A SANITARY PROPAGANDA FOR CHINA

By Elliott I. Osgood, M.D., Chuchow.

From a sanitary standpoint many of the ideas of the Chinese as to modes of living are sound. Such are their ideas of dietary, clothing, disposal of refuse for the enriching of their fields, their living largely in the open air, and the comparative absence of alcohol. Their houses may be hovels and their stores open sheds, but they live in the open air. Our olfactory nerves are offended at every turn, but the manure and garbage and ashes are finding their way to the fields. They drink hot drinks and eat steaming foods. They add clothing as the weather becomes more severe and take it off with every swing of the thermometer upwards. The amount of alcohol used is small. Before the days of the cigarette their tobacco cost them but little. Opium is rapidly vanishing—except from the godowus in Shanghai and Hongkong.

The Chinese have some good ideas as to sanitary modes of living. The only trouble is they are too often observed in the breach. Two things the Chinese have never seemed to learn. They have never learned the value of keeping things in repair and of persistently following up a public work which they have once started. Peking was once known as the dirtiest city on earth. In our own city of Chuchow, Anhwei Province, garbage dumps have been allowed to accrue on the banks of the river for years. Low lying land has been filled in by garbage swept from the streets.

Possibly the poverty of the masses has led them to neglect carrying out fully some ideas of sanitation. Much of the hot water is furnished by hot water shops and we know it to be a fact that much of this water never reaches the boiling point. Their food may be eaten

*Paper read at the Triennial Conference, January 1913.
hot, but their bowls, chopsticks, tables and teacups are cleaned by the dirty rag which hangs at the waist of the restaurant waiter.

Flies multiply in the garbage dumps and neglected closets. They swarm on the sweetmeats, bread, fruit and meats exposed for sale on the streets. Unused lots in the cities are turned into open nuisances by reason of lack of proper closets. Children are thus robbed of space for playground. They are limited to the stone-paved streets where in summer the heat beats down, burning and weakening the children and, without doubt, causing the abscesses on head and body of children who throng our autumn clinics.

Add to these conditions the lack of quarantine, the prevalence of epidemics of cholera, dysentery, septic infections, small-pox and plague; tuberculosis, together with the frightful death rate among infants coupled with infanticide and we readily see that China is indeed the finest field extant for the sanitarian.

Chinese officials are considering first the questions which press hardest, such as finance, railroads, international relationships, agriculture, mining, the voting franchise, etc. They have had little time or thought for the sanitation of their cities, yet present-day educators recognize this as one of the most important questions which can be before a country at almost any time. No country has so far worked out an ideal system. Its intimate relationship to business, education, morals and society is fully recognized. Tuberculosis causes millions of dollars loss each year. Epidemics paralyze manufactures, trade, and education. Entire cities have been depopulated by epidemics.

**WILL THE NEW CHINA GIVE EARLY CONSIDERATION TO SANITATION?**

The answer to this question will depend much upon the attitude of foreign doctors in China towards it. Very probably our medical association can influence government officials to institute a central health office. This central health office can study comparative sanitation as presented in all countries. To my mind, we must carry our influence still farther. Without the development of sanitary science throughout the country a central health office would find itself helpless when it undertook to carry out the results of its investigations.

Patent medicine vendors are taking advantage of the ignorance of the people to increase their business. Medical missionaries have been taking advantage of widespread disease which exists in China to exploit our superior medical and surgical knowledge and attract people to the Gospel. If we are content to limit our work to this and do not
take steps to disseminate the knowledge of how to prevent the present widespread epidemics which persistently decimate China, we are, in some ways, but little better than the exploiters of patent medicines. The education of the people in regard to preventative medicine should be as much a part of our work as the healing of their sick.

Ten years ago it would have been difficult for us to make much headway in such a propaganda, but thanks to Sun Yat-sen and others a most effective door has been opened to us to-day—that of the public lecture hall. Government and society lecturers are traveling all over the country disseminating a knowledge of the new government and politics among the people. Foreigners are being consulted on all kinds of problems in this new era. The influence of our missionary hospitals and doctors is decidedly increased. Lectures on sanitation have already been given in various parts of the country and invariably the halls have been filled with eager listeners.

We have been teaching our students and assistants. We should now extend our teaching to the educated leaders. The increased knowledge of preventative medicine has led us to see that the healing of a patient often depends as much upon his observance of sanitary laws as upon the medicine we may give. This has led a number of doctors to prepare leaflets which they give to such patients or, in case of epidemics, scatter broadcast. The Board of Health in Shanghai has put out some most admirable sanitation tracts.

On our shelves we already have good books on the subject. This autumn a series of articles appeared in the China Press giving interesting data on the subject. For simple lectures to the public the best thing we have found for a basis is a series of textbooks for public schools on hygiene, sanitation, and physiology by John W. Ritchie, published by the World Book Co.

Such lectures can be made effective by having simple statements, covering the lecture, written in large characters and hung up where the audience can see them and make copies. We post such on our hospital bulletin board. Rough sketches of the breeding and growth of flies and mosquitoes, sanitary and unsanitary wells, appearance of various germs, fruits rotting at bruised places, school children sitting at proper and improper desks, scales of comparative values of food stuffs, comparative spread of disease under sanitary and unsanitary conditions, etc. During the lecture the chest measurements of listeners may be made; sore eyes, near sighted eyes, enlarged tonsils, etc., can be shown and their effects upon the school work of pupils explained.
Subjects which can be easily understood and made practical should be chosen. Disease germs coming from the bodies of sick people as disseminators of epidemics; aseptic care of skin wounds; hygiene of the alimentary canal; preparation and selection of foods; how to keep the body in health; dangers from the use of public towels; flies and their relations to garbage, closets and germs; public playgrounds and public gardens versus public nuisances; school sanitation; street cleaning; public markets, and quarantine are all fruitful subjects.

Emphasis should be laid on the fact that public rights take precedence of private rights. The people should be taught that "cleanliness is next to godliness" and that dirt and filth, while not necessarily breeders of disease germs, are breeding places of flies, the most notorious germ-carriers known. They should learn that public closets will not only lead to higher public morals but will also leave clean places upon which the children can play, thus saving many of them from disease and death. They should be taught the superiority of becoming fruitful rearers of children rather than fruitful producers of children. They should understand that financial and civic power to act must be granted to boards of health. Boards of health must learn that eternal vigilance is the price of community health and that a few days of slackness may undo many months of previous activity.

Christianity teaches us to save people,—body, mind, and soul. It has little use for passive people. Active propagation of its principles is what elevates the world. Medical missions have too often been considered by the laity as merely a means of getting a hearing for the Gospel. We believe our field of activity much greater than that. Then let us cease to be content with the teaching of a few students and the healing of the sick. Go out farther and wield an influence for the building up of a new and cleaner China.
THE SANITARY ORGANIZATION OF CHINA.*

By Arthur Stanley, M.D., B.S., Lond., D.P.H., Health Officer of Shanghai.

From an administrative point of view the sanitary organization of China presents a fascinating problem. A colossal country, quite devoid of what is ordinarily understood as sanitation, that is to say, public effort to prevent disease, where evolution operating through the survival of the fittest has had full play. And, as a result, China is probably as eugenically sound as any country in the world.

CHINA THE FOUNTAIN HEAD OF EPIDEMIC DISEASE.

China may, however, justly be considered the fountain head of epidemic disease and, in the general absence of modern hygienic methods, remains a danger to the world. The country holds more than a quarter of the population of the world, and this massing of the people has led to cumulative propagation of infective disease. The resulting destruction of life has been met by rapid reproduction, the birth rate being probably much higher than in Europe, though there is no book-keeping of Chinese humanity to confirm the statement. The pandemics of plague, cholera, and influenza had their origin in China. It is interesting to note that what is known in Western Europe as 'Russian influenza' is known in Russia as 'Chinese influenza'.

The comparative absence of rickets, gout, rheumatic fever, scarlet fever and lunacy is more than counterbalanced by the prevalence of small-pox, tuberculosis, the septic infections, plague and cholera. There can be no doubt that China is the finest field extant for the modern sanitarian.

THE EARLY EVOLUTION OF SANITATION.

There are many fascinating problems connected with the sanitation of China. What, however, is the true test of sanitation? If prolonged national life is indicative of sound sanitation, whatever methods of living the Chinese have evolved must have been inherently good. Even without the returns of a registrar-general it is evident that the birth rate must very considerably exceed the death rate, and have done so in an average way during the past forty centuries.

There are no Chinese sanitary laws like those of the Mosaic code; but the Taoist religion is largely based on health maxims, though lost among a mass of superstitious absurdities and spirit lore. In many

* Paper read at the Triennial Conference, January 1913.
respects the methods of some centuries of practical experience are often confirmed as sound by modern science. Recent hygiene has little to teach the Chinese regarding food as long as they abide by the practice of eating and drinking nothing that has not been recently heated. They mostly consume a diet of sterilised food and this tends to protect against the great group of diseases carried by food.

Although the great mass of the Chinese people live in hovels in an atmosphere of evil odours, they mostly work in the open air, their shops and houses being widely open during the day—and though smells are offensive they are not the actual cause of any disease. Garbage is left to putrefy and the open ordure pit is an offensive feature of every village, but the great principle is mainly followed of returning to the soil what has been taken out of it by plant life. This must be recognized as the natural and economical method of disposal of refuse and one whereby the energy residing in the soil can be permanently conserved. Even in the largest Chinese cities all excremental matters can be disposed of without waste. Such a thing would, of course, be impossible in a European city, but the balance in the economy of nature is wholly in favour of a nation which is able to do it. As a result the waterways of China are purer than otherwise would be the case. The water carriage of sewage, and its most modern treatment in mass by bacterial methods, is a crude imperfection when compared with the method of returning all refuse to Mother Earth, which it replenishes and is at the same time purified by the most complete bacterial processes, the upper layer of the soil being an active purifier. The greater prevalence of typhoid fever and dysentery among foreigners residing in China would appear at first sight to be an argument against returning excretal refuse to the soil, but, when it is considered that purification takes place more rapidly and completely in the soil than by any other mode of sewage disposal and that it keeps the water-courses comparatively free from infective organisms, the balance of ultimate benefit is in favour of the natural method, especially as the diseases carried by food can all be prevented by heat sterilisation, a habit still necessary to prevent food infections in countries which have adopted costly schemes of water-closet drainage. In the matter of clothing, modern science requires nothing of the Chinese; nor does it as regards burial customs, which could only be improved were cremation adopted. The comparative absence of the alcohol habit is also a great circumstance in their favour in any scheme of sanitary organization.

The present position of sanitation in China may, therefore, be summed up somewhat as follows. The prolonged national life of the
Chinese and their great population is an unanswerable argument indicating that there is nothing radically wrong with their modes of living; pestilence rather than war being the cause of the disappearance of the nations whose origin was synchronous with that of the Chinese. From the sanitary point of view many of their modes of living are sound, such as, their dietary, disposal of refuse for the benefit of agriculture, clothing, and the comparative absence of alcoholism and prostitution. And it may be considered that these modes of living were produced in the ordinary course of social evolution acting through comparatively long periods of time.

THE SANITARY REGENERATION OF CHINA.

The question arises: Why advise any change in a country where there is already so great a population of comparatively healthy individuals? National fecundity has been checked only by the limitations of the food supply. The application of scientific agriculture, steam, electricity, modern mining and other new commercial methods in China will probably augment wealth and enable a still larger population to be supported. Modern sanitation will follow modern commercial methods. The sequence will be increased wealth, improved sanitation, greater population until other evolutionary processes will come into play, which will limit excess.

The hygienic regeneration of China will probably come from within as a result of education and a knowledge of the benefits resulting from sanitation. It may be mentioned, however, that modern civilization brings both benefits and dangers. For example, from time immemorial the Chinese universal drink has been hot weak tea, and no safer drink than plain boiled water could be found. It would probably be correct to say that no other country in the world consumes sanitarily safer beverages. The introduction of aerated waters, iced drinks, unsterilized water and the infinite variety of enticing alcoholic drinks, the accompaniment of modern civilization, are calculated to cause great dangers to health.

A CENTRAL HEALTH OFFICE.

Early sanitation, organized before the days of the discovery of the parasitic origin of disease, laid most stress on cleanliness, drainage, and smells, and, even at the present day, typhoid fever, diphtheria, and many other diseases are erroneously attributed to drain effluvium. It was not until the parasitic origin of disease was established that the real cause of infective disease began to be understood and vague and general precautions were replaced by precise and definite measures of sanitation.
It a country like China which is throwing off a civilization in which science formed no part at all it appears desirable that sanitation should be organized from above downwards. There should be a central mechanism to correlate the old and the new conditions in order to select those scientific methods which are applicable to China so as to keep all that is good in the old methods of living and not to blindly imitate the methods of foreign countries. Unless this is done there will be enormous waste of time and money. Were China imbued with the true scientific spirit she might, perhaps, become a model of sanitation, because so many of the methods of living of the people are inherently good.

The first essential is, therefore, considered to be the inauguration of a central health office whose business it would be to study comparative sanitation as applied in Europe, America, Australia, India, and Japan, and in the places in China where modern sanitation has been put into practice under foreign control. An essential part of this central office would be a laboratory for the practical study of disease prevention. The laboratory is the brain of the public health organism and the centre of work of every properly constituted authority. The recognition of disease is the necessary preliminary to preventive work, for failure to recognize the nature of an infective disease has probably caused more epidemics than neglect to take the necessary measures when that knowledge has been obtained. The study of disease is becoming more and more the most refined department of biological investigation. In addition to the study of diseases of the country, the routine work of the central laboratory would be the biological diagnosis of infective diseases, the preparation of preventive and curative agents and the analysis of products bearing on the public health. It would also become the ultimate model school for final training and appointment of sanitary officers. By following out such methods in a spirit of scientific enquiry tempered by an accurate appreciation of the difference between an oriental and occidental environment the best results would probably be obtained.

THE EMERGENCE OF A HEALTH CONSCIENCE.

It may be remembered, as regards the attitude of the Chinese to modern public health measures, that their prejudices against Western medicine are still strong. The Chinese up to now have had a supporting belief in all kinds of drugs, charms, and spells, and their own medical methods are strictly empirical and mostly founded on the fancies of the alchemical religion of Tao. It is not surprising, therefore, that public health measures, which are founded on organised common sense
and from which the personal factor of the relation between doctor and patient is absent, do not appeal acutely to the Chinese. He is attracted by the advertisement of patent medicines which the enterprising foreign trader has scattered through the country. All the more difficulty, as regards sanitary organization, will be met with on account of the absence of public spirit in China. How perplexing and arduous will be the development of a health conscience.

A NATIONAL HEALTH SERVICE.

Little progress can be made without the organization of a system of book-keeping of Chinese humanity. Returns of population, births, deaths, and marriages, as yet entirely lacking, are necessary for health administration. Without skilled medical attendance, the requirements of sanitation cannot be met. The detection of individual cases of preventable disease must of necessity be in the hands of the general practitioner and without his co-operation the work of limiting disease by public measures would be impossible. Unless prevention and cure go hand in hand there can be no effective onslaught on disease. In no country are the forces of prevention and cure yet properly co-ordinated. The only way to put an end to this unsatisfactory relationship would appear to be the creation of a national health service. The private practitioner would then be replaced by a salaried government official whose duty would be the prevention of disease and the treatment of such as cannot be prevented. As a part of such a scheme there would be a scientific development of the hospital system. The health matters of each city or district would be centralised in a combined hospital and health office.

The organization of medical practice by the state is bound to come sooner or later. The head of the state medical service would have to be a statesman of the highest rank, as statesmanship of the finest type would be required to organize a state service to deal with disease in all its aspects among all classes with compulsory powers scarcely dreamed of at present. As an index of what is meant the absolute suppression of hydrophobia in England by the muzzling of dogs may be cited, and the necessity of some kind of masking of consumptives as will prevent the dissemination of the tubercle bacillus for the purpose of stamping out that most dreadful of all diseases.

NO COMPLETE MODEL OF SANITATION AVAILABLE.

To what country should China look for a model? In one sense she has emerged too soon from her ancient civilization. The modern world has no complete sanitary system to show her. Sanitary science and the control of disease is of very recent origin, scarcely half a century old.
Through want of more scientific methods there would appear to be much misdirected effort in medicine. People now do not see a doctor until they are sick. They rarely go to a doctor to prevent disease. Disease can never be eradicated in mass by means of a cure. Sanitary organization is still lacking in comprehensive scientific outlook.

Hygiene is, after all, the great eugenic factor. In matters of life and death it is the duty of every government to govern. The health of a nation is its most valuable asset and the preservation of health the duty of every statesman.

A PLEA FOR MORE SYSTEMATIC MEDICAL INSPECTION AND PHYSICAL EXAMINATION OF CHINESE STUDENTS.

By Richard Arthur M.D., Medical Director of Tsing Hua College, near Peking.

HISTORICAL RESUMÉ OF MEDICAL INSPECTION OF SCHOOLS.

Medical inspection in the modern sense of the term being a composit of so many independent ideas and methods is somewhat difficult to trace to its primary roots and assign a definite beginning. It is, like all life, an evolution rather than a special creation. We find the seeds sown in ancient Greek and Roman times when education was not considered complete without perfection of physical form. The thought of those times regarding this matter has been preserved for us in the familiar dictum, "mens sana in corpore sano."

During the Middle Ages the body was put into subjection; the mind and spirit exalted to the skies. Among scholastics and ascetics we find scant attention given to the development of the body. It was not until after the New Learning that renewed interest was awakened in this subject. As early as 1833 certain regulations were adopted in France for the sanitary inspection of schools, but these were largely disregarded until 1884, when for the first time health inspectors were appointed in Paris. Following this it appears that both medical and sanitary inspection were introduced into public and private schools. The system of medical inspection in Paris was completely reorganized in 1896 so that each school physician visited a group of

*Paper read at the Triennial Conference, January 1913.
schools assigned to him at least once a fortnight, and was expected to make an examination of every child once a month.

It is generally admitted that the first complete system of medical inspection in primary schools, as we understand it, was installed at Brussels in 1874. Even before this, in 1863, the Swedish Government had outlined duties for school doctors in the secondary schools, and in 1868 one of the local medical officers was appointed as "school physician" to each school. In Sweden it appears that the term "school physician" was used for the first time in the modern sense. The system in Brussels provided for regularly appointed physicians to visit the schools three times a month in order to give the students a thorough medical inspection as well as to look into the sanitation and hygiene of the school buildings. So successful did this system prove that dentists and oculists were appointed to see the pupils regularly.

The great importance of co-ordinating medical inspections with the educational system was soon recognized in other countries. Switzerland adopted modifications of the original system with some improvements. To the systematic inspection and oversight of school hygiene there was added a complete medical examination of all school children when first admitted to the schools.

