A CONTRIBUTION TO THE NOSOGEOGRAPHY OF NORTHERN KOREA.

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Rushing into print with so little clinical experience is somewhat presumptuous, so I hasten to offer my excuse. The dividing line between divisions 1 and 7 as given in map 1, page 31, in Jefferys and Maxwell’s book, “Diseases of China”, is apparently well placed so far as this part of Northern Korea is concerned. Reference to this map will show the Yalu river running north and east from Wiju dividing Korea from Manchuria. Kangkai is on the first tributary of the Yalu which comes from the Korea side, and is about where the line representing the 40° parallel crosses it. A range of high hills intervenes between Kangkai and the source of the nearest river, running south and west, and still more hills divide us from a narrow strip along the east coast. The climate is quite different from that of Wiju or Pyeongyang, which are about 750 li distant. Distance from the sea, altitude and the proximity of hills shortening the duration of sunshine, have made a difference of several degrees of temperature. The winters are cold, dry and bracing, there being snow from December 1st till March 15, and very few melting days between. Ice freezes two feet thick on the river, and at 7.30 a.m. the thermometer registered on two occasions the past winter—25° F. A few days in summer are quite warm, but there is a breeze nearly every afternoon. A short rainy season usually comes about July. In short, the climate is delightful.

The writer came up to Kangkai two years ago to help open up an entirely new section, and as the station has grown from nothing to one of three houses, a hospital and a church, the medical work has been
Compound Fracture of Right Tibia.

[See Correspondence.]
incidental. Work in a native house for a year, five months in a new hospital and an absence from the station aggregating six months have still further limited work. About 6,000 patients have been seen in one way or another and mention of a few of the cases may be better than none at all. The transfer of the writer to another station makes the report the more incomplete.

CLASS I. PARASITIC INFECTIONS.

Paragonimus Westermani. Even the name "tow-chil" is unfamiliar, although the disease is plentiful about Seoul.

Tapeworm. Medicine is often sold, but no specimens have been obtained, as everyone is ashamed of them and will not bring them even for money.

Ascaris lumbricoides. Almost universal, symptoms of infection common. Lack of personal cleanliness and the house fly are believed to be more responsible for the spread of this disease than the methods of using fertilizer. Whether the eggs persist under the conditions to which they are subjected is a matter for future investigation. Very little if any human excrement is used directly in the gardens by the Koreans here, although the Japanese gardeners use it directly sometimes. The closets are built above the pig pens and the accumulation below the pen is cleaned out twice a year. In the spring it is mixed with woodashes, spread out in the sun to dry, pulverized and a small handful placed with the seed in the ground and then covered up. The fall collection is piled up till freezing weather, then measured out in cakes of uniform size and these are hauled all over the country on sleds. Set up on end in the rice fields they make queer looking grave stones. Pigs are prominent factors then in the transmission of disease by this means, and be it said as an "aside" that they are such low-down animals that many of them actually drag on the ground.

It is not intended at this time to take up the discussion of the symptoms produced by ascaris infection, but it might be well to add a little to the evidence already in. Perhaps a hundred cases have come in, with almost an identical history. For a period varying from weeks to months children ranging in age from five to twelve years complain that their "food doesn't go down well." Nearly every one has a diarrhoea of a mild nature, said not to contain mucus or blood, and none are constipated. These children are not sick-looking, but when at home often complain of no appetite and some indefinite abdominal pain. The worms are occasionally passed in the stools, and sometimes vomited during some little acute intercurrent gastro-intestinal trouble.
This condition is recognized by the people as being due to worms, and santonin is administered. Ordinarily the Korean considers it unnecessary to take a cathartic along with the santonin, and he seems to expell the worms and banish these symptoms just the same. Often the hospital patients when given both will only take the santonin.

Diarrhoea is not found to be a feature in worm infection in adults, but the symptom of the "food not going down well" is nearly always present. A clew to the significance of this symptom is furnished by the fact that in children it is removable with santonin, whereas in adults sometimes it is not. It is perhaps to be considered a symptom of chronic indigestion, and in cases where it persists a previous epigastric "needling" or gastric dilatation can usually be demonstrated.


**CLASS 2. GENERAL INFECTIOUS DISEASES.**

Beriberi. None seen, no polished rice made and none imported.

Cholera. Said to have been no case here since the very virulent epidemic about ten years ago. There were many cases in Wiju during the epidemic of 1909, but none this side of the hills.

Diphtheria. Clinically two cases, but antitoxin seemingly of no avail. One case of paralysis of the pharyngeal muscles after a history of sore throat. Contagiousness apparently not great.

Dysentery. Common among small children, especially during cucumber, corn, melon and turnip seasons. Fatality high. Chronic indigestion of the "pot-belly" variety especially predisposes.

Typhoid. Two cases, one nearly dying of nasal hemorrhage, only saved by packing.

Erysipelas. Five cases, all facial with head completely involved, lasted from ten days to more than a month. No mortality.

Pneumonia. None seen!

Malaria. No cases seen, but a few have claimed to have had it. Very little quinine is sold and that chiefly for chronic winter cough. The value of quinine in malaria is well understood.

