Canton.

Dr. McCracken reported that thirteen members had signified their intention of taking the special course on parasitology and microscopic examination of blood, which is to be given by Dr. Houghton at the request of the South China Branch next February.

P. J. Todd, Secretary.
Personal Record.

BIRTHS.

At Wuhu, October 7th, 1910, to Dr. and Mrs. E. H. Hart, M. E. M., a daughter (Helen Margaret).

At Nanking, November 22nd, to Dr. and Mrs. N. Worth Brown, A. B. F. M. S., a son.

At Shaohsing, January 5th, 1911, to Dr. and Mrs. C. H. Barlow, A. B. M. U., a daughter (Harriet Hawley).

At St. John's College, Shanghai, January 31st, 1911, to Dr. and Mrs. C. S. F. Lincoln, a daughter (Eleanor).

At Taichowfu, February 6th, 1911, to Dr. and Mrs. S. N. Babington, C. M. S., a son.

At Peking, January 8th, to Dr. and Mrs. J. J. Mullaney, of the American Methodist Mission, a son.

At Taian, Formosa, on February 7th, 1911, the wife of Dr. James L. Maxwell, of a daughter.

DEATH.

At Ichang, 22nd November, 1910, Nurse Minnie Berre, D. C. S., aged 35 years.

ARRIVALS.

At Shanghai:

November 27th, Dr. and Mrs. H. W. Irwin, M. E. M., for Chengtu.

November 29th, Dr. and Mrs. O. L. Kilbourn and child, Canadian M. M.

December 20th, Dr. and Mrs. P. B. Sheldon, M. E. M., for Tangtau, Haitau Island.

December 24th, Dr. and Mrs. William Kelly and three children.