Germany was not long in realizing the value of such medical examinations. A small beginning had been made in Dresden in 1867 when three physicians, who were formerly physical directors, were assigned the duty to inspect for contagious eye diseases. But it was not until 1889 that a complete system of medical inspection was inaugurated. When once begun the movement spread rapidly in Germany. In Wiesbaden we find the system established on ideal principles. Hogarth in his book on "Medical Inspection of Schools"* says that, "in 1891, Leipzig made a beginning, and was soon followed by Wiesbaden, which was the first municipality in the world to establish a model system of medical inspection—a system which took account not only of the health, but also of the educational requirements of the children on admission, and at the same time made provision for the re-examination and supervision of all children." This system with slight modifications has been adopted in a number of German cities. The main features of the Wiesbaden plan are†:

1. A complete physical examination of each pupil on admission with special attention to the heart, lungs, throat, spine, skin and higher sense organs, and in boys an examination for hernia.

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* Page 29.
† See, "Medical Inspection of Schools," by Luther H. Gulick and L. P. Ayres, Pages 19, 20.
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2. Careful systematic records, and report blanks which can be followed from grade to grade.

3. A record of height and weight taken twice a year, and chest measurements where these are deemed necessary.

4. The records of children with defects are marked accordingly, and these children are required to report regularly to the physician.

5. Re-examination of all pupils in the 3rd, 5th, and 8th, school years.

6. Hygienic supervision of all school children and advice to teachers.

7. In children with marked defects the parents are notified and urged to have them corrected.

8. The school physicians are not required to give treatments.

9. In all cases the relation of the child's physical condition to the requirements of the school curriculum is taken into account.

Austria and Hungary early recognized the great importance of medical inspection. In Austria, permanent health committees were instituted in 1873 with physicians as regularly appointed medical inspectors of schools. A special law was passed in Vienna in 1895 which made the medical inspection of school children a national affair. Hungary passed a law in 1887 providing for physicians to visit the schools. Here we find the hygienic attention to the pupils and sanitation of school buildings insisted upon. Courses of lectures on hygiene and kindred subjects were introduced.

It would be instructive to consider the various forms of administration and legislation relating to medical inspection, but time will not allow. Just a few words, however, should be said about the American and British systems. In the United States the first attempts in medical inspection were aimed at the detection of communicable diseases, and their exclusion from the schools. There, the school inspectors were in close touch with the Boards of Health, and in a number of instances appointed by them. The larger problems of school hygiene were first definitely recognized in Boston, Mass., about 1891, when a Director of School Hygiene was appointed. A year later a corps of medical inspectors was appointed to look for contagious diseases in the schools. The wider field of school sanitation and hygiene was next cultivated. Finally, attention became centered on the physical nature of each individual child, and the requirements of the curriculum to meet its need. It took some sixteen years to develop the admirable system we find in Boston to-day. Massachusetts now has a fully working compulsory medical inspection law.

This system commended itself to educators throughout the country, and the movement spread quite rapidly. In 1908 there were systems of medical inspection in seventy cities outside Massachusetts. The more recent systems, as that in Cleveland, Ohio, include examinations
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for physical defects; sight and hearing tests; the establishment of school dispensaries; the employment of school nurses and competent instruction in Physiology and Hygiene in the public schools. The Board of Education works in harmony with the Board of Health, especially in the detection and control of contagious diseases.

The condition of affairs, respecting medical inspection, in England is very well given by Hogarth as follows*:

"Though the Congress of School Hygiene in 1907 showed that England was still far behind many nations as regards public interest in school hygiene, yet it was evident that the compulsory measure—at that time under the consideration of Parliament—could be utilized for the introduction of a scheme far ahead of that obtained in other countries. For already London had prepared the way, and had made the first real advance in England towards a definite system of inspection as a factor in the larger problem or school hygiene."

The Education Act referred to above provides in the following terms that,* "The powers and duties of a local education authority under Part III of the Education Act, 1902, shall include:

The duty to provide for medical inspection of children immediately before or at the time of, or as soon as possible after, their admission to a public elementary school, and on such other occasion as the Board of Education directs, and the power to make arrangements as may be sanctioned by the Board of Education for attending to the health and physical condition of the children in public elementary schools."

Medical inspection in the public schools may now be regarded as national in scope and purpose in France, Germany, Switzerland, England, Belgium, Norway, Sweden, Bulgaria, Argentine Republic, and Japan. Russia and Roumania have adopted special regulations for medical inspection in the schools. In the United States there is no uniformity in the various systems adopted, but upwards of seventy cities outside of Massachusetts have already installed some system.†

What steps have been taken in China, either in Government or Mission schools, to meet the pressing needs of medical inspection for Chinese students? It is gratifying to record that pioneer work has already been done, thanks to the untiring efforts of some of the physicians in our Mission schools. I understand that a few of the Mission schools are paying special attention to this matter, and in some it is being done in a very systematic manner. The physical department of the Y. M. C. A. in China recognizes that where special attention is given to physical culture, measurements are of prime importance. So far as I have been able to discover, the attempts to introduce systematic medical inspection for Chinese students with a few exceptions have

* "Medical Inspection of Schools," Pages 32-34.
† "Medical Inspection of Schools" by Gulick and Ayres, Page 1.
been, up to the present, sporadic; not of uniform thoroughness, and not carefully followed up.

It has been impossible on such short notice to collect data bearing on this question from all parts of China. It is hoped that, in the discussion of this paper, data which I have unavoidably overlooked will be presented. I understand that Dr. Roys made a series of measurements on Chinese students at Shantung Union College, and that Dr. Tucker of Shantung has also been carrying out a medical inspection in his school. The most complete physical study of Chinese students which has come to my attention is the admirable paper of Dr. E. M. Merrins read before the Triennial Conference of the C. M. M. A. in 1910. This contribution is valuable not only for the carefully selected data presented, but also for the germinal suggestions which conclude the article. His conclusions will be considered more in detail later, and his results compared with those we have obtained at Tsing Hua College. I have just learned that Canton Christian College gives yearly physical examinations.

At Peking University of the Methodist Mission, Dr. N. S. Hopkins has already begun to give every student a complete physical examination, as well as a medical inspection. He has collected considerable data which will undoubtedly be of great value in making comparisons with other sets of measurements. His observations regarding tuberculosis among students will, I trust, be brought out in the discussion of this subject. I must acknowledge my personal debt of gratitude to Dr. Hopkins for the many suggestions and kindly help offered, when we were first attempting to install our system of medical inspection at Tsing Hua College.

It has recently been brought to my attention that Mr. Lucius Porter has also begun a complete physical examination of the boys at Tungchow Union College. If others are carrying on any form of medical inspection or physical examination of Chinese students I trust it will be fully brought out in the discussion.

At Tsing Hua College it is obligatory that every student undergoes a complete medical inspection before he is admitted to the College. Even after admission he is on trial for three months, during which time if tuberculosis, or any other incapacitating disease, develops, the authorities may dismiss him. He is again given a searching physical examination after admission, and a complete set of physical measurements taken by the physical director. Dr. Shoemaker and I have thus tried to work out a systematic scheme whereby the physical condition of each individual student is taken into consideration. We hope at
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this time to give you the results of our experience, and at the same time throw our methods open to criticism and suggestions. Our plea is for a more systematic medical inspection and physical examination of Chinese students.

AIMS AND GENERAL PRINCIPLES OF MEDICAL INSPECTION.

It may be said that there are three broad aims which medical inspection of schools attempts to cover:—

1. To safeguard the physical life of the individual student by the detection of defects which are remediable; by strict attention to the hygiene and sanitation of the school; by suitable physical exercises, and by adjusting the curriculum to meet the individual needs of each student.

2. The protection of the whole student community by school hygiene and sanitation; by the prevention of infectious diseases, and by efficient quarantine in the event of contagious disease.

3. The protection of society at large from the spread of contagious diseases; from the waste which necessarily arises when epidemics break out in the public schools. The education of the public in these matters is necessary in order to get the most intelligent co-operation.

It is natural that the most evident protection afforded the school child, and in fact that upon which stress was first laid, should first receive attention in the prevention and control of contagious diseases. The individual pupil with an infectious disease has long been recognized as a focus from which a school epidemic might start. The possibility of others contracting the disease, with the attendant loss in school work and the demoralizing effect upon the children out of school, early led the school authorities into co-operation with the health authorities to detect communicable diseases, and provide for their exclusion from school until perfectly safe to return. The sanitation and hygiene of the school were soon recognized as of prime importance. In assuming the care of children the school authorities necessarily must have regard to the well-being of every student.

To detect incipient cases of contagious disease in the schools, to exclude such cases, and see that all contacts are properly cared for becomes the imperative duty of the medical inspector. Scarcely next in importance is the discovery of non-contagious defects which can be readily corrected. A considerable number of pupils suffer from defects which cause them to be backward, to become a drag on their classes, and finally to be dropped by the wayside. The relation between defective vision and various degrees of deafness to backwardness in school is very evident to us now; but time was, not so very long ago, when these were hardly recognized. We have come to realize also, that adenoid growths, nasal obstruction, and enlarged tonsils have a
distinct bearing on the physical and mental condition of the child. Malformation of bones, curvature of the spine and flat feet are all conditions which, if discovered early, can be greatly benefited by proper treatment. A knowledge of a student's physical defects is essential to a proper grading in the classroom, as well as in the prescription of exercises to overcome such defects.

An epidemic once started in any Chinese school becomes a serious matter for the community. It is scarcely necessary to urge this in a meeting where we all clearly realize the danger. The question is not one of ignorance of the facts; but of knowing how to use the facts in the face of opposition, ignorance and superstition. Now, it appears to me, is a most opportune time to grapple with the problem. While the new ideas respecting liberty, freedom, community of interests, are fermenting in the Chinese mind we can educate the youth to appreciate careful medical inspection, prompt isolation and strict quarantine for the public good. When it is clearly shown to the Chinese people what preventive measures can do, reforms will surely, if slowly, be introduced. The public will be protected from having poorly developed, weak students thrust upon it. They will send abroad only those who have a good physical basis upon which to graft a foreign education.

The problems to be solved both in Mission and Government schools in China at times seem insoluble. We become discouraged for lack of funds; for the necessary time to carry out the reforms; for lack of encouragement and sympathy on the part of the Chinese, and their dense ignorance, on the whole, regarding modern sanitation and hygiene. A few choice spirits among them do see the light and are heroically striving to spread it abroad in the land. Whatever the difficulties are in carrying on a more systematic medical inspection and physical examination of Chinese students, I believe that we must all recognize the need, and in some measure devise means to meet it.

The time is certainly ripe for the introduction of such a system into the new educational regimen. The old type scholar with his elongated, germ-laden finger nails, sunken chest and tortoise-rimmed spectacles is rapidly passing. A younger generation of students realizes the deficiencies of the old regimen and is demanding an education which shall meet the changed conditions. The deficiencies to be met are as much, if not more, physical than mental. While the educational system is still in the making it is for us who realize the ultimate benefits of medical inspection to point the way.

On a higher plane, however, we owe it to our cause, and to ourselves to give the best. Our Mission schools, at least, should have
the benefit of our training and experience. To allow tuberculosis to insidiously creep into our schools is as culpable here as at home. To overlook physical defects in Chinese students under our care which may be easily corrected is truly not according to our light. It is our duty to point out to them their lack of muscle; their defective hearing and vision; their pigeon breasts and mouth breathing, and then to make attempts to remedy them. The first principles of hygiene and sanitation must be taught in the schools, and exemplified there. I very well remember the first general meeting of students I attended in China. The school room was close and the air foul. There was a constant hacking and coughing on the part of both students and teachers. They apparently thought no more of spitting on the floor than of licking their chopsticks before serving a friend. Not only in the prevention of the spread of tuberculosis in our schools should we be alert, but also in making a searching examination for venereal diseases. It has surprised me to hear the reports on this condition from some of the physicians having to do with Government students, and I understand that the evil is by no means peculiar to the Government institutions. It would be instructive here to find out in just how far physicians dealing with Mission school students have come across gonorrhoea, syphilis, and chancroid.

The nation's need for strong men—strong physically, mentally, and spiritually—was never greater than it is today. While I thoroughly believe that the spiritual regeneration of this people is of the first importance, I as fully believe that the integrity of the nation depends upon the physical fiber of the individuals composing it. The Chinese have never lacked in mental capacity. They have lacked, especially the student element, in those qualities of physical vigor, and aggressiveness which have determined the destinies of Western nations. A nation which is physically weak cannot long hold together, nor can it thwart the aggressions of hostile states more powerful than itself.

Attempts at Tsing Hua College to Co-ordinate Medical Inspection with Sanitation and Hygiene of the College Community.

At Tsing Hua College we have attempted from the very first to co-ordinate medical inspection of the students with the general sanitation and hygiene of the whole college community. In many respects this College is unique. Drawing students from every province in China, its main object is to thoroughly prepare them to enter the colleges and universities of the United States. Having no precedent to go by we
have been rather free to shape the policies to meet future needs. The situation at Tsing Hua presented possibilities for development which every American teacher immediately recognized. As for myself I saw in it an opportunity to try out some of the principles of medical inspection which had appealed strongly to me in the States. So, being unsophisticated in Chinese ways and with more youthful enthusiasm than I now have, I drew up a scheme which seemed at the time rather ideal, and presented it to the Directors of the College. To my surprise this met their most cordial approval and I was given free rein to "go ahead."

When we reached Peking it was a most favorable time to impress the authorities with the grave necessity of giving each prospective student a thorough physical examination. The presence of pneumonic plague in North China made such an examination imperative. Our students had been gathered from all parts of China, had travelled great distances, and associated with all kinds of people en route. Furthermore, they had been compelled to remain in Peking for some time on account of delay in opening the college.

In order to prevent the inroad of any contagious disease, and at the same time to conserve the health of the faculty and students of Tsing Hua College the following plan has been worked out, and as far as possible put into execution:

1. Every teacher and student should undergo a thorough medical inspection and physical examination before admission to the College. Thus far this has been carried out with all the students, and members of the American faculty; but the Chinese teachers were allowed to take up their work without any such precautions. The result was that about two months after college opened I was consulted professionally by one of the Chinese teachers who had an acute exacerbation of a chronic Bright's disease with mitral regurgitation and some ascites. This, of course, incapacitated him for three or four months, and even after he took up work again it was only in a half-hearted way. In another Chinese teacher who consulted me for a "bad cough" I found tubercle bacilli in the sputum, and in one of the proctors who was spitting some blood I also found the bacilli. On the other hand, in none of the American teachers have any marked signs of tuberculosis appeared, although one of them developed a plastic pleurisy which I strongly felt was tuberculous. No tubercle bacilli have been found in this teacher, who has recovered sufficiently to assume full school work. The students, too, have been remarkably free from evident
Medical Inspection at Tsing Hua College.

Cases of tuberculous glands of the neck have developed, and two or three open pulmonary cases in which tubercle bacilli have been found, but these have been promptly isolated and treated accordingly.

2. Every student should receive a careful medical inspection before readmission to his classes after any of the long holidays, or after any considerable stay away from College. This has been carried out fairly well after the summer vacation; but at other times it is most difficult. All the cases of contagious disease which have developed in the College could be traced to infection which occurred during a short visit to Peking or the neighboring town of Haitien. It is practically impossible to prevent these sporadic cases from breaking out in any college community.

3. As far as possible every student should be encouraged to remain in the College compound during the school term. Exercise and recreation should be limited to the vicinity of the College grounds. Weekly visits to neighboring cities only add to the danger of bringing contagious diseases back to the College. There has been considerable difficulty in adhering strictly to this rule. Students whose parents reside in Peking could scarcely be prevented from going home at the request of their parents, and it is also hardly fair to deprive students from occasional visits with relatives and friends in the city. It is a rule now at Tsing Hua, which is fairly rigidly enforced, that every student who is excused to go to Peking must have a written request from his parent, or responsible guardian or friend.

With suitable athletic sports and contests on Saturday, and provision for interesting, helpful meetings on Sunday, the desire to leave the College on Saturday and Sunday will be reduced to a minimum. There has been a noticeable decrease in the number of students granted week end leave since our athletics have become more popular, and literary and religious societies duly organized. If for any reason students are compelled to leave College at the week end, they should be required to come under the inspection of the physician within a few days after their return.

4. Every teacher and student should be able to show either smallpox marks, or suitable vaccination scars. When we possess such a valuable prophylactic measure as vaccination no chances should be taken by having unvaccinated persons on a college compound. It is gratifying that this matter is fairly well understood by the Chinese,
and very little difficulty is experienced in getting them to take vaccination—at least among the student class. Those who cannot show suitable marks should be compelled to be vaccinated before being allowed to enter their classes. If small-pox breaks out in the College community, the affected case must be immediately isolated in suitable quarters, and all known contacts revaccinated. We have had one mild case, varioloid in type, develop in Tsing Hua College. This boy happened to be in a separate room undergoing treatment for his eyes when he came down with the small-pox. He had recently been to Peking and there contracted the disease. A strict quarantine was established, all those who had recently come into contact with the boy were vaccinated, and, happy to relate, we have had no more small-pox since.

5. No teacher or student suffering from any contagious disease should be admitted to the school. These may largely, but not absolutely, be ruled out by careful medical inspection directly before admission. Latent cases of tuberculosis, and other diseases in the incubation period, may slip in with the best of inspection. If teacher or student develop a contagious disease while in the College, the one affected should be at once isolated and kept so until all danger of infecting others is passed. The usual precautions after an infectious disease—disinfection and thorough cleansing—should of course be taken.

6. No teacher or student with definite signs of tuberculosis or venereal disease (syphilis, gonorrhœa, or chancroid) should be admitted to the College. If any of these diseases is acquired while attending College the student, in the case of tuberculosis, should be suspended and placed under proper treatment, and in the case of the venereal disease should be expelled. On the preliminary examination I found three boys with acute gonorrhœa, all of whom were refused entrance. Thus far no boy has consulted me in the College for gonorrhœa, and I have not discovered any syphilis or chancroid. This, of course, does not exclude the possibility of such cases being in our community, as they might be concealed from me. But I believe, if any, they are very few. One of the teachers contracted acute gonorrhœa, but he left the school within six months after it was opened.

7. No smoking or drinking of alcoholic liquors by the students should be allowed on the premises. Since the reorganization of our school after the revolution this rule has apparently been rigidly enforced.
8. Spitting on the floors in any of the buildings—offices, classrooms, dormitories, dining-halls, etc., should be strictly prohibited. The danger of spreading tuberculosis, and other contagious diseases in this way is too great to allow of promiscuous spitting. The Chinese are sorely in need of education on this matter. At first it was difficult to make much impression upon this reprehensible habit at Tsing Hua. Our American teachers used to go into their classrooms and find the floor literally covered with sputum where the students and Chinese teacher of the previous hour had been. We decided to hand in an ultimatum to the dean stating that the American teachers would not teach in any classroom in which they found sputum on the floor, and furthermore that such floors must be cleaned and disinfected before the teachers would resume their work. This set the necessary machinery to work. The dean told me to go ahead and do what I thought best to overcome the difficulty. Suitable notices warning against spitting on the floors were posted in all the dormitories and halls. Cuspidors were provided for all the dormitory rooms, and in other convenient places about the College buildings. The students were instructed as to the use of a handkerchief or paper, and if these were not available to go to the window and expectorate. Offenders should be warned once or twice, and then if they persisted in the filthy habit be suspended from classes. In the courses in Physiology and Hygiene this matter has been thoroughly discussed, and the reasons given why it is necessary to prevent spitting promiscuously. The subject has on several occasions been presented to the whole student body. At first it was difficult to enforce the rules. On one occasion I caught a boy spitting on the floor in one of the yamen buildings. This boy was the long-finger-nail lady-like type. I was so incensed that I tore a bit of paper from the wall, forced it into his hands, and made him get down on his knees and clean up the smudge. This happened after I had been but a few months in China. I might be more considerate now. It has, however, been encouraging to see the change which has come about during the last year in regard to spitting. Very seldom do I now see sputum on the floors.