Measles. An epidemic in May, 1910. Fatality high among children, chiefly from dysenteric complications. Aural and ocular complications were common. Noma, six cases, five fatal. Epidemic seemed limited to this city and the surrounding county. Nearly one per cent. of the population of the city died within two mouths, and the average was one child in every second house.
Pertussis. Called "donkey cough disease". Few children said to have it, but no case definitely diagnosed.

Pestis. None, recent epidemic in Manchuria did not cross the Yalu river.

Pyemia. One fatal case.

Rheumatism, acute articular, one case. Rheumatism, chronic articular, especially of the knees, very common. Both iodides and salicylates occasionally beneficial.


Tuberculosis, pulmonary, surprisingly infrequent. One case known to die and half a dozen lost sight of.

Tuberculosis of other parts. Not as common as it is believed to be in other parts of the country. The Koreans of their own accord sometimes send patients north for their health and the native treatment of drinking the blood of a deer while still warm must have benefitted many in former days through the exercise involved in the chase. Pott's Disease, four cases. Sacro-iliac disease, two cases.

Vaccination. Effort on the part of the government to make it universal. Public vaccinators travel through the country charging only a nominal fee. As a rule people do not feel sufficiently protected unless the arm swells up enormously.

Variola. Every winter in the country districts there are a good many deaths, but no cases seen at the hospital.

Anthrax. It is officially reported that epidemics of this disease have appeared in cattle in nearly every province, but no case diagnosed in man.

CLASS 3.

Obesity. Women seem to have a slightly greater tendency toward corpulence than the men, though no one seems burdened with it.

Rachitis. One mild case, although head sweating as a symptom is fairly common. Cases of bow legs are easily accounted for by the method of strapping them to the mother's back. The skull bones are usually sufficiently developed, and no rosary or pigeon breast. The ensiform was everted in one case.

Anemia, undifferentiated clinical, quite common.

Pseudo-leukemia? While in Syenchyun was asked by Dr. Sharrocks to assist in an operation on the neck for the removal of some very large non-suppurating glands. It was not possible to remove all the glands on one side and it was not considered wise to attack the
other. The swellings were massive, lobular and very soft, almost fluctuating. They extended down to the thyroid and up to the ears on both sides. Physical examination otherwise negative. The peculiarity especially noted was that two or three small lobules overlay the mastoid in a way not seen in ordinary hypertrophy. A case of syphilitic adenitis once seen resembled it slightly. Some of the glands were still discrete, but many were confluent. All had an abundant blood supply and did not “shell out” at all. Inflammatory changes were minimal and the glands on section were grayish and not caseous. One of the first cases seen in Kangkai was another very similar to this one, and he was asked to return after the hospital was completed, but has not yet appeared. It is deeply to be regretted that it was impossible to examine either case microscopically.

Goitre. Quite common, no tendency toward Grave’s disease.

CLASS 4. NERVOUS DISEASES.

The Korean temperament is an odd combination of placid surface and a substratum of unconquered nervous potentiality that occasionally breaks loose in a terrific rage. Alcohol as a beverage usually affects only the exterior and a “happy drunk” is the result. Superficial irritability is not highly developed, and the ordinary annoyances of life and privations of poverty have failed to stimulate the majority to want better things. Ordinary insults or slights that would make a Westerner “fighting mad” are passed by unheeded. An average Korean can lie on a hard floor with head pillowed on a block of wood and sleep, perfectly oblivious to the presence of man, beast, or insect. Heat, crying babies or an atmosphere so foul that the flickering wick has hard work to burn. Psychic insults occasionally break through this “case-hardened” condition and almost an hysterical state results. Sudden grief over illness or death, great anger or fright sometimes produce a state of excitement little short of temporary dementia. Similar brain storms of idiopathic origin are seen, and are popularly ascribed to demon possession. Various sorts of sorcery are used in such cases, and among the churches they are much worked with and prayed for. Potassium iodide is occasionally of some value, although the prognosis is good anyway. Pregnancy is sometimes held accountable, and in one case seen a child born during an attack died in a month with what were said to be identical symptoms. One pitiful case of insanity roams the streets crying out with the loud voice of the demon possessed. One or possibly two cases of confusional insanity were noted as the terminal stage of a prolonged debauch, and possibly
represented delirium tremens. Spasmophilia is quite highly developed, and the frequency of convulsions in the phlegmatic appearing children can best be appreciated by counting the heads with round scars on top among a group of school boys. These spots are burned over the anterior fontanel by means of the "dum" or punk. Nothing simulating tabs or G. P. have been seen, although syphilis in a slightly or untreated condition is very prevalent. Functional disorders are occasionally encountered. The cases of neurasthenia have all been mild, and there has been only one instance of undoubted hysteria. Malingering and deception are sometimes met, and because of a strange language are the more difficult to detect. One young woman complained so bitterly of pain over the descending colon, simulated extreme tenderness so well, and her husband pleaded so hard for an exploratory laparotomy that it was done under protest. Confirming our suspicions by finding nothing, we made a vaginal examination while the patient was still under the anesthetic and found an acute gonococcic infection. The husband had also been deceived, and she later confessed that it was for this reason she had refused to allow this examination before. Occasionally a daughter-in-law will "play sick" to shirk work in the mother-in-law's house, but often enough they have sufficient of which to complain. Exaggeration with or without a purpose is so deep in Korean character that one unconsciously falls into a very cautious if not skeptical state of mind. Any condition not objective in character is so open to uncertainty that the field of nervous diseases will likely be one of the last to be carefully covered.

- Brain abscess, (clinical), otitic origin, child.
- Cephalalgia, common, ocular, anemic, specific.
- Epilepsy, major and minor, none traumatic.
- Feeblemindedness, two, both with some impairment of hearing and speech.
- Hemiplegia, three cases, one a Chinaman.
- Hernia of the brain, child, temporal region. It had been cut off level with the surrounding skin by Japanese drug-shop keeper and left to heal by itself (which it did not do).
- Insomnia, no cases of nervous origin.
- Melancholia, none seen, suicides rare, none in the city for three years.
- Meningitis, T.B. one, otitic one.
- Monoplegia. One (Chinaman).
- Morbus Reynaud, one possible case seen at Pyengyang with Dr. Wells in March 1908. Brief notes from a note book made at the time
were, "three years ago man of thirty lost all toes from one foot by gangrene, amputation done. Comes in again with toes on the other foot gone and part of the foot also. Last three fingers on left hand have dry gangrene, but infection at the demarcation line has destroyed all tissues but bone. Amputation advised. Areas painful. No apparent arterio-sclerosis. Vague history of coldness before gangrene began. Frost bite and leprosy definitely excluded."

"Nausea marina." During a trip down the Yalu river in small boats half of the Korean women were made sick by the little wind waves.

Neurasthenia, few, chiefly among students and "yang bans" or "indolent aristocracy".

Edema, four cases, three very small children about a year old and one grown man. It was characterized by sudden swelling of the arm to the shoulder, not hot, nor inflammatory, no fever and no glands involved. The skin did not pit on pressure, but was tense and not atrophic nor pale. One child when not under observation developed patchy gangrene of the skin, and died of secondary sepsis. The other two cases were massaged daily with vaseline and recovered with no suppuration. The man did not exercise his wrist at all and had a slight temporary limitation of motion. No other functional impairment. The trouble lasted a month or more. The fatal case was not seen for three weeks and it is believed was treated with native remedies, perhaps needles, at least the directions given were not followed.

Paralysis, facial, one case.
Tic, facial, one.
Torticollis, congenital, one case.

CLASS 5.

Astigmatism, present.
Blepharitis, very common.
Cataract, few, senile 2, traumatic, several.
Chalazion, few.
Conjunctivitis, very common, phlyctenular, 3 cases.
Corneal ulcer, common.
Dacrocystitis, acute 1, chronic common.
Entropion, common.
Hemeralopia, 3 children said by parents to be thus affected.
Hordeolum, few.
Hypopion, 1 case.
Iritis, common, one specific.
Keratitis, interstitial, few.
Leucoma, very common.
Pan-ophtalmitis, common, no sympathetic ophthalimia found.
Phthisis bulbi, common.
Pterygium, 3 cases.
Ptosis, slight, 1, another temporary after vertex skull fracture.
Staphyloma, common.
Trachoma and pannus, common.
Malignant degeneration. 1 in child, enucleation, sarcoma.

CLASS 6.

Eczema of meatus, common.
Mastoiditis with external sinus, 3, fatal abscess 1.
Rupture of membrane by violence, 1.
Obstruction of meatus, common, considerable metallic mercury taken out with dried cerumen in one case. Admits using inhalation treatment for supposed syphilis.
Otitis media, common.
Otitis externa, common.
Surditis, common.

CLASS 7.

Rhinitis, acute, surprisingly few, though life is a constant disregard of the factors which produce the disease in foreigners.
Rhinitis, chronic hypertrophic, common.
Rhinitis, atrophic, common.
Polypus, 1 case.
Serious septal deviation, 1 case.

CLASS 8.

Fistula of Stenson’s duct, from puncture of hydrops with a hot needle.
Abscess submental, pus under considerable tension under cervical fascia on one side of mid-line above the hyoid bone, obliterating the space under the chin until face and neck are continuous. The floor of the mouth is somewhat encroached upon and jaw movements limited, but no dyspnea. Incision relieves the condition when the hole in the cervical fascia is kept open with a tube drain for ten days. Five identical cases, no mortality.
Adenoids common, and affect the hearing somewhat.
Angina, (Vincent’s) clinically common.
Angina, (Ludovici) 1 case, no suppuration, but lancing the floor of the mouth was sufficient to relieve the symptoms. This was the first operation done in Kangkai and was performed on a lumber pile in the yard.

Anal prolapse, 3 cases relaxation of sphincter after protracted diarrhoea.

Anal fissure, 4 cases, one prostitute and two prequenters. Sodomy is common in Korea, but usually boys in the country are the victims and travelling merchants the aggressors. Soldiers of the disbanded army were much addicted to the practice. Constipation is a slight factor.

Aphthae, 3 cases.

Appendicitis, none seen.

Cancrum oris, 6 cases, following epidemic of measles. 5 fatal.