9. The students should be required to give proper attention to their hair. Discarding of the queue should be strongly urged. At Tsing Hua, since the revolution it has been made compulsory to have the queue removed, not only on the part of the students, but also other helpers about the compound. The servants of the American faculty are about the only ones left with queues. The College barbers should be required to perform their art in a cleanly manner.
Clean towels, brushes, and combs should be insisted upon, and all razors should be frequently disinfected. Education of the students upon these matters will soon be reflected by the barbers. We have had very few cases of scalp disease among our students, and I have discovered only one case of pediculosis.

10. No stray dogs should be allowed on the College premises. This we have found one of the most difficult things to control, although it would seem one of the easiest with a ten-foot stone wall and thirty armed guards to keep the dogs out. The guards themselves, the servants, the cooks, seem to have a strange affection for these mongrel curs. Two of our students have already been bitten. With thorough opening of the wounds, and cauterization with strong nitric acid, no evil effects followed; but the risk from such dog bites is so great that no chances should be taken.

11. All water for drinking purposes should be thoroughly boiled. As practically every one drinks tea made from boiling water, the danger from this source is reduced to a minimum. We have had practically no diseases in our compound which could be attributed to the water supply.

12. The eating of raw fruits or vegetables should be discouraged. It is extremely difficult to impress the importance of this upon the students. The result has been that we have had a large number of cases of acute gastro-intestinal disease resulting from indiscretions in eating. The dietary of the students should receive special attention from the school authorities.

13. Students should be encouraged to take daily baths, and at least one hot bath per week. The lack of cleanliness on the part of the younger students was very noticeable at the first examination. There is a growing appreciation, however, of the relation between soap and water and good health and comfort. I believe the lack of cleanliness, on the whole, is largely responsible for the great crop of boils which I have had to open during the past year, although there are other factors which undoubtedly enter in. The authorities are planning better bathing facilities and a plunge bath when the new gymnasium is erected.

14. Students wearing glasses, and those with defects of vision not already fitted, should be strongly advised to consult an oculist at once to see if their eyes can be properly fitted. This has been pretty thoroughly insisted upon at Tsing Hua, and a considerable number
of students have been referred to Dr. Hopkins to be suitably fitted with glasses. Many of the boys from the interior come to us with glasses fitted in some "shop" or by some "Chinese doctor" who are so poorly fitted that the glasses are doing more harm than good. We cannot pay too much attention to the eyesight of our students.

15. Students with poor teeth should consult a competent dentist as soon as possible. This advice is easier given than carried out. The competent dentists in China are few and far between, and when one is available his fees are often prohibitive to the average student. Here is really a field for some good missionary work. It truly hurts my conscience when I have to pull an aching tooth which any good dentist could save by a simple filling.

16. Every student, unless physically incapacitated, should be required to take regular, systematic physical exercises under the oversight of a physical director, a certain amount of credit being allowed for such work. The students should also be encouraged in every way to take part in some athletic sports, and, if properly trained, in contests of strength and skill. I will leave this for my colleague, Dr. Shoemaker, to elaborate.

17. During the mosquito breeding season it is important to prevent the dissemination of malaria. This can largely be accomplished by draining unnecessary damp places, oiling ponds and sluggish rivers, efficient screening, and the taking of prophylactic doses of quinine. We have had a very good illustration of what can be done along these lines at Tsing Hua College. In the late summer and fall of 1911, after the College opened, we had a large number of cases of benign tertian malaria in our compound. These cases were both clinically and microscopically typical. The American teachers were particularly affected. Three of them were very ill, showing typical third day paroxysms, a few had a mild degree of fever every third day, and a number were more or less indisposed. Out of the 18 examined, only two did not show the malaria plasmodia in the fresh blood. Stains were made which also showed the plasmodia. Under a thorough course of quinine every case absolutely cleared up. At the same time a considerable number of cases occurred among the students and coolies. The examination of the blood in a number of these cases also showed the tertian malaria plasmodia. These cases, one of whom exhibited haemoglobinuria, were promptly cured after quinine medication.

This year we attempted to take special precautions. Early in the spring all the American teachers were advised to take prophylactic
doses of quinine—5 grains three or four times a week. A box of quinine capsules was placed on the buffet in the dining hall and became a part of the daily rations. The teachers’ houses were more thoroughly screened than last year, although some mosquitoes succeeded in getting into the rooms. The beds, of course, were all netted. During the breeding season the river and ponds in the compound were oiled with petroleum three times. The stream and ponds were stocked with several thousand small fish. The result of all this was that we had noticeably fewer mosquitoes than last year. Although nine or ten of our teachers remained in the College grounds throughout the summer, not a single case of malaria developed among them. We did, however, have a number of cases of the disease among students and coolies of the College after their return from vacation.

When a student is taken ill at Tsing Hua College he is expected to report at once to the proctor in charge who issues to him a slip which will admit him to treatment in the dispensary or hospital. If the boy is too sick to leave his room the proctor summons the physician by note, giving the number of the student and room he occupies. If the student is only slightly ill he is required to consult the physician at the dispensary during regular dispensary hours from 2 to 4 p.m.—at such a time that no regular classes will be missed. If absent from classes on account of sickness the student is required to present a note from the physician to that effect. No one is admitted or discharged from the hospital on account of sickness except by permission of the physician. If any student under treatment refuses the treatment, or demands to go to Peking for treatment under native physicians, he is released only after he or his guardian sign a statement that the College authorities are absolved from all future responsibility in his case, and he is not readmitted until completely cured and has undergone a complete physical examination by the College physician.

In order that these, or similar, regulations may prove intelligible to Chinese students they should be translated into good Chinese, and carefully explained. It is only by the intelligent, hearty co-operation of officials, teachers, students, and underlings that we can ever hope to materially improve the sanitation and hygiene of our school communities. This is equally applicable to Mission as well as to government schools.

I believe that, after all, our greatest hope lies in educating the students to understand and appreciate modern scientific methods of sanitation and hygiene. To this end there should be several well planned courses in Hygiene and Physiology given in every school.
Medical Inspection at Tsing Hua College.

It seems to me that it would be wise to give an elementary course in Hygiene in the Middle School with just enough Physiology to elucidate it.

This might with profit follow a course in General Biology or, as it is sometimes called, "nature study." In the first or second year High School a thorough course in Physiology three or four hours per week should be required of all students. This, if at all possible, should be given in English. I thoroughly believe that the scientific spirit of study can be conveyed to the Chinese students at present in that language as it can never be conveyed in Chinese for many years to come. For those students contemplating the study of medicine, a special course with laboratory work might be arranged in the last year of the High School. I may be permitted to add that we are attempting to carry out such a scheme at Tsing Hua College. We have been running such a short time, however, that it is really too soon to pass any final judgement on this arrangement.

Many of the points mentioned in this paper may seem Utopian in China at the present juncture, but I thoroughly believe that there is no more auspicious time than the present for the introduction of such reforms. It really rests with us as a profession to make the first advances, and to suggest the enforcing of proper measures for the upbuilding of the students under our charge. As President-Emeritus Eliot remarked in a talk to our students last fall, "Preventive medicine is one of the most notable examples growing out of a Republican form of government. It means for each one of us Liberty under Law."

**TABULATED RESULTS OF FIRST MEDICAL INSPECTION OF STUDENTS AT TSING HUA COLLEGE.**

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<tr>
<th>General Physical Condition</th>
<th>High School</th>
<th>Middle School</th>
<th>Totals</th>
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<tr>
<td>Good</td>
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<tr>
<td>Fair</td>
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<tr>
<td>Poor</td>
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<td><strong>685</strong></td>
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<td>Middle School</td>
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</tr>
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<td>134</td>
</tr>
<tr>
<td>Total</td>
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<td>Glandular Enlargements</td>
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<td>Considerable, T. B. C.?</td>
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<tr>
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<td>323</td>
<td>362</td>
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Medical Inspection at Tsing Hua College.

<table>
<thead>
<tr>
<th>Ears.</th>
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<th>Middle School</th>
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<td>92</td>
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| Nose and Throat.              |             |               |         |
| Hypertrophied Tonsils         | 109         | 150           | 259     |
| Adenoids, Evident             | 3           | 18            | 21      |
| Pharyngitis                   | 112         | 117           | 229     |
| Rhinitis                      | 7           | 20            | 27      |
| Nasal Obstruction (Turbinates Enl.) | 1         | 1             | 2       |
| Enlarged Uvula                | 2           | 1             | 3       |
| Bifid Uvula                   | 1           | 1             | 2       |
| Negative                      | 88          | 54            | 142     |
| Total                         | 323         | 362           | 685     |

| Lungs.                        |             |               |         |
| Slight Bronchial Signs        | 45          | 63            | 108     |
| Bronchitis, all degrees       | 25          | 19            | 44      |
| Suspicious Signs T. B. C.     | 14          | 12            | 26      |
| Deformed Chests               | 2           | 11            | 13      |
| Negative                      | 237         | 257           | 494     |
| Total                         | 323         | 362           | 685     |

| Heart.                        |             |               |         |
| Organic Lesions               | 13          | 13            | 26      |
| Functional Disturbances       | 18          | 22            | 40      |
| Negative                      | 292         | 327           | 619     |
| Total                         | 323         | 362           | 685     |

| Abdomen.                     |             |               |         |
| Hernia, Inguinal              | 5           | 7             | 12      |
| Enlarged Spleen               | 0           | 4             | 4       |
| Prominent? Fat                | 2           | 2             | 4       |
| Negative                      | 316         | 349           | 665     |
| Total                         | 323         | 362           | 685     |
SANITATION IN SOUTH CHINA.*

By Li Shu Fan, M. B., Ch. B., D. T. M. & H. (Edin.)
Formerly Health Commissioner of Kwangtung Province.

In reading this paper before you, I beg you to bear in mind that, with the exception of foreign possessions, sanitation in China both personal and public has been hitherto a neglected question and in the short space of time since the founding of the new country it is impossible to expect it to be any more than a beginning of what is a vast work.

It is a deplorable fact that the former Government observed it as being unimportant, while the present Government sees its importance but has not the financial means to meet it. It is because of these circumstances that I regret I cannot give you precise scientific data. If this paper does not contain instruction I trust it will convey information. We are dealing here with the South where the conditions are more neglected and complicated than the North, in a province which is just within the subtropical zone where the conditions are less easy to control than in the temperate provinces. In this province as well as other parts of China sanitation is a decidedly hard problem.

*Read at a meeting of the South China Branch of the China Medical Missionary Association.
Sanitation in South China.

I may mention two conditions here to illustrate that this is the case.

Firstly, climatic conditions:

1. As in other subtropical countries, the conditions are most favourable for the development of microbes, insects, and pathogenic and poisonous animals which are ever ready to give rise to, or transmit, disease.

2. The effect of high atmospheric temperature on the physiological processes, hence the pathological proclivities of the populace renders them less resistant to the attack of disease.

Secondly, racial conditions:

It is a plain fact that, in spite of emigration, the deadly effects of epidemic and other diseases, the unscientific management of births, the neglect of personal and public hygiene, etc., this province as well as other parts of China is still left in an over-crowded condition, with a population of 300 persons per square mile.

The cause of the overcrowding as well as the general physical weakness of the populace lies in the belief in early, and more or less compulsory, marriages. Marriage at the age of fifteen is not uncommon, and at sixteen or seventeen it is the rule rather than the exception among the middle classes. Physical weakness renders them susceptible to the attacks of disease, while overcrowding favours infection and contagion.

There are many other factors which go to make sanitation in this land a sufficiently difficult problem, but it is beyond the scope of this paper to go into them.

Under these conditions, I shall now give you in brief some account of the work we are carrying on in Canton.

My successor, Dr. Ho, assured me that there is no notable change in the administration of health work since he took over office.

NOTIFICATION OF INFECTIOUS DISEASES.

Early in the administration of the Health Bureau, we made the following eight diseases notifiable by all registered practitioners.

1. Plague. 5. Typhoid Fever.

Last year we built an Isolation Hospital opposite the Macao Fort Island, with accommodation for 100 patients. Owing to the financial strain of the Government and the small number of infectious cases, the institution is still unopened. It stands in an admirable situation, being some miles away from Canton city; all vessels entering the harbour could be made to pass before it and inspected when necessary.
DISINFECTION AND CLEANSING OF PREMISES.

Disinfecting gangs are stationed in various quarters of the city. They are despatched wherever infectious cases are reported. Each gang has a foreman and is controlled by a sanitary inspector. Should a sanitary inspector report that certain premises are in a filthy condition, a notice is served by the Health Bureau to the occupant to have it satisfactorily cleansed within a stated time, at the end of which, if he fails to carry it out then, a gang is sent to fulfil the desideratum. In this way the market places are thoroughly cleansed once a week.

SCAVENGING.

This is performed by some 750 men. The destruction of refuse has cost the Governments of Hongkong and Shanghai annually a large sum of money.* Here we get a good return from the refuse contractor who, moreover, undertakes to provide boat conveyance free.

THE COLLECTION AND EXAMINATION OF DEAD RATS.

Throughout the city there were distributed over 2,000 dead rat boxes. The collection goes on throughout the year by a gang of rat collectors. The contents of each box are collected twice daily, the rats of each box being marked, and once daily the disinfecting fluid placed inside the box is changed. The rats thus collected are conveyed to the Bacteriological Department for examination of the presence of bacillus pestis. As a human epidemic is usually preceded by a rat epizootic of about a fortnight's duration the presence of plague-infected rats will indicate comparatively early the section of the city where attention should be directed. The average number of rats collected daily is 1,400.

The scheme practised formerly of collecting rats by paying a fixed price per head is to be condemned, because this invites the wholesale importation of rats and probably plague.

REGISTRATION OF DEATH.

Meanwhile, as it is impossible to have every uncertified body examined at the Government mortuary, we have a crude but simple system in its stead. The caretakers are made to report the name and address of the deceased, as soon as a coffin is sent for, to the nearest police station, whereupon a police or sanitary inspector is dispatched immediately to the address given where he inspects and fills a form.

* [While the disposal of house refuse did cost the Shanghai Health Department, in 1912, $3,700.00, yet the profit to the department from the sale of the ordure was $90,000.00 for 1910 (cannot quote 1912 figures) and will be $120,000.00 in 1913.—Editor.]
Sanitation in South China.

issued by the Health Bureau with reference to the nature and duration
of illness, the time and cause of death, and the physician who attended.
Should the case be attended recently by a registered medical prac­
titioner then a certificate forthcoming from the same will be accepted.
The filled-in form or the certificate is sent at once to the Health
Bureau for registration. Should a suspicious case arise, the Bureau
sends a medical officer at once to make further examination. He may
order the case to be sent to the mortuary for a complete examination.
All unclaimed bodies are examined at the mortuary where a report of
each is made to the Health Bureau.

As the time at my disposal is limited, I shall omit the subjects of
water supply, drainage, trade nuisances, the sale of impure food and
drugs, etc., etc.

I shall now mention a few important diseases and the attention we
are directing to them:—

SMALL-POX.

Notwithstanding the fact that China practised vaccination centuries
before Europe, smallpox still ravages as a most deadly disease.

We were frequently alarmed by reports coming from remote dis­
tricts of the presence of epidemics of plague, but on investigation found
to be really epidemics of smallpox.

In Canton the Health Bureau offers free vaccination in the spring
of each year when the disease-incidence is greatest. Vaccinators are
sent round to each district police station at regular intervals.

The vaccine is prepared here in the Bacteriological Department.
It is thoroughly tested, by vaccinating rabbits, before sending it out to
the public.

PLAGUE.

Plague has been endemic since 1894. The small number of Canton
cases on record last year showed a predomination of the bubonic
variety. The variety of rats we find here are the mus decumenus,
mus rattus, a cross breed between the two, and a variety we call
here "so shi," or the musk rat. It is the smallest of all.

As Verjbitski has shown that bed-bugs are carriers of plague the
species of bed-bugs I find here belong to cimex lectularius, a bug
which is found nearly all the world over.

As regards the prevention of plague, I have already spoken to you
about the examination of rats. Wherever infected rats are reported
by the Bacteriological Department the locality from which the dead
infected rats are collected is cleansed by the disinfecting and cleansing
gangs. Bird-lime is distributed free for the catching of rats. Pamph-
lets on the nature and prevention of plague are likewise distributed. Last year over 50,000 pamphlets were given out to the public. The public is addressed through meetings and newspapers. Prophylactic inoculations are provided free by the Health Bureau.

LEPROSY.

Early in the work of the Health Bureau the city was freed of lepers.

It is now the duty of the police to arrest any case they come across, but suspicious cases must be confirmed by the bacteriologist before being sent to the leper colony.

As regards infection.—Were it not for the fact that Hansen's bacillus hardly if ever grows outside the body, I would have blamed the use of many bamboo made articles which are frequently made by lepers with discharging hands, but recently Jonathan Hutchinson revived the fish hypothesis most convincingly.

Granting that this is correct I venture to suggest that a special part of fish may be the source of infection. It is a common practice in South China for people who may be lepers to pass stools in fish-rearing ponds, where closets may be seen erected so as to overhang the water; and it is also common for lepers to live in boats where they pass stools directly into the river without the use of receptacles. The fishes naturally lose no opportunity in loading their alimentary canals with the stools. As it is extremely common for people here to eat the intestines and omenta of fish, I suggest that this may be the special organ of fish which is responsible for leprous infection.

I have not thus far heard any report made of the presence of the bacillus in the stool of lepers; but that the mucus membrane in leprosy is frequently affected is an undoubted fact. As the bacilli do not grow outside the body they may grow inside that of a living fish.

The so-called "cures" of leprosy claimed by the native physicians are frequently cases wrongly diagnosed; nevertheless credit must be given to some of the cases. On making much enquiry I found many of the so-called reputed doctors are using a form of arsenic pill. It is prepared by placing the crude Chinese arsenious acid into the opened abdomen of a frog. After stitching the wound the frog is enclosed in a clay ball moulded tight. The ball is placed in burning red hot charcoal for about one day and is then taken off. The frog inside the ball is thus reduced to ash with the arsenic. The mixture or compound is then made into pills with a common basis. Some few hundred such pills are prescribed as a course of treatment.
TETANUS.

Tetanus, owing to the ignorant use of infected scissors or knives in cutting of the umbilical cord, is an extremely common disease of infants. In studying the records of the Sick Infants’ Hospital which is controlled by the Health Bureau, the total mortality of five months last year from January to May was sixty-two per cent. In spite of treatment with the antitoxin, the mortality of tetanus-affected infants was eighty-six per cent. Of all causes of infantile mortality, tetanus was the preeminent one.

In closing, let me express my regret at not being in a position to supply you more scientific data. I thank you for your kind attention and indulgence, and I trust that the facts mentioned will give you some idea of the work we are carrying on in this short space of time. If the comments made would only bring one little particle of knowledge it would be more than I expected.