Catarrhus, acute gastric, especially common in winter in women who eat big meals and then go out to wash clothes at a hole in the ice of the river. Insufficient clothing, great cold, and gross dietetic errors are largely responsible. Men are also sometimes affected. Buckwheat flour paste forced through a perforated plate under great pressure and then boiled is one of the commonest causes. This "cooksu" is in long strings and is eaten like a reel winds in rope. A sucking sound accompanies the process that takes the appetite of most foreign spectators. The grit from the granite mill which is in such generous quantities in the flour can scarcely be less indigestible. Native bread, which is much used and popularly supposed to be very good for the sick, is a mass of rice flour as hard, tenacious and compact as prolonged beating on a stone with a huge mallet can make it. This is swallowed in as large bites as possible. A Korean meal is in short a speechless, but far from silent, contest between all present, to see who can eat the most in the shortest length of time with the least number of bites and then belch the loudest.

Gastro-intestinal disturbances originate at birth in a large proportion of the population. Parents fear a child will die unless it nurses almost constantly. If it cries the "pacifier" is always at hand. The sicker a child is the oftener it must nurse. A glance at the body profile of the children on any warm day will strikingly show the gross effects of the practice. Worms, especially ascaris, are a considerable factor in keeping up disturbances already started. Santoniu, salol and a little boiled water will, if used carefully, usually restore to normal conditions a child moderately sick with abdominal distress, little looseness of the bowels and loss of appetite. Sudden acute "stoppage" as the Koreans call it, characterized by some abdominal
pain, vomiting of food first and often a worm or two, and usually no bowel movements for a day or two, usually responds to the above treatment after the storm has quieted down a little. Older children complain of indefinite abdominal pain and a little tenderness having no reference to the taking of food. Adults say very often their food "does not go down very well" and that they have "something which if it goes down it makes the abdomen hurt and if it goes up their chest pains." Diarrhoea is usually absent in adults, although gas and "noises" are disturbing features.

Gall stone colic, one case, no jaundice.
Constipation, frequent in women and a few men past middle life. Usually a symptom of temporary indisposition or of enteroptosis.
Dental caries, common, but habit of rubbing gums with salt after meals is apparently very beneficial. Three cases of root abscess resulted in sinuses through the cheek, and one in necrosis of the ramus of the lower jaw.

Enteroptosis, common, especially due to early rising after delivery, custom of fastening pants and overskirts tightly around the body above the waist, bearing the weight of a child carried on the back by means of a sheet encircling the body at the same level, dilated stomach and the custom of eating quantity, not quality. In men the latter two only apply, the pants being supported at the waist.

Fistula in ano, fairly common, not extensive involvement.
Gastrectasis, common.
Gastroptosis, common.
Hemorrhoids, few cases, not extensive.
Hepatic cirrhosis, alcoholic, three cases. A very pronounced case of ascites in an old woman, was tapped and considerable fluid removed. She felt so much better that she went home, ate twice an ordinary man's rations and was carried out the east gate a couple of days later. Happening as it did a few days after we arrived here, the results of the police investigations were watched with considerable interest. Exoneration at that time has prevented any trouble since.

Hernia, inguinal, direct, 2.
" " indirect, 2.
" " infantile, 2.
Hypertrophied tonsils, very common, one of the chief causes of cervical adenitis.
Icterus, four cases, no pain or other symptoms.
Esophago-stenosis, one case, an old lady who had been a heavy alcoholic, malignant?
Ischio-rectal abscess, three.

Peritonitis, acute, due to "needling", two fatal cases known certainly and reports indicate more. A year or more ago my old hospital keeper, tiring of taking KI for a syphilitic liver and distressed by the results of former needlings, called in a native practitioner and was "treated". A few days and he was gone. A month later was called in to witness the last hours of the native practitioner, who was going the same road. Evidences of local peritonitis from the same cause are common.

Pharyngitis, chronic, especially common. Crowded into little rooms at night, ventilation at a minimum, working in cold and steamy kitchens, clothed insufficiently, and feet often cold and wet, how do any escape?

Proctitis, common but not severe, oxyuris and gastroenteritis are the chief causes.

Stomatitis, especially small ulcers under the tongue of infants.

Tonsillitis, few acute ulcerative, and specific.

Varicose veins, none seen, but hospital assistant says he knows two in town, one a chair coolie, the other a water carrier.

Arterio-sclerosis, very mild.

Arterio-palpitatio, rather common for enteroptotic women and neurasthenic men to complain because their abdominal aorta pulsates. Only one man has mentioned this about the heart.

Empyma, 2 cases.

Mitral insufficiency, 3 cases, one fatal from incompetency, another in young man who had had rheumatism in childhood, the third in a man of forty who though apparently moribund recovered temporarily.

Broncho-pneumonia, very common and fatal in young children.

Bronchitis, acute and chronic, common.

Congestion of the lungs, acute, 1 case, cleared up rapidly.

Hemoptysis, 3 cases, reported in a few more, associated with T. B.

Laryngitis, syphilitic, one, a few simple acute and chronic, edematous type common in children from practice of needling the throat deeply for various affections associated with a cough.

Lymphadenitis, cervical, common, usually one or two glands at a time. These usually come from tonsillar irritation, but some from otitis media and pediculosis capitis. 2 cases of tuberculous infection. Solitary axillary gland abscess, 3 cases (without any infection of the hand). Inguinal suppuration in quite a number of female babies without apparent vaginal infection or history of it. No buboes noticed in adults.
CLASS 9.

Anterior Poliomyelitis, one case, arm and leg, not epidemic.
Arthritis deformans and Heberden's nodes, two cases; also three cases of probable spinal involvement.
Arthritis, very common, especially of the knees and ankles, creaking, pain and deformity pronounced. Some influenced by KI, some by salicylates, but most by nothing at all. Acute suppurating cases more frequent in the ankle, due to the practice of needling a sprain. One definitely syphilitic case. Hardly a person comes for any disease who has not one or more scars over a joint from the burning punk.
Ganglion, two cases, both on left wrist.
Myalgia, acute and chronic, common.
Osteomyelitis and necrosis, common, especially after the needling.
Pes planus, one case.
Phlegmon of hand, middle palmar space, common (one Chinaman).
Synovitis, 3 of knee, one due to poultice of fresh cow manure applied to a hatchet cut of the knee, no mortality! 5 per cent. formalin in glycerine injections believed to have saved him.
Theclitis, acute suppurative, 2 cases, flexor longus pollicis and flexor profundus digitorum (little finger only).

CLASS 10.

Abscesses, galore.
Acne, young men especially. One young woman was troubled at her menstrual times. Usually the complexions are pretty good.
Carbuncles and boils, especially severe from custom of pasting a piece of oiled paper on top to protect the clothing from the discharges.
Cellulitis, especially after the needles are used.
Condylomata, occasional, but not extensive.
Dermatitis, all kinds, descriptions and combinations, such as can result from things like scabies, neglect, lack of soap, and a "morbid fear of water for hygienic and laundry purposes".
Eczema, common, especially in winter.
Herpes, 3, one double, over both radial nerves, and another of the genito crural nerve.
Impetigo, common.
Keloid, only slight tendency in wounds of long suppuration.
Leprosy, none seen and Koreans say none here.
Lupus erythematosis, 1 case.
Onychia, 3 cases.
Pediculosis, body and head common, none noticed on pubis.
Pernio, not as common as would be expected. Most people wear thin straw shoes and stockings of two layers of muslin with a little cotton between. Koreans feet perspire but little considering, and foot washing is an unknown quantity among a large proportion. One patient in for operation in March was chided by the students for not washing his feet. He, very much surprised, affirmed that they had been washed in another doctor's hospital last summer. It is the custom among the working class not to wash their hands either, especially during the winter, so they can the better endure the cold without gloves.

Psoriasis, 1 case.
Scabies, common.
Vitiligo, 4 cases.

CLASS II.

Adenitis inguinal, none seen.
Arthritis gonorrheal, 2 cases, hip and knee.
Chancroid, one case seen.
Epididymitis, 3 cases.
Urinary fistula, (supernumerary meatus) 1 case.
Orchitis, T. B., 1 case, boy of four years, syphilitic 1 case.
Gonorrhea, common, claimed that half of the men in town are infected. Only within the last few years was it said the disease was considered of enough importance to demand treatment. Prophylaxis male and female nil.
Ophthalmia gonorrhoeica, not common (clinical diagnosis only).
Stricture of the urethra, considered to be uncommon until my set of diagnostic sounds came. Opinion changed.
Prostatitis, common (gonorrheal).
Syphilis, common, saddle noses, 2 cases.
Extensive ulceration of face, 1 case.
Gummata, 5, palatal 3.
Pharyngeal adhesions common.
Extensive joint involvement, 1.
Sacroiliac, 1?
Aphonia, 1.
Black upper incisors of hereditary type in children, 4.
Hereditary lesions common.

CLASS 12.

Urinary calculus, none seen here, but one operated with Dr. Sharrocks in Syenchyun in March, 1909. Boy 6 years of age.
Hematuria, symptomatic, not common.
Hydrocele, 4.

Nephritis, rare, one case seen in child in Pyengyang with Dr. Wells, one in young man seen here, extreme cyanosis and dyspnea misled diagnosis for a time.

Phimosis, 3 cases.

Urinary retention, 3 morphine habitues and 2 post drunks.

Urinary suppression, common and a very alarming symptom to the family in broncho-pneumonia, etc.

Hermaphroditism, 1 case, boy 12 years old, a little undersized but not mentally peculiar. The genitals were apparently female and the penile body was small and clitoris-like, the end being buried under a flap of skin. The urethra opened at the posterior end of a shallow groove, the perineal muscles being greatly atrophied. Within the labia was a small undescended testicle on the right side and a trace of one on the left, but at the opening of the inguinal canal higher up.

Endometritis, quite common.

Mastitis, several abscesses, numerous fissures of the nipple and one case of syphilitic infiltration. One lacteal fistula from the improper use of a hot needle.

Extensive hematoma of broad ligament with no trace of fetal remains operated at Pyengyang with Drs. Wells and Reid.