SOME EXPERIENCES WITH THE SUBTERTIAN FEVER IN KIANGSI.

By Ida Kahn, M.D., Nanchang.

Since reading the editor’s requests for contributions to the JOURNAL, I have been anxious to add my little quota of help. Thinking that my experiences with the subtertian fever would be of interest to some, I set about to record them. A disease that can claim a higher mortality than tuberculosis (at least in these parts) is certainly worthy of our notice, and when we realize that no age is exempt, the true significance and importance of this subject cannot fail to impress us. The lightning-like rapidity with which this disease sometimes strikes down its victims reminds us of such diseases as cholera and the plague, which, however, seldom visit this region. It is easy enough for us to know our “Mansons” and imagine that we can differentiate the various forms of malaria, but when it comes to the actual practice then, indeed, do we have some anxious hours, for quinine does not always work like magic and cases will not be typical, so that we have to pray for wisdom and guidance, quite as much as we do in the more dreaded diseases such as typhoid and pneumonia.

Generally speaking we are on our guard when we meet with the cerebral forms of the subtertian fever but occasionally complications arise that truly demand our highest skill and care. Herewith an
interesting case. (Though called to the case at four p.m., I was unable
to get there until nine-thirty.) A lad of eleven, apparently in perfect
health when he retired the night before, awoke in the morning
complaining of having a headache and refused to get up. As he
appeared feverish they gave him 2 or 3 tabloids of quinine, but he
soon became worse so that he could not retain anything on his
stomach. Purging set in as well as vomiting and, by four p.m., he
became delirious and soon had convulsions. Upon arriving I took some
specimens of his blood on slides and examined him thoroughly, coming
to the conclusion that it was a case of pernicious malaria. Throughout
the night every four hours I gave him an intramuscular injection of
quinine bi-hydrochloride. Also fed him teaspoonfuls of egg albumen
water, which he managed to retain. In the morning the fever had
fallen four degrees and he was partly conscious. The quinine in­
jec tions were kept up during the day. Upon examination his blood
was found to contain no parasites but there was an enormous increase
of large mononuclears, so I came to the conclusion that my diagnosis
was correct. That evening the patient's fever rose to 103.8° F. and he
became unconscious again, but his delirium was slighter and he had no
convulsions. The pulse also was much stronger than the night before.

After I had given him the midnight injection I retired. When
I returned in the morning he was entirely conscious and the fever had
fallen to about 100° F. His appetite also had increased a bit, so to his
diet of rice-water and egg albumen water I added milk. Because of
unavoidable pressure of work I was unable to give the quinine quite as
regularly as before, with the result that the patient missed about one
dose of the medicine. That night the fever went up to over 104° F.
and he became unconscious again. The next morning the fever only
went down one degree and the coma deepened. I became thoroughly
alarmed and gave the family no hope for the lad. That day I remained
by the bedside and gave the patient four grains of quinine every three
hours. By evening the fever was about the same and the patient’s
condition seemed no worse. Towards morning the fever went down
to 100° F. and consciousness gradually returned. With returning
consciousness, however, there was shown to be loss of sight and I
learned he had amaurosis. The question now was: Should I discontinue
the quinine or simply lessen the amount? I was in favor of the latter
method since I saw that his pupils were unequally dilated and I thought
that his eye trouble probably came on with the increase of the fever,
for as it went down his eyesight improved. At first he could scarcely
flutter his lids, then gradually he could lift them but could not see.
His hearing was fairly good and altogether I thought that his amaurosis was more likely due to the disease than to the excess of quinine. Still I sent for Dr. Gale and she agreed with me in lessening the amount. I continued to give the quinine injections every four hours with the result that by the sixth day his fever had left entirely and he made a very rapid convalescence. Under the treatment first of quinine and strychnine and then later of iron, quinine, strychnine, and arsenic he gained his eyesight quite rapidly and now he has very good vision. I must add that throughout the case the patient was unable to take the quinine by mouth, each administration disturbing his stomach. This case was a lesson to me on the necessity of regularity in administering the drug and also on the beauty of the golden mean. For if I had erred in one way I would have lost the case and if in the other I would have made him completely blind.

The bilious form of the subtertian fever is very common here, but sometimes it may threaten to become tragic. A lady 37 years old came down with an attack of this type in July. Upon arriving I found that the patient had fainted dead away from exhaustion due to the incessant vomiting. The fever was only 103.8° F. but the prostration was extreme and I had to administer stimulants from the start but avoided strychnine on account of some purging. She had a second collapse after I had given her an injection of five grains of the quinine bi-hydrochloride but as the blood examination showed an abundance of the subtertian parasites I told her friends not to be alarmed but to give the medicine time to act. The interesting feature in regard to the case was that I had to continue the intramuscular injections all through the course of the disease, which terminated in about six days, also. In most of the cases that I have had only a few injections were necessary, for, as soon as the severity of the disease lessened, the bilious vomiting would cease and the medicine could be taken by the mouth. In this instance the patient had always been strong and had a pretty good stomach.

The algid form of malaria is not so common here, but the summer before last we had so many cases that one might have called it a regular epidemic, and it occurred more in the early part of the summer. The old and the young were chiefly affected and the mortality among the children must have been very great for many deaths occurred among boys and girls over 12 years old. The symptoms of the disease were generally quite striking, and the Chinese usually took it for cholera. The chief symptoms were the sudden development of severe vomiting and purging with the rapid onset of collapse as
evidenced by the coldness of the extremities and pallor of the features which became more and more pinched. There were sinking sensations also and many fainted outright. The heart action was usually weak. But the vomited matter and stools, while watery, were never like rice-water, but were yellowish in appearance and the features never became so cyanotic or pinched as in true cholera. While the extremities became icy-cold, there never was any sub-normal temperature in any of my cases, for though in some of the older women and more feeble children the temperature never went much above 99° or 100° F., still in many of the children it went over 103° and 104°, especially towards the last. But as a rule the temperature was not high and ranged between 100 and 102 degrees. Above all things, in the many cases that I examined nearly every one showed an abundance of the subtertian parasites and the injections of quinine gave prompt relief, and I hardly ever had to give anything to check the vomiting and purging. Very few cases were lost. I found that the quinine acted better sometimes than solutions of the bi-hydrochloride because the children were able to retain the former better since it is less bitter. A typical case of the algid form will be given. I was called to see the patient early in the morning and found her collapsed upon the floor. She was 57 years of age and had a pretty good constitution. Vomiting and purging had set in after midnight and, though she had not had many movements, the prostration was extreme. I revived her with some stimulants, then took some specimens of her blood and gave her an injection of quinine. Her temperature never went much over 99° F. but her blood showed many subtertian parasites. Rubbing her extremities helped to prevent another collapse though the purging kept up a little longer. The patient made a rapid recovery. Without the aid of the microscope, I question if I should have been so sure of my ground that the disease was not cholera. I wonder whether so many of the cases diagnosed last summer as “choleraic diarrhoea” might not have resembled some of these. Certainly they seemed very choleriform in character.

Neither Manson nor Osler gives a pneumonic form of malaria but Castellani does, while both Holio and Botch say that in children the malaria plasmodium is apt to cause congestion of the lungs that resembles broncho-pneumonia very closely. In my experience such cases occur very often and in the early spring and late autumn they give us many an anxious moment, for it seems as if nothing could be done to relieve such marked congestion of the lungs. As a rule, however, the cyanosis and dyspnœa are not so marked as in real pneumonia and the
chief distress is caused by the constant coughing and the abundance of the expectoration. It would seem as if the lungs were choked by the mucus, and the liquid râles in the throat as well as over the lungs can be heard distinctly. Examination usually shows the parasites present and the injection of quinine usually causes the distressing symptoms to subside quite rapidly.

Sometimes the coughing is so severe that vomiting occurs readily and then difficulty will be experienced in giving the quinine. Again, if not enough quinine is given the lung symptoms will not subside easily. In the spring of 1911 a girl (Yeh) was brought to the dispensary who had a typical form of this disease. She was three years old and pneumonic symptoms were so severe that I doubted if she could recover. She simply panted for breath and the rattling of the mucus in her throat was really distressing to hear. She coughed so much that she vomited readily and now refused to eat food. As she belonged to an official family of wealth and had the best of care I doubted whether she could have really caught cold and diagnosed the case as one of malaria, for we had been having a run of such cases. I told the family that if she lived twenty-four hours, perhaps the drug would have time to check the disease, but not otherwise, and they agreed with me, for the child had been ill several days and they did not expect her to live. I had no hospital then and could not take her in so I gave her a solution of the bi-hydrochloride and told them to give her a teaspoonful every three hours. It was so made that during the twenty-four hours she would take in all about eighteen grains. The next day they brought her in at about the same time and they declared that she was much better but seemed rather weak. Her lung symptoms had, indeed, improved, but the cause of her prostration could be readily shown, for they had given her almost double the amount of medicine ordered. This, too, in spite of the fact that the bottle was carefully labeled and they had been carefully instructed. I told them to refrain from giving her any more medicine until the noon of the following day when they were to begin again and administer the drug as directed. The next afternoon they brought the child still more improved but alas! she was blind, and they were naturally alarmed. Feeling sure that her amblyopia was due to the excess of quinine given and not daring to stop the doses since the fever had not subsided entirely (it was over 102° in the beginning) I told them to continue with the quinine but at longer intervals so that in all she would have sixteen grains during the twenty-four hours. The next day the eye sight had improved and the lung symptoms were almost gone. They kept on
with the treatment and her eyesight returned very rapidly and soon was apparently quite normal. A blood examination made during the course of treatment showed the large mononuclears almost doubled in numbers so that there was no doubt of its being a case of subtertian fever, for in true pneumonia the increase would have been in the polymorphonuclears instead of in the mononuclears. One thing I can safely affirm and that is that the recovery depends in direct ratio upon the time of treatment. The earlier a case is diagnosed and treated the more readily does it respond and vice versa. Taking it all in all, the subtertian fever is a most treacherous disease and because of the heavy toll that it exacts in the life of the people every year we cannot be too carefully on our guard, and I for one would like to learn more of other people's experiences with this disease.

RECENT ADVANCES IN ANESTHESIA

By Samuel Cochran, M.D., Hwaiyuan.

The periodical literature of the last year or so shows a remarkable access of interest in the subject of anesthesia. For example, a single volume of one journal* (twenty-six issues) has in its index reference to 103 articles and abstracts on the subject. As a result, substantial progress has undoubtedly been made in our knowledge of the effects of the different anesthetic agents and the methods of their administration. The present writer does not undertake to make a thorough survey of the subject, but is simply setting forth the impressions obtained from a cursory survey of recent articles.

Local Anesthesia. As time passes, the field where local anesthetics can be used, by one or another technic, is being constantly widened. Crile has shown that they are a most useful adjunct to general anesthesia; the danger of shock is greatly lessened by rendering the field insensitive to painful impressions by weak solutions of novacaine. A similar method is to block the nerves leading to the field by intraneural injections of some local anesthetic.

A new local anesthetic of great value has been added recently, in the hydrochlorid of quinine and urea. It is absolutely non-toxic, can be boiled without injury and is said to cause an anesthesia lasting several days, which is a decided advantage in certain cases. The writer can testify to its efficiency from experience on his own

Recent Advances in Anesthesia.  

person. We are using it in our hospital as a routine, and use little cocaine except on mucous membranes. Spinal Anesthesia. This is constantly seeing wider use and the technic is becoming more perfect and exact. It is apparently a certain and reliable method of inducing anesthesia and the choice under certain circumstances where there are strong contra-indications to general anesthetics: e.g., in conditions of advanced anemia, uncompensated cardiac lesions, pulmonary tuberculosis, etc. There is, however, a long list of deaths from it, which is constantly being added to, and one gathers the impression that the inherent dangers from it are greater than from ether or even chloroform. Here in our Chinese hospitals one would wish to use it but seldom, and then our experience of it and skill in its use would be so small, that it would probably be more dangerous than ether or chloroform. It is therefore scarcely an eligible method for China at present.

Considerable has been written on the subjects of Rectal and of Intravenous administration. For example, Noel and Souttar 2 have an interesting report of cases anesthetised by paraldehyde given intravenously. Both of these methods may prove advantageous under certain conditions but, up to the present, experience with them is too limited for us to form an intelligent opinion as to their advantages.

Before taking up the different general anesthetics there are one or two points concerning them as a group that deserve mention.

1. It has been discovered that the CO₂ dissolved in the blood plays an important role in the regulation of the respiratory and vaso-motor centers. 3 It is believed that many of the deaths occurring during anesthesia are due to excessive respiratory movements eliminating the CO₂ and causing a condition of apneea; "It is sometimes difficult to restore respiration before the patient dies of anoxemia." The condition of shock also may be in part initiated or aggravated by the same cause. 5 To combat this condition manufacturers are now prepared to furnish cylinders of oxygen, with a certain fixed proportion of CO₂. 6 This gas mixture applied by Meltzer's intratracheal insufflation is one of the most important and effective means of treating sudden shock or failure of respiration during anesthesia.

2. Another discovery which concerns all forms of inhalation anesthesia is Meltzer and Auer's method of intratracheal insufflation by means of a soft rubber catheter introduced through the larynx. 7 The aeration of the blood can thus be accomplished with certainty,
independently of movements of the thorax or diaphragm. This makes possible intrathoracic operations without expensive negative-pressure cabinets, or other complicated apparatus; it is a useful means of administering the anesthetic in operations about the mouth and upper air passages; and is a certain and easy resource in sudden respiratory failure during anesthesia.

3. Preliminary administration of a narcotic, by hypodermic needle, seems to have been adopted by a large majority of the best anesthetists, though its use is opposed by a few. It has great advantages which would seem to outweigh the objections which are largely theoretical. A combination of Norphin 1/4—1/6 with atropine 1/150—1/100 is commonly used.

4. Some anesthetists are employing frequent observations of the blood pressure as a means of obtaining early knowledge of impending shock.

5. It is generally accepted that it is a great aggravation of the danger inherent in anesthesia to repeat it after a short interval. Also that alternating deep and light anesthesia is dangerous.

Nitrous Oxid. The administration of oxygen with nitrous oxide has overcome some of the objections that formerly prevented its more general use. Many surgeons now prefer it as the anesthetic of choice in the majority of operations and the perusal of recent articles gives the impression that the preference is justified. It is probably safer even than ether (though so skilful an anesthetist as Gwathney doubts this) and safety is the first requisite in an anesthetic even if it cannot be the only one. Several reasons, however, each of which would alone be sufficient, make it ineligible for general use at present as a substitute for ether.

1. The expense of both the gases for prolonged anesthesia. It is possible that this may be largely overcome. Some method of absorbing the CO$_2$ excreted would enable the gases to be indefinitely rebreathed.

2. It is difficult and inconvenient to obtain the gases as compared with liquid anesthetics. They are only available in cities of considerable size.

3. The method requires a somewhat complicated and expensive apparatus.

4. Its administration needs much more skill than ether. One who believes in it as thoroughly as Teter, for example, says: "Should
Recent Advances in Anesthesia.

I ever be so unfortunate as to undergo a major operation when the services of an expert anesthetist with nitrous oxid and oxygen are not available, I should prefer to take my chances with ether in the hands of an inexperienced person. It will probably, therefore, be some time before it is generally used as a substitute for ether in China. It would seem, however, as if the time were ripe for marketing it in the larger ports for use in shorter operations, and especially in dentistry. The present use of chloroform for teeth extraction is an anachronism.

*Ethyl Chlorid.* There have been a large number of deaths from this agent and it is still regarded with suspicion.

*Ether.* A great advance was made when the old method of drowning a patient with ether inhaled from a folded towel was replaced by the drop method, a considerable part of the disagreeable accompaniments and after effects being thereby eliminated. It seems possible that an equally great advance may be at hand in substituting for the drop method the administration of the vapor obtained by passing air through or over ether, and then washing and warming it by leading it though warm water. This has the following advantages:

1. It removes deleterious substances (aldehydes) often formed in ether after standing by the alcohol and water, traces of which are always present. It is probable that the nausea and other unpleasant effects occasionally caused by ether are mainly due to these contaminations.

2. Warming the vapor makes in more efficient and also safer; less is used and the time required to complete narcosis is shorter. Further, there is no danger of chilling and drying the lungs, effects to which post-operative pneumonia and other ill results may be due.

3. It can be combined with a convenient form of delivery tube in operations about the face, or with Meltzer’s intra-tracheal tube. In other words the method reduces to the lowest terms the abnormal elements in giving anesthesia, eliminating chilling, desiccation, and harmful contaminations and leaving only the necessary anesthetic to deal with. A new little wrinkle to spare the patient the discomfort of the first whiffs of ether is to start by a few drops of essence of orange (25% U. S. P.) This is pleasant to take and the patient is not aware when the ether is begun.

*Chloroform.* While further knowledge has been steadily increasing the discomforts and disadvantages of ether, it has been showing graver dangers hitherto unsuspected in chloroform.
1. Shock is now known to be largely dependent on vasomotor paralysis. "Chloroform is a profound depressant of the blood pressure, and patients anesthetized with this drug exhibit the symptoms of shock much more quickly." It is particularly contra-indicated in emergency traumatic cases where its convenience largely determines its use, as the patients are always in considerable shock and chloroform might easily turn the scale against them.

2. Comparatively recent studies in animals show that the administration of chloroform, even in moderate amounts, is regularly and consistently followed by the following results:

(a) A central necrosis of the liver lobules with fatty degeneration of the heart. This varies in extent. It may cause no symptoms, or it may be extensive enough to cause severe illness (delayed chloroform poisoning) which is not uncommonly fatal. This necrosis runs a regular course, and ends in complete repair of the affected lobules in the non-fatal cases. This poisoning is greatly accentuated when chloroform is administered on two or three occasions at intervals of a day or so and dogs can be killed with great certainty by this means.

(b) With the liver necrosis there is observed a great diminution of the fibrinogen in the blood, the extent of this change corresponding roughly to that of the liver necrosis. "By administering chloroform the fibrinogen may be almost eliminated from the circulating blood and the animal bleed for hours from small pricks or cuts. The fibrinogen reappears in the blood as the liver effects its repair." It is therefore evident that chloroform is especially dangerous in pregnancy, from the chance that miscarriage or labor following in a day or so might cause fatal hemorrhage, or because there might already be present the tendency to toxemia with its changes in the liver parenchyma.

In regard to the above changes, the following quotations from papers of several authors (Whipple, Sperry, and Herwitz) are of interest.

Chloroform is a poison and when given to produce anesthesia will cause more or less damage to the liver. This is true for men and animals.

Chloroform anesthesia for one or two hours invariably causes some central liver necrosis and may cause a fatal result in dogs.

Chloroform anesthesia for thirty-five minutes may cause fatal poisoning in men with almost complete liver necrosis (case cited).

Pregnancy is no protection against the poisonous quality of chloroform anesthesia. Chloroform necrosis in pregnancy may cause extreme liver necrosis.

Whipple concludes from experiments on dogs, "Probably normal and pregnant human beings are equally susceptible to chloroform poisoning" that "Chloroform anesthesia during any part of the pregnant period is capable of causing liver necrosis, and that chloroform is therefore a dangerous anesthetic."

These considerations cannot be rejected by pointing to numerous cases of pregnancy and operation where chloroform has been employed for one or two
hours, and a favorable outcome has resulted. The great majority of dogs submitted to chloroform for two hours will recover after a few days with no apparent ill effects; and yet we have been able to show that liver necrosis affecting perhaps one half of every lobule will be produced that may be completely repaired in a few days by multiplication of the normal liver cells. No one can deny that it is a dangerous experiment to damage a liver so severely and trust that the injury may not be serious because the repair will be rapidly effected. There is no known method of estimating the susceptibility of persons or animals to this drug, so one can never tell when the limits of safety have been passed.

The experiments and articles above quoted have been abundantly confirmed by other investigators (Howland and Richards, Muskens, Lengeman, Stiles and M'Donald) and may be considered to be firmly established. Comment on them is superfluous. On the other hand, Lengeman has shown that "Prolonged ether anesthesia causes no damage to the viscera." It is not surprising, therefore, that the tide is turning rapidly against the use of chloroform, and in favor of nitrous oxide or ether. The committee appointed by the American Medical Association made a report of the annual meeting of the Association in June, 1912, and the report represents the best judgement of a large majority of the profession in America. We have only space for one or two quotations which bear on the question of chloroform and its dangers, but the report should be studied in its entirety. *Jour. A. M. A.*, June 15th, 1912, p. 1909:

1. The use of chloroform as the anesthetic for major operations is no longer justifiable. Scientific investigation and clinical experience agree in demonstrating that necrosis of the liver ('delayed chloroform poisoning') follows in a by no means inconsiderable percentage of cases. The mode of causation of this sequel is unknown. There are therefore no precautions that can be intelligently taken against it. Accordingly, the surgeon whose patient dies in this manner a day or two after operation must face the responsibility of having knowingly taken an unnecessary chance and lost. We see no reason to believe that in respect to toxicity there is more than a slight quantitative difference between chloroform alone and such chloroform mixtures as A. C. E., anesthol., etc.

2. For minor operations also the use of chloroform should cease. In general it may advantageously be replaced by nitrous oxid, or nitrous oxid-oxygen. It is a mistake to think that a fatality under anesthesia is necessarily due to an unusually large administration of the anesthetic. A previous condition of suffering or anxiety, or a prolongation of the stage of anesthetic excitement renders a subject who would otherwise be able to resist a large dosage liable to collapse even under a small dosage. The practical importance of avoiding so far as possible all anxiety and pain has been demonstrated on the clinical side by Crile, and experimentally by Henderson. It is noteworthy that Levy (with Cushny) has recently demonstrated that in cats a sudden heart failure (fibrillation) is induced by a period of light chloroform anesthesia, while this form of death is not inducible by deep anesthesia. Risks of this sort are far greater with chloroform than with ether, and greater with ether than with nitrous oxid. As they cannot be foreseen, they can not be avoided, except by replacing a dangerous anesthetic by a safe one.

The figures given above by Gwathmey for the past few years bear out the belief that the general practice of American surgeons is following
the opinions above expressed. In a certain group of hospital and other reports collected by him, there were reported the following anesthesias:22

(Extracts from a much larger table).

<table>
<thead>
<tr>
<th>Year</th>
<th>Ether (drop vapor)</th>
<th>Nitrous oxid ether sequence</th>
<th>Chloroform</th>
</tr>
</thead>
<tbody>
<tr>
<td>1905</td>
<td>7,623</td>
<td>7,259</td>
<td>3,048</td>
</tr>
<tr>
<td>1907</td>
<td>15,154</td>
<td>4,147</td>
<td>2,532</td>
</tr>
<tr>
<td>1909</td>
<td>23,049</td>
<td>11,274</td>
<td>1,910</td>
</tr>
<tr>
<td>1911</td>
<td>53,981</td>
<td>9,385</td>
<td>1,924</td>
</tr>
</tbody>
</table>

The articles quoted above have been mainly from American publications, but the writer is informed that the trend of British and Continental thought is in the same direction. For instance, in his recent treatise, Mortimer says:

It may be said in general terms that for any operation of more than momentary duration this (ether) should be given provided there is no contra-indication. For a more comfortable speedy induction it may be preceded by nitrous oxide or ethylchloride.23

If the current of opinion continues to run against chloroform as it has done recently, it is easy to foresee that the day is not far distant when it will be discarded, except for unusual cases, where there is some strong contra-indication to other anesthetics.

NOTE: In citing references to the different points made, only one or two have been chosen in each case, though in most instances they could easily be multiplied. The opinions expressed in the main, therefore, represent the great preponderance of opinion.

REFERENCES.

5. Idem, p. 56.
RESULTS IN THIRTEEN CASES OF DYSENTERY TREATED WITH EMETINE.

By ALLEN C. HUTCHISON, M.D., Kashing.

After the many articles on emetine by Leonard Rogers, which have appeared in many different magazines during the past year, and after the excellent article by J. Preston Maxwell in the March number of the C. M. J., it might seem superfluous for any one to write further in confirmation of the undoubted value of the emetine treatment of amoebic dysentery; nevertheless, believing that such a valuable discovery can not be too well advertised and also fearing lest there still be sceptics in our ranks, the writer thought it might be well to bring forth further evidence at this the beginning of the hot season, with dysentery in its train. I wish also to speak of the interesting, though unproved, possibility of the efficacy of emetine in schistosomum japonicum infection.

The cases of dysentery, thirteen in all, divide themselves into four groups.
A. Amœbic dysentery in which the amœba was found on examination.

There were seven of these cases. Two had had dysentery for twelve years with acute exacerbations from time to time; two for seven months; one for five months; one for six weeks, and one was a very acute case of only six days' duration. The first case was admitted to the Kashing Hospital, March 5th, and the last admitted May 30th. All received emetine hydrochloride gr. $\frac{1}{2}$ twice daily by hypodermic injection for five or six days on the average. Blood disappeared from their stools in the earliest case in twenty-four hours, in the latest in six days, the average being three days. Five of these remained in the hospital on an average of six days; two remained in a longer time to convalesce. All left the hospital considering themselves cured.

B. One case apparently amœbic but failed to reveal the amœba in stools. This patient left hospital on the seventh day, cured of his symptoms.

C. Two cases of infection with both amœba and schistosomum japonicum.

One case, having ten to fifteen stools a day and much emaciated, remained in hospital eight days but left with no relief from dysentery.

Second case had had dysentery for four years, with rarely a day free from bloody stools, often twelve or more a day. Large spleen and general picture of schistosomiasis. Under emetine treatment macroscopic blood disappeared on fifth day and no amœba present. Patient left on thirteenth day having only one movement a day, no macroscopic blood, and no amœba present though microscopic blood and schistosomum eggs still found in feces. Patient better than had been in four years.

D. Three cases of infection with schistosomum alone.

All three were chronic. In two of the cases, under emetine, blood had disappeared from the stools on sixth day. In the third case, after seven days, patient left showing no improvement in his dysentery.

These schistosomum cases are merely suggestive and by no means conclusive of anything. I have not the temerity to suggest that emetine will kill the parent worm as it lies at the end of the minute blood vessels discharging its eggs in showers into the lumen of the intestine, yet it is interesting to see that in two cases the bloody movements ceased, and another case with amœbic infection in addition was relieved of dysenteric stools. It is very possible that the improvements in these cases were no more than coincidences, for we know...
Dysentery Treated with Emetine.

that the dysentery of schistosomiasis is intermittent, but to my mind they are so suggestive that I shall try the same treatment on a great many more before I am convinced of the efficacy or non-efficacy of emetine in this infection. In the case which was not relieved, I found an active miracidium at the end of his treatment, which would rather argue against the efficacy of emetine, at least as far as affecting the eggs is concerned. However, in such a terrible scourge as schistosomiasis, anything is worth trying, and I am willing to lay myself open to the charge of drawing conclusions from insufficient data, if I can persuade some one else to try this or any other experiment on this parasite.

I do not agree with those who claim that it would not be well to kill the parent worm even if we could, for I think it is perfectly reasonable to desire to kill them in the body, since in the ultimate cure of a patient removed from the possibility of reinfection, the death of the worm and its absorption is what is desired and is what does happen.

Conclusions.

(a) Emetine in amoebic dysentery is simply wonderful in its efficacy.

(b) In undiagnosed cases of chronic dysentery it will succeed in the majority, as most of these are amoebic.

(c) In double infection of amoeba and schistosomum it will kill the amoeba and probably stop the dysentery.

(d) In pure schistosomum cases it is at least worth trying.

Representatives of the Board of Managers of the Hangchow Presbyterian College, the Shanghai Baptist College, the East China Union Medical College, and the University of Nanking, met in Shanghai about May 17th to work out a basis of union. After thorough discussion, a constitution was agreed upon which was to be sent to the various missions concerned for their approval. If this constitution passes the missions, then it will be submitted to the home board and the trustees of the University of Nanking and an organic union will be effected. It is believed that this constitution will be acceptable and that in the near future these various institutions and possibly others may be co-ordinated and united into one system leading up to a University.
The China Medical Journal.

Customs Surgeons' Reports.

REPORT ON THE HEALTH OF WUCHOW FOR THE SIX MONTHS ENDED 31ST MARCH, 1913.

By Dr. B. RANDALL VICKERS.

The health of the foreigners resident in the port has been good during this period. No deaths have occurred, and the only case of serious illness treated by the writer has been a case of neglected malaria. The patient recovered under intramuscular injections of quinine.

Amongst the Chinese inhabitants of the city and neighborhood the following occurrences are noteworthy:—

1. In November and December a bad epidemic of smallpox broke out in Wuchow.

2. Four cases of hookworm disease have been under treatment, three of which came from Ch’eung Chow (a large island lying in the West River two miles above Wuchow). The fourth patient lives in a village on the river bank facing that island. In every case the parasite found was ankylostomum duodenale. Other patients presenting symptoms suspicious of the disease have attended dispensary, but refused to come to hospital for closer observation and treatment.

3. A case of Tabes (Locomotor ataxia) was observed in a man from P’ing Naam (75 miles up the West River). The symptoms and signs were unequivocal, and the case is of interest in view of the rarity of the disease among Chinese.

No case of this disease has been hitherto reported from Kwangsi Province.

Malaria has been as rife as usual: the usual form in Wuchow appears to be the tertian variety. A case of quartan malaria was treated in a patient from Tang Un (up the West River).

Cases of beriberi, dysentery, and vesical calculus occurring in the town and immediate neighbourhood of Wuchow have been under treatment, and a number of men have been assisted in the breaking off of the opium habit.

Ophthalmic diseases. The incidence and severity of various preventable ophthalmic diseases is truly terrible. One of the most appalling features of medical practice in this place is the large number of
patients whose sight is unnecessarily lost through ignorance, indolence, or incorrect treatment. A favourite remedy with some Chinese is a powder containing a large proportion of powdered glass; this is rubbed into a painful eye, and too frequently results in total blindness.

Trachoma and gonococcal conjunctivitis are two prevalent diseases whose incidence will not be much lowered until the Chinese population learns more of the importance of cleanliness.

REPORT OF THE MEDICAL OFFICER OF HEALTH TO THE MUNICIPAL COUNCIL OF KIUKIANG, FOR THE YEAR ENDING DECEMBER 31ST, 1912.

By Dr. Alexandre C. Lambert.

The year under review has been a fairly healthy one as regards Kiukiang and its environs. There has been a decrease in the number of transmittible diseases as compared with former years, and the percentage of illness amongst the foreign and native communities has been lower than usual. During the summer many of the ladies and children left the port for Kuling and other health resorts, but those who remained on the plains throughout the hot weather did not suffer much in health, owing to the dryness of the summer.

Deaths.—Three deaths in the foreign community have to be chronicled as having occurred during the year. One was caused by meningitis (a child) and two others from heat-stroke and cholera respectively. Both were adults.

Amongst non-residents forty-four deaths occurred, all at the Hôpital St. Vincent. Of this number one was that of a foreigner who was landed from a river steamer suffering from cholera. The remainder were Chinese, the causes of death being various.

Births.—Five children were born during the year, three boys and two girls; one girl and boy being twins.

DISEASES TREATED DURING THE YEAR.

Enteric Fever.—A few cases occurred amongst the coolies employed by the tea hongs, and amongst the native constables of the Municipal Police Force. The cases most probably originated from tea-shops in the native city, frequented by these people in their off-hours. Two foreigners were treated for enteric fever at the Hôpital St. Vincent.
One of these cases contracted the infection at Shanghai, the other was infected either in the native city of Kiukiang, or at Nanchang. No cases in either Chinese or foreigners could be traced to any infected source within the Concession limits. Both foreign and native cases showed a peculiar and unusual temperature curve, characterized by a more or less sudden drop to normal, about the end of the third week, followed after four or five days of apyrexia by a second rise of temperature with a return of the symptoms, convalescence being genuinely established only after the relapse, or perhaps more properly speaking, the recrudescence of the fever had lasted for from fifteen to twenty-one days, the temperature then descending by lysis in the orthodox manner. In one case a very profuse eruption of rose spots accompanied the second pyrexial period, whereas during the initial onset they had been very few in number.

Dietetic indiscretions and similar causes of relapses and recrudescences in enteric fever could be definitely ruled out of court, the cases presenting otherwise few complications during the acute attack. Haemorrhage occurred in one Chinese case, and proved fatal. This was the only fatal case, the remainder, despite the long continued fever, recovered, not however without giving trouble during convalescence from impairment of the heart's action, from neuritis of the peripheral nerves, and from less immediately dangerous sequelæ, such as mental aberration and loss of memory and nervous control.

Treatment was carried out on the usually accepted lines; hydrotherapy for the reduction of temperature; digitalis and strychnine, with small occasional doses of alcohol for the cardiac weakness, and massage during convalescence. Urotropine was given in 15 grain doses per diem, as a routine measure.

Apart from the diuretic effect of the urotropine, it was found that most of the cases had marked polyuria during the period when the disease was at its height. As polyuria in enteric fever is considered to be of favourable diagnostic import, this feature taken together with the low mortality is interesting. Vidal's reaction, using dead emulsion of B. Typhosus, was not always present, and seldom before the end of the third week. The poor results from using B. Typhosus leads to the conclusion that some of the cases were more of the nature of a para- than of a true typhoid.

Scarlet Fever.—Two cases from H. M. S. "Bramble" were admitted to the Hôpital St. Vincent. In both the infection had originated from Shanghai. One was in fact a case of post-scarlatinal nephritis, the other was a mild case in the acute stage.
Measles.—In the spring of the year several children and adults were attacked by the mild disease which goes by the name of measles in China. While in many respects similar to the disease known under the same name in Europe and America, the mildness of its course and the fact that immunity to a second or third attack is slight, and that attacks of genuine measles and of German measles, previously contracted, do not protect against this complaint, seem to point to its being allied to, but not identical with, true measles. The relation of the appearance of the rash to the onset of fever is very variable, thus the fever may precede the rash, coincide with its advent, or appear after the rash is well established, or be absent altogether. Grandular enlargement is usually present. It would not appear to be highly infectious.

Dysentery.—But few cases occurred, were of a mild type, and yielded readily to treatment with salines. Amoeba coli was present in a proportion of the cases.

Cholera.—Information was received, unfortunately too late to allow of any investigation, that during August and September cases of what appeared from the symptoms to have been cholera occurred amongst the Chinese and Japanese population inhabiting dwellings along the Loong Kai Ho Creek, outside the Concession limits. One case, a Japanese employed in the camphor factory on the west side of the creek, was treated, but too late to save his life. The only other case treated was that of a foreign officer from a river steamer, who was landed in a dying condition, and admitted to the Hôpital St. Vincent, where he died.

In view of these occurrences it will be necessary to keep a strict watch this year within the Concession, and as far as possible without it, for first signs of cholera making its appearance.

Malarial Fevers.—These were not so prevalent as in 1911. This may be due in part to the systematic dosing of the Police Force with prophylactic doses of quinine (grains five per diem), during the months when malaria is most prevalent, i.e., from May to October. In the force only one case occurred after the quinine was commenced. Apart from the Police Staff several cases of malignant tertian malaria were treated. In one case the infection was presumably contracted within the limits of the Concession. Dwellings in the neighbourhood of the tea-factories harbour mosquitoes of the genus anopheles, and it is possible, in the absence of any local breeding grounds for this variety, that it is introduced into the Concession from country districts concealed in the
The best safe-guards against malaria are the taking of preventive doses of quinine and the continuous use of mosquito nets and screens. The dose of quinine should not be more than five grains of the hydrochlorate taken every day (Sundays excepted) from May to October. Every endeavour should be made to prevent mosquitoes from breeding near dwellings by the use of proper drainage.

HÔPITAL DE ST. VINCENT DE PAUL.

This year's report would not be complete without mention being made of the work done by the Sisters of St. Vincent de Paul in their hospital in the Concession. This institution, whilst primarily established for the treatment of indigent Chinese, has attached to it a small Nursing Home for the reception of foreigners.

Cases treated at the Chinese Hospital during 1913:

<p>| | |</p>
<table>
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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>No. of In-patients treated during the year</td>
<td>745</td>
</tr>
<tr>
<td>No. of Out-patient treatments given during the year</td>
<td>29,878</td>
</tr>
<tr>
<td>No. of Visits paid to patients at their homes during the year</td>
<td>14,772</td>
</tr>
<tr>
<td>Total</td>
<td>45,395</td>
</tr>
<tr>
<td>No. of deaths occurring in hospital</td>
<td>43</td>
</tr>
</tbody>
</table>

Out of the total number of 745 in-patients, only 112 were treated by the visiting foreign physician, the remainder, together with all the out-patients, being treated by the Sisters alone.

In the future, however, the foreign doctor attending the Nursing Home will also treat all the Chinese in-patients.
Editorial.

"OUR JOURNAL."

How many members of our Association read with thought and care the report of the retiring editor, Dr. Lincoln, published in the March No. and how many of those who did read it thoughtfully, clearly perceived the meaning of the remarkable figures which he brought to our notice? Remarkable in the extreme are they! Let us look at them again.

The matter of support from the rank and file of the members of the Association still leaves much to be desired.

The total number of contributors in 1910 was 41; in 1911, 67; and in 1912, 47: excluding the Customs Health Reports, some of which are written by members of the Association, the contributors are farther reduced to 37 in 1910; 62 in 1911; and 36 in 1912. The contributors who have written more than once in the year number 8 in 1910; 17 in 1911; and 8 in 1912.

With an active membership of between four and five hundred, 400 of whom are probably on the field, these figures speak for themselves.

This means that in 1912 there were only twenty-eight men who contributed articles other than Customs reports out of our total of 500 active members. I do not believe that anyone will claim that this is a fair proportion, considering the quality of the men who make up our Association, and the wonderful opportunity for observation and report that is open to every man in China. Furthermore, it will be seen that there is an actual decrease in the number of contributors last year as compared with the year before, in spite of the fact that the membership in our Association has grown steadily every year. The revolution will explain some of this decrease, as men had to leave their stations in many in-
stances, but, even with this allowance, I think all will agree that
the situation is one that could be improved upon.

If any one is asked why he does not write an article for the
JOURNAL he will usually answer in one of three ways.