Cervical incisions for the termination of labor were used in two cases. One woman had been in labor for 4 days and the other 7. Both were in pretty good condition, but it was evident that the cervix had dilated as much as it would. Pains were moderate. Vaginal examination found a small dimple in the wall where the cervix had been, it having been burned off together with the lower part of the uterus by kerosene for the purpose of “curing” prolapse. Through the small hole that remained the liquor amnii had gradually leaked away until very little but brown slime remained. The uterine opening was a ring of scar tissue nearly 2 inches in diameter and was surrounded by soft succulent tissue. Crucial incisions were made in four directions seeking the cleavage between the bladder and surrounding tissue and similarly avoiding the rectum behind, finger and sound aiding in the process. Manual dilatation readily produced an opening through which the flat hand could be thrust after the ring of scar tissue had been cut through. Forceps were applied and delivery slowly effected from an L. O. A. position. One child was alive, the other apparently recently dead. Even had I known certainly that the child was dead circumstances would have compelled me to follow the same course. Any mutilating operation would have caused even more trouble. As
It was the patient’s husband who was drunk and came into the room with a knife in his hand making all kinds of threats. One of my ministerial brethren was equal to the emergency, however, and deposited the fellow in a corner of an adjoining room much sadder and wiser to meditate on his rashness. Next day no one could have been more cordial than this same man. While in Syenchyun another case was operated with Dr. Sharrocks, dysmenorrhea and incidentally sterility being the complaints. She had been treated by an old woman in that section of the country who when she was converted gave up the practice of her “art” and rounded up a lot of her former victims for the foreign doctor to cure. Be it said as far as the prolapse was concerned she had very effectively “cured” 100 per cent of her cases.

Vesico-vaginal fistula, 1 case, difficult labor.

Class 13.

Carcinoma. Breast, 1, operated early, but recurrence and death more than a year later. Cancer of penis operated in Syenchyun, outcome unknown. Cancer of rectum, 1 case, clinical diagnosis only.

No word for cancer has as yet been discovered here but “tam” was applied to the breast case. This word means any kind of a glandular enlargement and is usually used in reference to the neck. My assistants tell me they know no word implying malignancy or progressive involvement of the tissues. It seems to be a truism that all sores look alike to them.

Fibromyoma, 4 cases.

Sarcoma, eye, child; testicle, in man.

Class 14.

Dislocation of jaw, 3, two old, one recent.
Fractures, Colle’s 2.
Fames, none.
Hair lip, 6.

Accidental surgery, very little, chiefly cuts with axes while chopping wood, fingers amputated by the fodder cutter and bitten by hogs, with an occasional severe injury by robbers and others.

Class 15.

Lacquer poisoning, friends came on behalf of two cases. One case seen after the blisters had all been removed. If this be a true case then it must be said that the underlying excoriation of the skin was more “patchy” and without that “weeping” appearance of a similar stage of ivy poisoning.
Alcoholism, very common, but generally moderate; the natural disposition of the people does not make them fast and furious drinkers.

Snake bite, friends have come on behalf of several cases saying that the patients were very much swollen up. No fatal cases known. One man walking along through the weeds about dark in the middle of June said his foot was bitten by something he believed to be a snake. He jerked his foot away and was more than ever convinced by the peculiar resistance offered, that it was a snake which had bitten him. Examination an hour later showed evidence of teeth marks probably made by a snake and a small spot of ecchymosis. Bleeding had been encouraged at the time of injury. The leg was swollen to a point five inches above the ankle and the limitation was sharply marked. The following morning the edema had progressed to the knee. It remained that high for a week and gradually receded. No systemic symptoms were noted at any time. The leg felt tight and stiff, allowing very little use of it. No more severe cases than this have been seen or reported. Poisons insects are said not to be found here.

Several children seen and medicine sent to others that were said to have been bitten by mad dogs. No untoward symptoms were noted in any case. There seems to be a great dread of the disease among the people and undoubted cases of rabies have occurred in other parts of the country.

One man had apparently an ordinary infection of the finger, but he said he got it while handling wood. He supposed that a hair from a worm which originates in the body of a snake and later spins a web which floats in the breeze entered the finger unbeknown to him and caused the trouble. (Korean imagination is rather vivid at times.)

Opium and morphine are not used very much and only one case of supposed poisoning is reported. It is not known how much he took, but he recovered. A little of the drug is said to be smuggled across the line from Manchuria and some to come by illicit trade through Japanese shop keepers. The statement is made that Koreans with hair cut short and hence supposed to be Christians have more difficulty obtaining the drug than those evidently from a distance.

A case of poisoning by the seeds and pulp of the native dipper gourd called "pack ka chee" is here recorded, together with the signs as far as observed. It is uncertain whether this was an attempted abortion or a plain suicide, at any rate the latter condition resulted. About a quart of seeds and inner pulp were boiled and the water
drained off and drunk about 7 a.m. In an hour she began to vomit and continued to do so until 2 p.m. At first the vomitus was said to be watery but later became bloody. I saw the patient at 4 p.m. and found a woman of about 38, somewhat restless but perfectly conscious. The extremities were blue and absolutely pulseless and no heart beat could be felt. The pupils were dilated and the respirations 40 per minute. The abdomen was very much collapsed and the uterus in tonic contraction was very prominent. Thirst was intense, but pain not very great. Hypodermic cardiac stimulation was given and later a cathartic administered, meanwhile artificial heat was applied, but the patient became worse and died about 7 p.m. Consciousness was retained till the end. The pupils became wider and wider dilated and the respiratory rate increased. No urine or feces were passed during the illness. Cyanosis was the most apparent symptom and this increased to an extreme degree. The patient died very quietly. This plant is commonly grown for the purpose of making dippers for household use, but the seeds and pulp are carefully cleaned out first. These are recognized as being poisonous and are sometimes used in jaundice after the pulp has been finely pulverized. This powder is placed in the nose and is said to induce violent sneezing until the secretions become yellow.