"I can't write." Modesty is a good thing in its place,
but it should not keep a good man from coming out into print and
giving the rest of the medical men in China the result of his work
and observation.

"My work is not based on enough scientific data to report
it." If one begins to report what he sees he will soon find that
he is making his reports more and more accurate and scientific.
The idea that we are observing for publication will put an edge
on our observation and our attention to details. It will remove
that little film of carelessness that too often grows over our eyes
when we have no one to account to but ourselves. It will be a
help to the man himself who observes, records, and reports, as well
as to the readers of the JOURNAL. Our magazine is taking its
place with any of the medical magazines of the world, and it has
been the work of the careful observers and the faithful reporters
in the past that has placed it there. We have the greatest field
for medical work and for observation in the world, and if we
begin to look at each case as though we were going to report on
it, we will find our mental alertness to improve and our scientific
accuracy to quadruple.

"I haven't time to write." For what then have we time? I
would venture to say that the vast majority of medical missionaries
in China to-day would testify that the C. M. J. has been one of
the most helpful publications that has come into their homes during
the past years of their residence in China. Therefore we owe it
to ourselves and to the rest of the members of our Association, to
try to make our JOURNAL more and more useful every year, and
this we can do by each one adding his little quota to the rest that
goes to make up an interesting and stimulating magazine. Do not
be afraid that if every body should begin to write the tone of the
JOURNAL would be lowered. It would not, for the more there is
to select from the better that which is selected.

I should like then to lay it upon the heart of every medical
man in China to stop and think occasionally whether he is doing
his part in the reporting and elucidating of disease problems in China for the benefit of his fellow labourers and mankind.

It is not necessary to always write original articles. If we could have a review of the present or lastest developments in the knowledge of the etiology, symptoms, or treatment of certain disease conditions, it would be most useful to all readers of the *Journal*,—no one of whom has sufficient time to read all the literature on all subjects that is flooding the journals of the world. As an example of this I can not refrain from calling attention to the excellent review of the literature of anaesthesia that appears in this number.

Finally, there is a suggestion I should like to make. That is the secretaries of all the Branch Associations send to the editor of the *Journal*, all the papers read before their respective Branch Associations, so that the editor may have the privilege of selecting the good material from the whole mass. I am convinced that in the past many good papers have never reached the editor's hands merely because the writer was too modest, or because the secretary of the Branch either did not attach enough importance to the papers to send them on or simply overlooked them. Even though a certain paper might not justify printing *in toto*, an extract from it might be of great interest. At any rate the editor, whoever he may be, will be glad to have all these papers and select from them himself.

We have a good magazine, thanks to the untiring efforts of certain men, and the loyal support of others in the past. Let us all put our shoulder to the wheel and make our *Journal* useful to the fullest extent of its possibilities.

**SURGICAL TUBERCULOSIS AND THE BOVINE BACILLUS.**

Investigations in Edinburgh by Dr. John Fraser led him to the conclusion that a large proportion of bone and joint tuberculosis in children is bovine in origin. One member of the C. M. M. A was so struck by these conclusions that he recently wrote me asking if I saw much bone tuberculosis in my hospital work, thus raising again the interesting question of surgical tuberculosis and the bovine bacillus in China.
If a large proportion of bone and joint tuberculosis is of bovine origin, as is evidently the case in Edinburgh, we would certainly expect to find bone tuberculosis comparatively rare in China, where the bovine bacillus as a cause of tuberculosis must be very rare, considering the fact that the Chinese are a non-milk-drinking race. Yet the experience of most medical men in China will not bear out this statement, for most men will say that they see a great deal of surgical tuberculosis in their hospital and dispensary practice.

The only clear cut statements as to the relative frequency of surgical tuberculosis in China, that I have seen, are the papers of Dr. Hume and Dr. Tatchell respectively. Dr. Hume, in May 1911 C. M. J., gives the percentages of tuberculosis cases, pulmonary and surgical, in his clinic, and for comparison the percentages of the Johns Hopkins Hospital. His figures for Changsha are 3.7 per cent. of pulmonary tuberculosis as against 1.3 per cent. for Johns Hopkins Hospital, while the Changsha surgical tuberculosis figures show 18.8 per cent. as against 0.61 for Johns Hopkins. If these figures could be taken as typical of China we should have a remarkable preponderance of surgical tuberculosis for China. While Dr. Hume's statistics include tuberculous adenitis and Dr. Fraser's apply only to bone and joint tuberculosis, yet reports from other sources show that the bovine type of adenitis is in close accord with the figures for bone so that we would be fair in dividing the cases into medical and surgical for the sake of discussion.

We have here then, apparently, a tremendous predominance of surgical tuberculosis in a race in whom we would not expect to find anything but a very small per cent. of bovine tuberculosis.

We have further confirmation of the relative frequency of surgical tuberculosis in China, from Dr. Tatchell, in C. M. J., July 1909, where he states without giving figures, that 'one of the commonest diseases here in China (and probably in other countries) with which we are confronted is tuberculosis of joints, bones, glands, and skin.' It is true that tuberculosis of all forms is more common here in China than in most Western countries, but even then surgical tuberculosis would seem to be out of proportion to other forms, and just where we would not expect it, in a non-milk-
drinking people. As Dr. Hume suggested in speaking of the improbability of the bovine bacillus being a cause of any large proportion of the cervical adenitis of China: "Here we have a question of etiology requiring full investigation."

It would be well to have other statistical reports such as the one from the Changsha hospital in the elucidation of this interesting question of the bovine bacillus and surgical tuberculosis.

THE COLLECTIVE INVESTIGATION OF OZÆNA.

We have seen the organization of international commissions for the study of cancer and tuberculosis, with the resulting stimulus toward more intimate knowledge of these diseases by the whole world, and now we hail with pleasure the announcement of an organization for the Collective Investigation of Ozæna or atrophic rhinitis. Such a loathsome disease, which makes its victim almost a social outcast, well deserves extensive and intensive study, such as is proposed by the commission. The investigation is to be world wide and competent men are to organize and conduct it in various centres of the known world, for example T. M. Nair of Madras has been asked to organize this work in the Madras Presidency, India. Whether the commission has yet selected its men for China the writer does not know, but certainly there will be branch committees in such places as Hongkong, Shanghai, Canton, etc. The Central Committee in Berlin nominates a National Organizer for each country. The latter, in association with several colleagues, forms a national committee, which appoints organizers in the various provinces or counties with their corresponding sub-committees. To copy from the report of the Commission.

Aims.—The Investigation has, amongst others, the following aims:—To find whether ozæna occurs in all lands; to determine its frequency in different countries and in different races; to note the influence of climate, public hygiene, etc., on its frequency, severity, etc.; to determine its relation to other diseases, e.g., syphilis, tuberculosis, and goitre; to estimate the etiological role of heredity and infection respectively; to elucidate the onset and early stages of the disease; and to study its pathological anatomy.

Syphilitic cases will be excluded from the investigation and the material will be largely scholars, soldiers, inmates of hospitals, orphanages, asylums, etc., with especial arrangements for post
The China Medical Journal.

mortem examinations. Such a thorough-going investigation, carried out by competent and conscientious men, can not but yield far-reaching results in the elucidation of this frightful disease.

EXECUTIVE COMMITTEE.

Meeting held February 12th, 1913. Members present: Drs. Main, Johnson, Beebe, S. Cochran, Davenport, Venable, and Morris.

Business.

1. Dr. A. C. Hutcheson appointed editor pro tem of Journal.
2. A committee of two (Drs. Davenport and Morris) appointed to look for a man suitable for business agent for the Association.
4. Status of Wellcome trust deed left unchanged.
5. It was decided to be impossible to have the accounts of the Publication Committee audited (as directed at the Peking meeting) owing to the fact that they are distributed in the following places:—Dr. P. B. Cousland (Edinburgh), Presbyterian Mission Press, Hongkong and Shanghai Bank (Shanghai), and in Yokohama.
6. Decided to cut out the Sanatogen advertisement from the Journal.
7. The question of giving an honorarium to the editor, secretary, and treasurer was decided in the negative, but they are to receive travelling expenses to the conference.
8. Appointment of associate editor was deferred until the editor is appointed.
9. Decided to continue issuing the Journal bi-monthly, and not every month.
10. Appointment of special correspondents at various centres left open until appointment of permanent editor.
11. Question of placing funds of the C. M. M. A. in hands of treasurer, left open until appointment of business agent.
12. The recommendation from the conference that the Publication Committee's funds be in charge of its secretary (as at present) was accepted.
13. The appointment of a general agent for the Co-operative Book Agency was left until further correspondence.

Meeting adjourned.

H. H. Morris, Secretary.
Meeting held April 29th, 1913, at Nanking. Members present: Drs. Main, Beebe, Davenport, Venable, Morris. Minutes of last meeting read and signed.

**Business:**

1. Medical Journal in Chinese—decided to be taken over by the Association, still to be published from Canton.
2. Co-operative Book Agency—left as at present in charge of Edward Evans.
3. Concerning communication from the Executive Committee of the China Continuation Committee desiring the closest possible relationship between themselves and the Educational and Medical Association, by having their offices in the same building, also that the China Continuation Committee should undertake the raising of the necessary budget for the work of the secretaries of these two Associations, if requested to do so. The Executive Committee of the C. M. M. A. welcomed this suggestion most heartily and requested the Continuation Committee to raise a budget of G. S3,000 for secretarial expenses and salary.
4. Decided to issue an appeal to members of the Association to do literary and translation work.

Meeting then adjourned.

H. H. Morris, Secretary.

**Circular Letter, May 1913:**

On receipt of a letter from Canton, re the Chinese Medical Journal, a circular letter was passed by the Executive Committee to the effect that the Chinese medical magazine, now conducted in Canton, will not be taken over by the Association unless in future a change of circumstances alter this decision.

Offices of the Presbyterian Church of England, 7 East India Avenue, LONDON, April 24th, 1913.

Dr. H. H. Morris, Secretary of the C. M. M. A.

Dear Sir, The resolution of thanks to our committee for lending Dr. Cousland to your Association during the last five or six years, was heard with appreciation and interest by our committee at a meeting two days ago.

We believe with you that Dr. Cousland’s work for your Association has been of much value to all medical missions in China, and we
rejoice that it is in our power to lend you a man so gifted for a service of such importance.

Yours, most truly,

W. M. DALE.

706, F. St., SAN BERNARDINO, California.
April 4th, 1913.

Dr. H. H. Morris, Secretary,
China Medical Missionary Association.

DEAR DR. MORRIS:—The last mail brought the greetings of the Association to me.

I am deeply grateful for their kind remembrances of me and their "appreciation of my services to the Association and in the cause of medical missions in China."

While I tried to be of service, I feel that there was so much more that I should have done.

There are many noble and able men and women in the field now, who will carry on the great work of the founders of our Association with better opportunities and on a higher plan.

Please convey my thanks to the members of the Association. With heartfelt wishes for their prosperity and success,

I am, most truly yours,

H. W. BOONE.

PUBLICATION COMMITTEE.

Owing to unexpected delays the presses were not able to publish Stengel's Pathology and Roys' Pharmacy on time. Unless some other unforeseen obstacle has caused further delays they should be on sale in July or August.

The Pharmacopeial part of Roys' book is largely founded on the British Pharmaceutical Codex, a book well worth having in our dispensaries.

I would like to recommend all hospitals and medical schools to use our translation of Robb's Nursing, a new edition of which is in the press. It is full of practical details most useful to students and ward orderlies, and it is just as important for medical students to study it as for those who are being trained as nurses.

I would like, too, to draw attention to the new edition of Chalmers and Castellani's Manual of Tropical Medicine. It is quite the best book on the subject, as far as my knowledge extends. (Ballière, Tindall and Cox, London.)
Begg's on Sprue is sure to be valuable as the work of a specialist in that subject. (Wright, Bristol.)

I find it is necessary to publicly point out that Edinburgh is not at the North Pole but is quite easily reached by mail! Further, that I am still "on the job" and it would save much time if all who wish to correspond re publication matters would write to me direct.

P. B. COUSLAND.

Resolution of the South China Branch of the China Medical Missionary Association.

Whereas, Dr. N. M. Latimer, of the American Presbyterian Mission at Lienchow, has been removed from us by sudden illness and death and

Whereas, We feel this to be a great loss to the work in the very beginning of her career in China,

Be it resolved, That we as an Association express to her bereaved mother and sisters and to the American Presbyterian Mission our deep sympathy, and

Be it further resolved, That these resolutions be spread on the minutes of the Association and that a copy be sent to the editor of the CHINA MEDICAL JOURNAL for publication.

M. W. NILES.
Signed: Ruth B. Boggs.
Wm. W. Cadbury.

"A TRIBUTE."

TAINAN, FORMOSA, APRIL 24TH, 1913.

To the Editor of the CHINA MEDICAL JOURNAL.

DEAR SIR, Perhaps you could find me space for a few lines in memory of my late senior colleague in the Tainan Hospital—Dr. Anderson—whose death took place at his home in Scotland on the 12th of March. Dr. Peter Anderson was one of the earlier workers in the field of medicine in China, to whom we of a younger generation owe so much, owe all indeed that makes for the smooth and easy working of our modern hospitals. Dr. Anderson arrived in Formosa in 1879 to take up medical work in an antiquated Chinese house among a still hostile population. He retired from the field in 1910 leaving behind a hospital of large buildings in spacious grounds; and a people who, in despair we sometimes think, seem to have but one aim in life and that to get into the Hospital. These changes are mainly due to the
unwearying diligence of Dr Anderson in the work he had taken up in Formosa. But above all Dr. Anderson shone as an evangelist among his patients—preaching the word in season and out of season, reproving, rebuking, exhorting with all long suffering and doctrine. He endeared himself alike to his foreign colleagues and his Chinese patients, and his work finished, he has now heard the voice of the Master he served so earnestly—Well done good and faithful servant... enter thou into the joy of thy Lord.

I am, yours faithfully,  
JAMES L. MAXWELL.

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Book Reviews.

WEBSTER'S DIAGNOSTIC METHODS, 2nd Edition. The value of such a book is clearly shown by the rapidity with which it ran through the first edition. It has been brought right up to date and contains such recent methods as the cultivation of Treponema Pallidum, Noguchi's leucin reaction, and the phenolsulphonphthalein test for the functional activity of the kidneys, to mention only a few of many. The physical and physiological chemistry of many of the reactions is given and is of great value as an aid to a proper understanding of the significance of the test. Possibly the book might be more valuable if a little more space were devoted to a discussion of the clinical meanings of the laboratory findings. The fallacies and advantages of the various tests are well brought out, and the author's reasons for and against his use of a certain method are of value. The sections on serum pathology and sero-diagnosis are very timely and comprehensive. The book is indeed a valuable one for any physician who expects to do laboratory work, and to interpret his results.

H. H. M.

ANATOMY AND PHYSIOLOGY FOR NURSES. Bundy. The two subjects are covered in outline and serve to give a working understanding to the nurse of the structures and functions of the human body. Perhaps the anatomy is over-emphasized and the physiology slighted. The clinical, surgical, and obstetrical notes interposed at points of importance fasten the facts in the mind and link theory with practice. The style is easy and the illustrations are good. The work is in no way exhaustive or detailed, but amply supplies the need of a nurse's equipment.

G. F. A.
Problems of the Mission Field.

BOOK NOTICES.

P. Blakiston's Son & Co., announce the recent publication of the following books:

- Prisms, their Use and Equivalents. By James Thorton, A.M., M.D. With 118 Illustrations, 18 in Colors. 12mo. Cloth, $2.00.
- Gynecological Operations, Including Non-Operative Treatment and Minor Gynecology. By Henri Hartmann. With 422 Illustrations, a number of which are in colors. Octavo. Cloth, $7.00.
- The Bacterial Diseases of Respiration, and Vaccines in Their Treatment. By Richard W. Allen, M.D., B. S., Pathologist Royal Eye Hospital London, etc. With 10 Plates containing 55 figures, and 17 Charts containing 63 figures. Octavo. Cloth, $3.00.

We acknowledge with thanks the receipt of the following books:

- Pottenger's Muscle Spasm and Degeneration, $2.00; and Tuberculin in Diagnosis and Treatment, $3.00. Published by C. V. Mosby Co., St. Louis, Mo.
- Gynecological Operations, by Henri Hartmann, and Appendicitis, by John B. Deaver. Published by P. Blakiston's Son Co., Phila., Penn.


In order to relate the work of the International Review of Missions as directly and immediately as possible to the actual needs of the mission field, the Editor is inviting missionaries to send to him, not later than December 31st of the present year, concise statements of the most pressing practical problems which have confronted them in their work in the past two or three years. These problems may concern the presentation of the Gospel to non-Christian people; the relation of the Christian ideal for the individual and society to the home life and social institutions of the people; the edification or organization of the Church in the mission field; the conduct of a school or hospital; or any other matter which has given rise to difficulty or perplexity and regarding which light and guidance are desired. The replies will be carefully collated and studied, and the results presented in a statement which will be published in one or more articles in the International Review of Missions. This investigation will be of great value not only to the International Review of Missions and the Continuation
Committee, but to all leaders of missionary work, as it will show what are the actual problems which at the present time are most exercising the minds of the men and women who are actively engaged in missionary work, and towards the solution of which the thought and energies of the Church should be directed.

Correspondents are asked to state clearly their Society, length of service, and the nature of the work in which they are principally engaged. The replies (which may, if preferred, be in French or German) will be treated as confidential. A pamphlet dealing more fully with the whole project will be sent free of charge to any missionary on application to the Office of the International Review of Missions, 1 Charlotte Square, Edinburgh.

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**Nurses' Association.**

*President:*—Miss Gage, Changsha.

*Vice-President:*—Miss Murdock, Hwaiyuan.

*Secretary:*—Miss Clarke, London Mission, Shanghai.

*Editorial Secretary:*—Miss Henderson, 17 Brennan Road, Shanghai.

*Registration Committee:*—

- Mrs. Davenport, Shanghai.
- Miss MacCracken, Wuhu.
- Miss Lowe, Anking.
- Miss Hope-Bell, Hankow.
- Miss Simpson, Foochow.
- Mrs. Tsing, Hankow.
- Miss Chung, Tientsin.

In January, the Nurses' Association laid before the Medical Association at Peking its working plans in regard to registration of training schools for nurses, examinations for nurses, and course of study, certificates, etc. We hoped before this to hear the word of criticism or approval but as yet no word has reached us, so in this matter we have nothing to report.

We are anxious to lay before you the plans of the Kuling meetings. It has seemed best to have these take place on a few consecutive days, hoping in this way to have a larger attendance.

The proposed meetings are:

- **July 30th.** Reports.
- **July 31st.** Election of officers.
- **July 31st.** Amendments to constitution, etc.
- **August 1st.** Discussion of curriculum and report on regulations, after consultation with C. M. M. A. Committee.
- **August 7th.** Paper from Miss Ogden, Anking.
- **August 17th.** Final business meeting, adoption of report; talks from returned members.
Hospital Reports.

BOOKS ON NURSING.

I have only received one letter in reply to my inquiry in the March Journal.

Unless you tell us what you think of our nursing books which you wish reprinted, and what new books are still needed, we cannot be of much further service to you. It is probable that many nurses do not see the Journal. May I ask those members of the C. M. M. A. who are fortunate enough to have nursing colleagues to direct their attention to the queries in the March number?

P. B. COUSLAND.

Hospital Reports.

INHOK MEDICAL REPORT, for 1912. Owing to the Revolution in November, 1911, we were unable to return to this station until April, 1912. While detained at Foochow we were able to give the first twenty-five lectures for our mission in the Union Medical School. The class of diseases in this latitude (about 25° N.) is much the same as in other parts of China in the same general latitude. The so-called "Bronchial Hemorrhage" due to the Paragonimus Westermani fluke, is comparatively frequent in this region. As compared with Formosa, Japan, Korea, and the Philippines, in frequency, I have not the statistics to determine. "Submaxillary Mumps," or a disease similar to mumps but confined to the submaxillary glands is found in this region and is reported by the natives to be sometimes endemic and quite severe—even causing death. But I should be inclined to regard any fatal cases as due to other causes or complications, as the disease is not specially severe though the swelling is sometimes very considerable, interfering with deglutition and is prolonged considerably longer than that of Parotid Mumps. I have heard that some cases of this kind have been seen in the Hinghua Prefecture, two days to the southwest of us.

The nearest approach to this disease is called in the medical books "Angina Ludovici" but I should consider it an error to so classify it. The most frequent diseases seen—in the order of frequency—are ulcers, ague (in five forms), conjunctivitis, abscesses and boils, injuries, worms, dyspepsia, bronchitis, eczema, mumps, rheumatism, measles, hemorrhoids, opium habit, etc.

The different forms of ague referred to are the quotidian, tertian, quartan, remittent, and a peculiar form, as reported, of a chill for two days in succession and then a rest of one day. I have not had an
opportunity to watch any of these cases, but they have been reported from different parts of the district by intelligent men who had had different forms of ague, and they declared this to be true when coming for quinine to cure it. Since the more complete furnishing of our boys' and girls' boarding schools with mosquito curtains there has been much less ague in these schools.

H. T. W.

Extract from Annual Report of C. de M. Stryker, M.D., Medical officer Suan Mine Hospital, Suan, Korea:—

 Prevailing Diseases. The most prevalent diseases were those due to animal parasites 1584, specific infectious diseases 543, diseases of the digestive system 852, diseases of the respiratory system 449, diseases of the eye 447, diseases of the skin 611, and venereal diseases 290.

 Animal Parasites. Parasitic Haemoptysis or Endemic Haemoptysis is a disease caused by a worm which is found in the lungs and is extremely common but not fatal in this region. We have treated cases in the Clinic that have had the disease but a few days and others have had it thirty years. It causes fits of coughing with the expulsion of a rusty brown pneumonic-like sputum. The diagnosis is made by finding the ova in the sputum and in several cases we have found the ova in the faeces of the patient. In some cases there is enlargement of the liver and spleen, "clubbed" fingers, emaciation and anaemia. The Koreans call these cases "tow-chil."

During the past year the Japanese authorities have attempted to prevent the spread of the disease by instructing the natives to drink pure water and to avoid uncooked articles of diet. All the seventy-one cases we have treated have been reported to the Gendarmes so that they may instruct the patients and their families in their homes how to prevent the spread of the disease.

In September we began to make a regular examination of the faeces of all the cases admitted to the Hospital and have since that time treated five cases of Ankylostomiasis or "Hook Worm" disease. There are no doubt hundreds of cases of this disease in this district, but we have been unable to get the patients to bring us specimens of their stools for examination.

Among other intestinal worms we have found in this district are the Ascaris Lumbricoides or round worm. In all our fecal examinations 100 per cent. Koreans had the round worm. The ordinary tape worms Taenia saginata and the Taenia solium are fairly common. The following are not so common:—Oxyuris vermicularis or seat worm, Trichocephalus dispar or whip worm and the Strongyloides intestinalis.
HOW TO MAKE A TREADLE PUNKAH.

(From a Correspondent.)

The accompanying sketch of a treadle desk punkah may be of interest in these summer months. It shows a back view of the mechanism.

The main lever is pivoted, by an ordinary screw, on to a 6" strip of hardwood, and the strip is screwed to the desk pedestal, as shown.

The treadle is an 18" strip of wood, broad enough for the foot, and suspended at one end from the lever. It is hinged to a second strip, as shown, (fig 2) in such a way that, in use, the weight of the heel on its overhanging end raises its suspended end during the swing back of the punkah,—thus relieving the punkah in its swing, and also enabling the weight of the foot to rest fully on the treadle all the time.

The second strip of the treadle rests flat on the ground, and is pivoted by a nail through its nose, immediately under the point at which the treadle cord is attached to the main lever. The pull of the treadle cord is thus always in the exact plane of the lever swing, while the base of the treadle can be freely kicked, at will, into any convenient position for use with either foot.

The punkah string (a good strong thread is ideal, a silk one, if you are luxurious, linen, if you have it, or just an ordinary cotton, No. 10) passes through a glass bottle-neck, fixed to the edge of the desk top. It is fixed there by a simple string tied round it, and with the free ends twisted several times under the embracing loop, so that they leave the bottle neck at opposite sides of it. The ends are then nailed to the back of the desk top by a couple of tin tacks. It should be so placed that the punkah string takes the most direct route possible between the lever tip and the punkah, so diminishing friction and wear.

The following are a few details of a punkah long in use. The main lever is about 4ft. long, tapering from 1 1/2" x 1" in size at the pivot, to 3/4" x 3/8" at the tip. The butt may well be counterpoised with a few ounces of iron.

The treadle, made of 3/4" boards, is suspended from the lever at about 10" from the pivot. Care must be taken to get the treadle tip exactly under the point of attachment, otherwise, in working, it will pull the lever crooked, and cause trouble. The two boards of which it is composed, are connected together by a pair of ordinary hinges. The overhang of the upper board at the heel end is about one inch, and the overhanging portion is bevelled underneath, so that it does not touch the ground when depressed. (Fig 2).
The punkah curtain is only 30" long by 20' deep. The beam is 3" in diameter. It is hung over, or a little behind the back of the desk chair, and just high enough to swing clear of the user's head.

The same principle has worked excellently over a reclining chair, or couch. The lever is simply hooked on to the crossbar at the foot of the couch, and kept vertical by a counterpoise below. The punkah string runs direct from the lever tip to the punkah beam. The lever is worked by the foot, there being a broad footboard affixed to the lever, at the couch level. The dimensions are similar to those given above.

Does a treadle punkah sound too much like hard work? Let it be tried for a fortnight: if, at the end of that time a man wishes to go back to his fan and his blotting paper,—well, he will have lost a dollar. Those of us who have tried it, find that the action becomes almost involuntary, and quite unnoticeable: a very slight movement of the punkah sufficing to keep the air in motion. Its great advantage is that it keeps the whole body cool, and makes the study table the most attractive place in the house!

On the other hand, the air disturbance is very slight to either side of the actual path of its swing, so that, with a 30' punkah, the reading lamp can be used on the desk as usual. And the punkah string is surprisingly out of the way.

Experimentor.
THE CULTIVATION OF THE MALARIA PARASITE.

VOL. VI, No 4., of the Annals of Tropical Medicine and Parasitology contains a paper by Thomson and McLellan confirming the observations of Bass of the Tropical Medicine School of the Tulane University, New Orleans, as to the cultivation in vitro of the malarial parasite. This seems to mark the beginning of another, and it would almost seem the final, stage in the elucidation of the life-history of the parasite and its relation to the disease. Sir Ronald Ross, in a note to the paper in the Annals, says, "The advance thus made is one of great importance, as all efforts to cultivate the parasites of malaria have hitherto failed since their discovery by Laveran in 1880." Bass states that he has been successful also in cultivating Plasmodium vivax (the benign tertian parasite) and Plasmodium malariae (the quartan parasite). That the conditions to be fulfilled in any successful repetition of the experiments demand minute attention to detail is shown not only by the failure of all previous attempts made by many investigators, but also by the fact that experiments made early last year by J. A. Sinton at Liverpool to repeat Bass's observation gave negative results, apparently because Bass in his earlier publications had omitted to state that the addition of a solution of dextrose to the cultivation was an important factor.

Thomson and McLellan have succeeded in two cases.—"British Medical Journal" January 18th, 1913.

Noguchi's Cutaneous Luetin Reaction.

When Noguchi found that the Spirochaeta pallida could be grown in pure culture, it was an easy step to develop a skin reaction for syphilis, analogous to von Pirquet's test for tuberculosis. Noguchi's test emulsion is called luetin. It is an extract of the cultivated Spirochaeta pallida killed by heat and carbolized with 0.5 per cent. phenol. The control emulsion is similar, but has not been inoculated. In the Archives of Ophthalmology, January, 1912, Dr. Cohen of New York describes the method of using luetin and the nature of the reaction. The emulsion is drawn into a syringe with a fine sharp needle, and one drop is injected not under, but into, the skin of the arm. A drop of control is injected into the opposite limb at a corresponding spot. In non-syphilitic cases the results are as follows: on both sides there is no inflammatory reaction, and all signs disappear in forty-eight hours. In syphilitic cases a characteristic series of changes occurs at the site of the luetin injection. There first appears in from six to twenty-four hours, or even later, a papule surrounded by a bluish-red halo. The papule grows, and the halo vanishes. The papule, which is from 5 to 10 mm. in diameter, develops in the majority of cases a central area of suppuration which eventually ruptures. A sero-purulent fluid escapes, and there is denudation of the contiguous epidermis, and a hypertrophic condition of the skin supervenes, which may last for some months. Noguchi finds that this pus is uniformly sterile.—B. M. J., April 24th, 1913.
THE ETIOLOGY OF DENGUE.

E. R. Stitt, in the course of an article on dengue, in the April No. (1913) of Bulletin of the Johns Hopkins Hospital, says:

"Graham in Beirut carried out some experiments, one of which would seem to almost positively demonstrate mosquito transmission. He took mosquitoes, which had fed on dengue patients, to a village in the mountains where no case of dengue existed. He caused these mosquitoes to feed on two natives of the village and both men became sick with dengue four and five days respectively after being bitten by the mosquitoes. Graham's claims to have noted piroplasma-like organisms in dengue blood have not been verified and do not receive credence. (J. Trop. Med., July 1, 1903.)

The most convincing evidence as to mosquito transmission of dengue is that afforded by the absence of dengue in Port Said during the years 1906 and 1907 notwithstanding the prevalence of the disease in adjacent parts of Egypt. This was attributed to the absence of mosquitoes, these having been destroyed in the fight to make Port Said malaria free. This campaign was commenced in May, 1906 (Ross: Ann. Trop. Med. and Parasitol., 1908, 11, 193).

While in the Philippines in 1905-1906 I was struck with the fact that when there were no mosquitoes about the hospital reservation there were no cross infections with dengue among the other and non-immune patients in the same ward. After the onset of the rainy season, however, mosquitoes became abundant and in all probability became infected and subsequently transferred the infection.

In 1909 I returned to the Philippines and a few days after my arrival an officer who had been operated on for appendicitis suddenly developed a temperature. The blood findings reassured us from a surgical standpoint and by the third day of his fever the case was positively recognized as dengue. At the U. S. Naval Hospital, Canacao, P. I., there are two bungalow-type wards for sick officers. At the time I refer to one ward was perfectly screened, the second less satisfactorily. It was in this building that the case referred to above occurred. Three more similar cases occurring within a few weeks I had this building put out of commission and fumigated with sulphur. During the subsequent two years I remained at Canacao no further cases developed in this building, although dengue cases sent to the hospital from the station and ships were frequently under treatment in it.

In the hospital proper there are four large wards, each ward thoroughly screened, and in the two medical wards there are small wire-screened rooms or cages in which any case suspected of being malaria or dengue is immediately placed upon admission to the hospital. It is improbable that a mosquito can gain access to the main ward and almost an impossibility for such insects to effect an entrance into the wire screen cage. Each of these compartments could accommodate nine beds. During the two years I followed this experiment, although more than 200 dengue patients were under treatment in these cages, there were no instances of infection of those lying in the open ward and only separated from the dengue patients by the wire screen."

THE TUBERCULOUS NATURE OF THE FLUID IN CIRRHOSIS.

Roque and Cordier report in detail the case histories and labora-
tory examinations in twenty cases of cirrhosis. They find that in all cases of Laennec's cirrhosis, the ascitic fluid is of tuberculous character and origin and causes tuberculosis in animal inoculation. They maintain that the ascitic fluid may be tuberculous even though the cirrhosis itself is not caused by tuberculosis, but they conclude that in the majority of cases the origin of the sclerosis is a toxic infection, generally from tuberculosis, and that alcohol simply favors its development. The cirrhosis is not found in non-alcoholics, neither is it found in alcoholics if there is not preceding injury by bacteria or their toxins.


FILARIA LOA.

A telegram sent from Calabar, Africa, by Dr. R. T. Leiper to the London School of Tropical Medicine, says:—“The metamorphosis of Filaria loa has been proved to take place in the salivary glands in a fly belonging to the genus Chrysops.” The parasite appears to be widely distributed throughout tropical West Africa from Sierra Leone to Benguela. Filaria loa has been noticed under the skin of many parts of the body but the part most frequently affected is the eye.

As a rule, the migrations of the parasite give rise to no serious inconvenience, but they may cause sensations of pricking, itching, creeping, and sometimes produce oedematous tumefaction in different parts of the body. These “Calabar swellings” are the commonest result of the invasion of the parasite.

The embryos of Filaria loa are found in the blood only during the day time, and have therefore been called Microfilaria diurna by some, in distinction from Filaria bancrofti, the cause of elephantiasis, whose embryos are found in the blood only during the night and are known as Microfilaria nocturna.

The diurnal periodicity of the embryos of Filaria loa suggested that the intermediate host was a day-biting insect, a member of the genus Chrysops. This, according to the telegram, has now been proved by Dr. Leiper. The importance of the discovery lies in this—that now it will be possible to determine the conditions under which human beings become infected.”—British Medical Journal, January 4th, 1913.

CHLOROFORM TOXEMIA.

Nuthall writes quite an exhaustive article in the Birmingham Medical Review for November, 1912. He says the conclusion of the whole matter, as it would appear from clinical experience and research, may be shortly stated thus:

1. Never administer chloroform if etherization be possible, even to children or pregnant women.

2. Avoid carbohydrate starvation, or any other form of starvation, before operation.

3. If chloroform must be used, administer dextrose or bicarbonate of soda freely for days beforehand, especially if the patient be young or his condition septic.

4. If post-chloroform poisoning develops, administer freely soluble carbohydrates (dextrose) and bicarbonate of soda; in the worst cases injecting the dextrose into the subcutaneous tissues and rectum, or even intravenously.

Extracts from an article on Dietetic Value of Certain Accessory Substances, by E. A. Cooper, in The British Medical Journal, April 5th, 1913.

The importance of minute amounts of substances as accessory factors in dietaries has recently
received a good deal of attention. The most notable example of the effect of such substances is afforded by the numerous investigations into the causation of beri-beri. Other examples are afforded by the discoveries concerning the conditions that induce scurvy, and concerning the inability of certain dietaries to promote the growth of young animals, although they can maintain adults in weight and health.

An important step in the investigation of beri-beri was the discovery by Eykman (1897) that birds, when fed on polished rice, developed an analogous disease with extensive polyneuritis, and that this disease was not induced by diets of unpolished rice. Eykman also showed (1906) that the aqueous extract of rice polishings cured polyneuritis and that the active constituent was dialysable and soluble in alcohol. These observations have been confirmed by many other workers (Schaumann, 1908-11; Fraser and Stanton, 1910-11; Terruchi, 1910; Chamberlain and Vedder, 1911).

Grijus (1901, 1909) showed that foodstuffs other than unpolished rice could prevent polyneuritis, but he found that their protective properties were destroyed by heating to 120° C. He put forward the view that beri-beri results from a deficiency in polished rice of a substance necessary for the metabolism of the nervous system. This view has been borne out by the results of subsequent investigations.

Fraser and Stanton (1911) ascertained that polished rice contained less phosphorus than unpolished rice, and that the content of phosphorus was a useful indication as to whether the rice was an adequate diet or not.

Funk has in a recent paper (1911) shown furthermore than certain purin and pyrimidine substances exert a marked action on pigeons affected with polyneuritis, in some cases prolonging the lives of the birds, but in others actually ameliorating the symptoms.

The difficulty encountered by all these workers is that the active substance seems to be largely destroyed during the chemical manipulations, so that it has not yet been possible to prepare sufficient to study its chemical constitution and properties. For some time the prevention of beri-beri must therefore depend upon the addition to the polished rice of foodstuffs known to contain the antineuritic substance, and accordingly Cooper (1913) has investigated the distribution of this substance amongst various foodstuffs by a series of dietetic experiments upon birds. The results indicated that while voluntary muscle was deficient in the antineuritic substance, heart muscle, egg yolk, lentils and barley were very effective in preventing polyneuritis; of these, lentils and barley will probably be the most suitable substances with which to supplement the polished rice diet.

The conclusion to be drawn from the numerous investigations is that beri-beri is caused by the deficiency in polished rice of a nitrogenous substance, small amounts of which are essential in the metabolism of the nervous system. The substance appears to be a pyrimidine base, but its exact nature is not yet discovered. Little is known concerning the part this substance plays in metabolism. It would appear not to be firmly combined with the lipoids of the nervous system, because it can be almost entirely removed from lipoids by simple treatment with acetone (Maclean, 1912) or water (Cooper, 1913).

Just as the investigation of beri-beri was facilitated by the experi-
Mental production in birds of a polyneuritis (Eykhman), similarly our knowledge of the nature of scurvy has been greatly advanced by the discoveries of Holst and Fröhlich (1907-12) and Fürst (1909-12) that symptoms resembling those of scurvy could be induced in guineapigs and rabbits by exclusive diets of barley, oats, rice, and bread, and prevented by the addition to these diets of sufficient amounts of various antiscorbutic foodstuffs such as green vegetables, fruit, etc.

Fürst (1909) also made the interesting observations that yeast, which was very effective in preventing beri-beri, possessed no protective properties against scurvy, and that whereas grain was lacking in the essential principle, it developed an antiscorbutic substance during germination. He suggested that this substance is produced in the plant by the agency of enzymes.

No information has yet been obtained in regard to the nature of the active substance.

The fact that foodstuffs effective in preventing beri-beri are not necessarily antiscorbutic indicates that beri-beri and scurvy are caused by the deficiency of different substances in the diets.

Fröhlich (1909, 1912) has shown that pasteurized milk (that is, milk heated to 70°C.) prevented the development of scorbutic symptoms in guinea-pigs fed on oats, while milk heated at 98°C. for ten minutes did not obviate the development of scurvy, because it may be assumed it did not contain enough of the essential substance. Exclusive diets of either raw or boiled milk, however, did not induce scurvy. This suggests that in boiled milk there is a sufficient amount of the antiscorbutic agent to supply the needs of the guinea-pig's organism when milk is the sole food, but when cereals are added to the diet, owing either to the increased requirements of the organism or to a reduction in the ration of milk, the supply of active substance is inadequate. Somewhat analogous results have been obtained by Cooper (1913), who found that birds fed on large rations of polished rice developed polyneuritis in a shorter time than underfed birds, the supply of the antineuritic substance stored in the tissues thus appearing to be more rapidly utilized in the former than in the latter. These facts are of fundamental importance to dietetics, and a further investigation of the question will be of value.