PRESENT DAY PROBLEMS IN CHINA.
PUBLIC HEALTH AND SANITATION.

JOHN J. MULLOWNEY, M.D.

The subject assigned to me, put in briefer form, might read "Public Hygiene". And I take it to mean that large field of sanitary science which refers to the investigation of the causes of disease and the means of avoiding or destroying them. It is not necessarily a specific department or separate branch of science, but is implied, in part, in a number of sciences, as chemistry, biology, physics, pathology, and vital statistics. Hygiene aims to make growth more perfect, life more vigorous, decay less rapid, and death more remote. Hence hygiene treats of the laws of health, of all those means which tend to keep the body in a healthy condition, as well as those which tend to improve the general health. Public Hygiene is the application of these laws of health to the community en masse, rather than to the individual. It also implies the framing and enforcement of such civil laws as will

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protect the public from persons, things, or conditions that may predispose to or transmit infectious or contagious diseases to the community.

*Health* is that condition of the body in which all the various functions of the body are performed normally, and without the manifestation of discomfort in any of its operations. *Disease*, on the other hand, implies the imperfect performance of one or more of the bodily functions because of the impaired structure of the corresponding organ or organs, and the subsequent manifestation of discomfort, either in the part directly affected or in the body generally.

Perhaps it would enable us to grasp the problem of public hygiene in China to-day, if we were to glance for a moment, very briefly, at the *Development of Hygiene*. Modern hygiene has been gradually evolved out of the observations and discoveries of men prominent in philanthropic work, in medicine, and in science. Among the important observations and discoveries made during the eighteenth century which have been instrumental in the development of hygiene, may be mentioned the discovery of Sir George Baker with regard to lead poisoning by drinking liquids stored in leaden vessels, the observations of John Howard with regard to the baneful influence of foul air and overcrowding and unhealthfulness of surroundings upon the health of the inhabitants, and their relation to typhus fever; the demonstration of Captain Cook that scurvy was a preventable disease which was due to the nature of the diet; the discovery of Sir Edward Jenner of inoculation as a preventative of small-pox; the labors of Dr. E. A. Parkes in demonstrating the evil effects of defective drainage and the accumulation of filth upon the public health; the studies of Dr. H. I. Bowditch, of Boston, and those of Dr. George Buchanan, of London, upon the influence of dampness of the soil upon the prevalence of tuberculosis; the studies of Louis Pasteur upon the relation of micro-organisms to disease; the studies of Sir Joseph Lister with regard to the prevention of suppuration in wounds, which studies have been the starting point of modern antiseptic surgery; the work of Von Pettenkofer in introducing new methods of chemical research upon air, water and food; and the discoveries of Dr. Robert Koch, and of Professor Erlich, of Berlin, of the specific micro-organism of some of the infectious diseases, and in perfecting methods of bacteriological research.

**WHAT HAS CHINA CONTRIBUTED TOWARD THESE GOOD WORKS?**

This brief retrospect of the development of hygiene will help us more easily to ascertain the present-day problems in China, from the view-point of sanitation, if we ask ourselves: what part China has-
taken in these epoch-making studies and discoveries, and what is the attitude of her medical men and her public toward such departments of public hygiene as drainage, disposal of garbage, vaccination against small-pox, quarantine against infectious diseases, cleanliness of streets, etc.? If we are frank and honest, we must answer that China's old-school medical men have not contributed their share toward this useful and beneficent branch of science. Not only have they not contributed toward this work, but they have not brought to the Chinese people the fruits of these labors and discoveries. And, therefore, the present-day problems before you, young men of China, from the view-point of public hygiene, is how to educate young people that they may not only see and appreciate what their fellow-men, in various parts of the world, have done in the study and investigation of the diseases of man and the conditions influencing the spread thereof, but that, eventually, they also will feel that they must contribute men who will add to the world's knowledge in this branch of science and philanthropy.

Now, I think, we shall get a more comprehensive outlook of the work before us if we take our general subject, public hygiene, and sub-divide it into several departments relating to the scope of its application, as: general, municipal, military, navy, school, and industrial hygiene.

General Hygiene takes cognizance of factors which affect the general public, such as nuisances of different kinds: Foul odors, noxious gases or dust evolved in certain manufacturing processes, smoke, and loud noises. Nuisances are generally such conditions as will aggravate existing diseases rather than produce disease.

Municipal Hygiene has reference to those conditions which affect the general health of a community that fall directly under the control of municipal governments, such as the influence of impure water-supplies and imperfect drainage upon the general health, the influence of overcrowding in the habitations of the poor, the cleansing of city streets and the removal and satisfactory disposal of refuse matter, the regulation and the care of those afflicted with infectious diseases, and the proper disposal of the dead.