The nutrition of an animal is thus seen to depend not only upon the supply of proteins, carbohydrates, fats, and inorganic material, but also upon the presence in the diet of certain accessory substances, small amounts of which are sufficient to supply the needs of the organism.

STUDIES ON BERI-BERI.

Further facts concerning the chemistry of the vitamine-fraction from yeast, by Casimir Funk, in The British Medical Journal, April 19th, 1913.

At the end of 1911 I described a method for the isolation of the vitamine-fraction from rice polishings. At this time only a single substance was detected, which was studied to some extent in its chemical properties and curative power. Early in 1912 I was able to show that the same method might be successfully used for the isolation of the vitamine-fraction from other foodstuffs, namely, milk, yeast, brain, and lime juice.

The alcoholic extract of 100 kg. dried yeast was prepared, following the method already described in my earlier papers. The fractionation itself was carried out without any change of methods and only the silver and baryta
fraction which represents the
vitamine-fraction was carefully in-
vestigated. The total amount of
substances obtained in this fraction
from 100 kg. of dried yeast was
2.5 grams. This initial product
was crystalline and melted at 210°
(uncorrected).

A number of pigeons were
treated with this product. Poly­
neuritis was induced in them by
artificial feeding with an exclusive
diet of polished rice. After a time,
varying from ten to twenty-one
days, they developed the charac­
teristic symptoms of avian poly­
neuritis. By a series of controls it
was found that the animals in this
condition live rarely longer than
six to twelve hours, twenty-four
hours being perhaps the utmost
limit. The product mentioned
above was injected into the pectoral
muscle in quantities varying from
4 to 8 mg. and in each case a com­
plete recovery was obtained. Before
and after treatment the animals
were kept on an unchanged diet of
polished rice. In spite of that they lived after the recovery
for four to six days without any
symptoms of neuritis. As the food did not secure a new supply of vitamine, the birds developed neuritis again after the injected substance was apparently used up for metabolic processes. In one of these cases after a new supply of substance a second cure was effected.

Case I.—Severe symptoms of
polyneuritis; 4 mg. of the above
mentioned product were injected
into the pectoral muscle. Three
hours later a great improvement;
next day a complete recovery; four
days later shows again symptoms,
and dies.

Case II.—Severe symptoms; 8
mg. injected. Two hours later a
complete recovery; was able to fly
away, and had to be photographed,
therefore, in a cage; relapsed after
six days, and was again cured by
a new injection of the product.

Case III.—Severe symptoms;
injected 4 mg. Recovery after
three hours; lived for four days.

Case IV.—Polyneuritis; injected
8 mg. After three hours a complete
recovery, which lasted for four
days.

We see from these experiments
that the initial vitamine-fraction
possesses the undiminished cura­
tive power of the original yeast
extract. As in some cases the
change of diet alone (an addition
of maize, for instance) is capable
of improving very markedly the
condition of the sick birds, the
fact that an unchanged diet of
polished rice was kept throughout
the experiment cannot be too
much emphasized.

For therapeutic purposes, there­
fore, the best results may at pres­
ent be expected by a paraenteral
administration of the whole vita­
mine-fraction, especially in acute
cases which have proceeded too
far to be influenced by a change
of diet—in such cases, for example,
as have been described by Strong
and Crowell and Schiiffner. This
fraction which is suggested to be
employed contains the active con­
stituents unimpaired of the original
starting material, and is free from
any harmful substances.

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**EPINEPHRIN IN TREATMENT OF URTICARIA.**

In 6 cases of urticaria treated
by the author with subcutaneous
injections of epinephrin, the in­
jections were followed by a rapid
disappearance of the edema and
wheels. In each case a dose cor­
responding to about 8 minims (0.5
cc.) for an adult of 140 pounds
was given hypodermically, and the
dose repeated in ten minutes.
Two doses sufficed in every in­
stance to cause complete fading of
the rash. Improvement was usually evident eight minutes after the initial dose, and was most marked between ten and twenty minutes, during which time, especially in the severe cases, the rapidity with which the eruption subsided was very striking. After twenty minutes there usually remained some erythematous blotches, or small, pale wheals, which continued to fade until the skin looked entirely normal. All itching ceased in from five to twenty minutes after the first dose. If the exciting cause of the urticaria is still sufficiently active the wheals, the author believes, will recur in an hour or two unless the treatment is continued. The condition might be relieved for longer periods, or even permanently, by repeated and properly regulated doses.

It is suggested that epinephrin might be used to advantage in certain more serious yet similar conditions, such as angioneurotic edema in its various forms, edema of the epiglottis or larynx, and anaphylaxis with severe bronchial spasm and edema.

— A. W. Swann, in American Journal of the Medical Sciences, March, 1913.

**ADRENALIN IN ASTHMA.**

In the Munchener Medicinische Wochenschrift of January 21st, 1913, a contributor writes an article on this topic. He says he has found adrenalin to be a most useful agent in the treatment of asthma, and would recommend it most highly. Experience has proved that subcutaneous injections of a solution of 0.05 to 1 cc. have frequently shown remarkable results. Ephraim suggests the use of an endobronchial spray (of his own construction) in order to bring the action of the drug to bear directly upon the affected membranes. Galluser also had good results from a similar procedure, and Fr. Kraus reports that even ordinary inhalations had acted favorably in his experience. Ephraim finds that the drug is least efficacious when used as an inhalant; that the results are less permanent but more effective when it is used subcutaneously; and that when applied directly to the diseased membrane its influence is greatest and most lasting.

**TUBERCULIN AND TUBERCULOSIS.**

The extraordinary effect of tuberculin in arresting and preventing hemorrhage and the rarity of tuberculous meningitis in patients who have been treated completely with tuberculin, have impressed on Wilkinson the view that, properly used, tuberculin causes the lung to heal, and tends to prevent extension of the disease to near and distant parts. Accordingly, if there is evidence, such as a tuberculin reaction alone can give, that a tuberculous lesion exists somewhere, it is prudent and wise to render the lesion inert and harmless. By adopting this principle of action we may sometimes assist those who need no help, but at the same time we are offering assistance to all who need it. It is impossible to determine beforehand what may or may not happen, when there is a living enemy lying in ambush in the tissues. It is better to try and kill the enemy, even though we may wake him, rather than give him the opportunity of choosing his own method and hour of attack. There are many ways of using tuberculin, right ways and wrong ways. The chief virtue of small doses is that they can hardly do any harm. It is otherwise with the system of large doses. Undoubtedly, it is possible to do great harm with
large doses, if they are not given in proper sequence and at proper intervals. In the specific treatment of pulmonary tuberculosis, the medical man must be able to distinguish the different stages of the disease by physical signs and symptoms. He must also have been trained to read correctly the temperature charts in their varieties and vicissitudes and he must master the methods of measuring and recording doses. The very progress of the doses, which vary in every case, can only be appreciated by a close and frequent study of a number of charts and records which may extend over eight months to a year. If tuberculin is to be used as the essential remedy for treating tuberculosis, and Wilkinson believes there is no better, more economical, and more effective method, tuberculin dispensaries must be established for this specific purpose. The system of tuberculin dispensaries is quite new, and is the evolved product of Wilkinson's experience with tuberculin in Australia. He places tuberculin dispensaries in the forefront as the best, cheapest and most effective means of dealing with tuberculosis among the poor, and the success of his tuberculin dispensary depends on the skilful use of tuberculin in diagnosis and in treatment.


**DISPENSARY TREATMENT BY TUBERCULIN.**

For the last few years Bennett has used tuberculin, but always tentatively and always with a lively fear of its possible effects before him. He is convinced, however, that tuberculin is of the very highest value in the treatment of the disease—that every doctor who is engaged in the anti-consumption crusade should use it and that it should take its place with sanatoria and isolation hospitals and the rest. It is of course impossible to expect that every patient with tuberculosis will obtain benefit from tuberculin. The individual comes into consideration here, just as he does in all other forms of medical treatment, but in the vast majority of cases, tuberculin will not disappoint, and if it does, the fault must be looked for in the manner of using it.

—R. A. Bennett in The Practitioner, London.

**EPIDIDYMITOMY.**


The pathology of epididymitis is not intricate and is well set down in all the standard text-books. The teaching is that, after the invasion of the epididymis by the gonorrhoeal infection, abscess or cyst formation is the rule, although these collections are generally small and, if resolution takes place, the pus or fluid is absorbed.

The appropriate treatment of this disease is obvious, if epididymitis is recognized as an acute pus infection of the epididymal coils. Laying aside the difference in life risk, it would appear that there is just as much surgical sense in applying a poultice over an infected gall-bladder as there is in applying one over an infected focus in the epididymis.

The common variety, that due to gonorrhea or some other infection of the urethra, demands the same surgical attack as a pus focus elsewhere in the body, and that is incision and drainage.

Hagner of Washington, D.C., first invited attention to the excellent results of epididymotomy. Hagner's operation, described fully,
in text-books, seems formidable, and its rather complicated technic is most applicable to incipient cases.

Early experiment with the Hagner operation convinced me of the value of epididymotomy and later experience with a simpler technic has convinced me that any treatment of epididymitis, other than operative, is unscientific, irrational, and a compromise with ignorance.

I have performed the following simple operation in sixteen consecutive cases of epididymitis, some being incipient and some advanced:

**Technic:** Preparation consists of dry shaving of pubis and scrotum; one application of 2 per cent. alcoholic solution of iodin, followed by alcohol; primary ether anesthesia. Incision three-fourths inch in length in integument is made over most prominent part of infiltrated mass, down to the dense fibrous covering of the epididymis. Puncture is made of the tunica vaginalis testis from the nearest wound angle with blunt needle or tenotome. The dense fibrous covering over the major or minor body is then incised in the long axis of the tumor; this is accompanied by a marked lessening of resistance. The point of a slender hemostat is thrust into the mass with the idea of entering the pus focus. The blades of the forceps are slowly opened to effect a separation of tissue without undue tearing. The pus or fluid will escape at this stage if proper entry of the infected area is made. A one inch length of No. 3 rubber tubing is inserted into the bottom of the wound and fixed with a suture. Copious dressing and snug application of a jumbo suspensory completes the procedure which should consume about two minutes of time.

Local anesthesia is inadvisable on account of the risk of sloughing, especially in advanced cases in which the integument already partakes of the severe underlying inflammatory process. I would prefer to operate with no anesthesia if a general anesthetic were declined or if there were any contra-indications to its use.

In my small series of cases, the following beneficial changes invariably took place, in the order named: (1) sudden and permanent relief from pain; (2) defervescence in forty-eight hours; (3) rapid reduction in the size of the inflammatory mass; (4) early healing of the operation wound without suppuration, except in cases in which the process already had proceeded to formidable abscess formation; (5) early convalescence without relapse.

Some observers think that epididymotomy effects a too deliberate accomplishment of sterility when it is applied to bilateral cases, believing that after cutting across the lumen of the epididymal coil, the passage of spermatozoa is impossible; others think that the spermatozoa may find new channels through the scar tissue and find exit by diapedesis or migration. In my series of sixteen cases, one only was bilateral, and in this case bilateral epididymotomy was performed in the firm belief that the slight scar tissue which remains after operation is less an obstruction to the passage of spermatozoa than the dense fibrous "ball" which so often remains as a permanent relic of a penalty paid to folly.

Benzler's figures seem to prove that 41.7 per cent. of all bilateral cases of epididymitis result in sterility. Statistics are not now available to prove whether epididymotomy produces sterility when applied to every bilateral case, but since the preponderant number of cases are unilateral, and since after epididymotomy such rapid recovery occurs in every instance, the collective gain in shortening the course of all cases, offsets the disadvantage of an occasional sterilization.
Correspondence.

To the Editor of
"THE CHINA MEDICAL JOURNAL."

DEAR SIR: Under separate cover I am sending to you a copy of the Chinese Journal, Vol. 1, No. 6, being the final copy of the first volume.

It has not been an easy task that the editors have set themselves to, the starting of the first Journal, published in the Chinese language, but if it prove to be the beginning of medical periodical literature for the Chinese, they will feel that the task has not been altogether in vain. We are only too conscious of many mistakes and shortcomings during the past, and we wish to appeal through you to the members of the China Medical Missionary Association for suggestions and help in the coming year.

Reference to the index for the first volume shows that in the six numbers there were contributed seventy-four articles, including correspondence, etc. Of scientific papers, reports, etc., there were thirty-five contributed by Chinese physicians, trained in foreign medicine, and thirty-four by foreigners.

Altogether thirty-four different individuals sent in articles for insertion in the paper. Nineteen of these were Chinese and fifteen foreigners. Only four foreigners outside of the Canton district contributed to our columns. This is disappointing for a paper that purports to represent the entire country. We trust that from henceforth our friends in the North will lend their literary aid more freely.

Two of the most notable articles are those by Drs. Lei Shue Fan and Hoh Ko Tsuu on the sanitary administration and government regulations for the province of Kwangtung. Interesting articles on cholera, plague, tuberculosis, and surgical procedures have appeared. Also valuable therapeutic and surgical notes and some interesting data on snake bite in the province of Fukien.

The material for the May number, Vol. 11, No. 1, is already in hand and will soon appear. Subscribers will please note that their dues should be paid with the appearance of this number.

Trusting that our friends will help us in this enterprise. I remain,
very sincerely,

WM. W. CADBURY.
Canton, China.

To the Editor of
"THE CHINA MEDICAL JOURNAL."

DEAR SIR: During the Triennial Conference I took a number of photographs of Peking. Several of my friends at the conference requested that I send them copies of my photographs which turned out well. I now have prints of all that I took and I enumerate below those that I think my friends might like to have. All are clear distinct pictures. The size is 3½ x 4½. The price of each picture is ten cents, payable in stamps. No charge for postage. Upon receipt of payment pictures will be forwarded as soon as possible. Unless otherwise specified printing out paper will be used.

1 A. Pillow or Arch at the Summer Palace.
2 B. Ruins at the Summer Palace.
3 C. Kneeling Camels, Ming Tombs, Nanking.
4 A. Stone Elephants at Ming Tombs, Nanking.
4 B. Ruined Gate of Tartar City, Nanking.
4 C. Bird's-eye view of the ruined Tartar City of Nanking.
Dr. Chiang, a Chinese graduate of Edinburgh, is taking up medical work in Central China. He will be the first native medical missionary trained in this country to serve in connection with the Wesleyan Methodist Mission.

The wisdom of the Triennial Conference in appointing delegates to the several conferences held by Dr. Mott was demonstrated by the outcome. The C. M. M. A. was well represented at all the meetings with Dr. Mott, and the resolutions passed by our Association at Peking in January made a most favourable impression on the various local and on the final conference in Shanghai, where these resolutions were adopted almost in toto. Besides the closer correlation of all the phases of missionary work which these meetings aimed at, practical fruit has also already appeared in the generous offer of the China Continuation Committee to attempt to raise the salary of any man whom the C. M. M. A. shall set apart solely for the business of the Association. 

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**ITEMS OF INTEREST.**

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**To the Editor of "THE CHINA MEDICAL JOURNAL."**

DEAR SIR: Mr. C. J. Bond, F.R.C.S., of Leicester, is investigating certain problems connected with heredity and asks for information about dermoid cysts of the ovary in Chinese patients. He especially wishes to know: (1) whether the hair in the cysts is the same colour as that of the patient's head, (2) whether hair of different colours has been found in two such cysts from the same patient, (3) whether any change in colour has been observed in the "cystic" hair of patients whose hair has turned grey.

I should feel very grateful indeed if any of the members of the C.M.M.A. could supply such information, writing either to Mr. Bond or to myself, at the above address.

Samples of the dermoid hair, after washing with ether, could also be readily forwarded by post, together with a little of the hair from the head. Any expense involved would of course be gladly paid by Mr. Bond.

Perhaps you would not mind inserting this letter in the next issue of the "JOURNAL."

Sincerely yours,

C. C. ELLIOTT.

6 Seymour St.,
Leicester, England.
Personal.

BIRTHS.

At Peitaiho, May 2nd, to Drs. Francis and Emma Tucker, a son (Arthur Smith).

At Weihweifu, Honan, March 5th, to Dr. and Mrs. Fred. M. Auld, a son (David Helley).

MARRIAGE.

At Shanghai, April 26th, Thomas Percivale Thompson to Angie Martin Myers, M.D., St. Elizabeth’s Hospital, A. C. M.

DEATHS.

At Chaoyangfu, Mongolia, April 5th, Dr. J. Norman Case, of typhoid fever.

At Shanghai, April 29th, Margaret, daughter of Dr. and Mrs. W. E. Taylor, Y. M. C. A.

At Peking, May 26th, Dr. F. J. Hall, A. P. M., of typhus fever.

At Lienchowfu, April, Dr. X. M. Latimer, A. P. M.

ARRIVALS.

March 12th, Dr. Anna Henry, C. M. M., Chengtu.


DEPARTURES.

February 28th, Dr. and Mrs. S. O. McMurtry, Can. Pres. Mission, for Canada.

March 25th, Miss Crawford, M.D., Wesleyan Mission, for England.

April 7th, Dr. and Mrs. E. J. Stuckey and family of Union Medical College, Peking, for Melbourne, Australia.

June 15th, Dr. and Mrs. Cecil Davenport, for England. Dr. Emily Garner, via Siberia.

June 19th, Dr. and Mrs. P. J. Todd, for America.

Notices.

"OPHTHALMOLOGY ON KULING."

"The University Medical School, Canton, China, has rented for the summer season, at Kuling, bungalow 77A, which belonged to the late Dr. Booth of Hankow. During the month of August and the first part of September, Dr. H. J. Howard, the oculist and ophthalmic surgeon of the Medical School, will be in residence and is willing to make appointments for part of his time with missionaries and others of the Kuling community."

Dr. W. E. Plummer of Wenchow is anxious to find some physician who would undertake the medical work in Wenchow for a year, beginning as early as possible, while Dr. Plummer goes home for treatment. The work would include the general oversight of Blyth Hospital, which has good Chinese assistants who are well trained doctors, and the care of the foreign community,—some twenty-odd people. Salary, the ordinary missionary salary.

The Hostel of the London Missionary Society in Hongkong, which will be opened in September, will be glad to receive and provide for any young men who are anticipating attending the University of Hongkong in the fall of 1913.

WANT DEPARTMENT.

Dr. Miller of Edinburgh is very anxious to obtain a copy of his father’s Lectures on Surgery which were many years ago translated into Chinese, the copy which he formerly had having been lost. Information regarding the possibility of obtaining the above translation will be welcomed by Dr. R. M. Gibson of Hongkong.

Dr. Stanley, Curator of Shanghai Museum, will be greatly obliged to anyone who will kindly send him specimens of Reptiles (snakes, lizards, and tortoises), addressed c/o Municipal Laboratory, Shanghai. The animals are best sent in 75 per cent. alcohol or strong samshu, or if they have remained one month in the preservative fluid they may be sent by post, just wrapped in a cloth moistened with alcohol and placed in a tin box.