Military Hygiene: The health and efficiency of an army are dependent upon the physical condition of the soldier and the hygienic condition of his environment, the nature of his food supply, the nature of his clothing and the nature and extent of his physical condition. The Recruit.—It is evident that the health and the efficiency of an army rest fundamentally upon the physical condition of the recruit.
and consequently great care should be taken in the selection of individuals for enlistment. The physical condition and endurance of the recruit are influenced directly by his age, height, weight, and general physical development. In order to increase endurance, as well as to add to his general usefulness as a soldier, the recruit must be subjected to thorough physical training. Physical training, if conducted systematically, will greatly increase the endurance of the soldier. Without this preliminary physical training most men will succumb to the arduous duties of active warfare. The recruit should be instructed also in swimming, not only because it is a most useful physical training, but also because it is an acquirement that may be of greatest service in his calling. The regulation of the Soldiers' Food is most important, for if not properly cooked and free from fermentative and putrefactive changes, it may not only render the army unfit for work, but may even cause the death of as many soldiers as actual warfare. The nature of the food will depend upon the climate and location of the army. Other important matters for the decision of the Sanitary Officer are the Clothing of the Soldier, Location of the Camp, as regards water-supply, drainage, and garbage disposal. Foot Inspection.—In the German army the feet of the soldiers are carefully examined by a medical officer at least twice a week in barracks, and oftener in active field work. And finally Body Inspection. The entire body of every man in the German army is examined by a company officer and a medical officer, careful search being made for heart disease, hernia, venereal disease, skin disease, etc.

Naval Hygiene.—The term Naval Hygiene usually includes all that relates to maritime life, whether relating to war or to commerce. Though there have been important advancements in the construction and arrangements of vessels, it is a difficult matter to supply pure air in sufficient quantities, because with the advancement in equipment there has been no relative increase of the air space available for each person. The vessel should be as large as possible with reference to the purpose for which it is built, the arrangement of machinery and cargo should be such as to economize the use of space, and the size and location of cabins should be regulated so as to afford a maximum amount of space for each person. Proper ventilation of ships is a most important duty of the officer of public hygiene. In modern vessels propelled by steam, the introduction of forced ventilation by means of fans or steam jets is a comparatively easy matter. Other matters coming up for his supervision are Heating and Lighting of the Vessel, Cleansing the Vessel, Water-supply, great care should be exercised
in taking on board a supply of pure and wholesome water. Food-supply.—The diet should be regulated so as to avoid undue monotony. Besides guarding against the use of improper proportions of certain food elements at all times, it is necessary to adapt the food to the climate, as well as the nature of the work done by the men. Clothing.—The clothing of marines should be adapted to the climate of the locality and to the season of the year. The Selection of Marines.—In the selection of men for the navy the same careful physical examination is necessary as in the selection of recruits for the army. This physical examination is directed to the determination of the age, height, weight, chest measurement, sight, and hearing of the applicant.

Personally, I believe, that there is a less expensive and more rational way of settling international disputes than by the old, and barbarous method of slaughter and war, and I could pray for nothing with more depth of feeling than that China should lead both East and West in creating a public sentiment that would demand that international questions should be decided by more peaceful means than the slaughter, rapine, misery, and waste of life and property that has been far too often used by the so-called “Christian” and civilized nations in the past! But if China is going to create a large army and navy it is essential that the men that compose them shall be physically strong and healthy, for that is the foundation of all war—the strong and well organized conquer. So you see, young men, how important, how fundamental it is that China shall raise up a strong, well organized corps of men, who will be leaders in Public Hygiene, if for no other purpose than for her future army and navy. This is one of the present-day problems before you.

Even more important, to my mind, than the last two sub-divisions of Public Hygiene, probably because I am a firm believer in peace and arbitration, are the following two sub-divisions: School Hygiene and Industrial Hygiene.

School Hygiene.—A large proportion of the ill-health of a community is found in children of school age. In school architecture a question of primary importance the consideration of which is frequently neglected, is that with regard to the nature of the soil and its drainage. Satisfactory sanitary arrangements can rarely be secured in any building unless the size of the building is carefully selected with regard to the drainage of the soil. The amount of slope and the proximity of streams, also influence the character of the soil. Parkes states that the conditions which insure healthy habitation are:
1. A site that is dry and not malarious, and an aspect which gives light and cheerfulness.

2. A pure supply and proper removal of water, by means of which perfect cleanliness of all parts of the house can be secured.

3. A system of immediate and perfect sewage removal.

4. A system of ventilation which carries off all respiratory impurities.

5. A condition of house construction which insures perfect dryness of foundation, walls, and roof.

The Structure of Walls of Schools and Houses is of importance. The walls should be rendered impervious to moisture, and it is preferable, therefore, to have double walls with air spaces between the inner and the outer surface.

Cubic Space.—From calculations made it has been found that the amount of air required for each adult person per hour, in order to maintain a certain degree of purity in the atmosphere, is about eighty-five cubic meters. A law in the U. S. A. requires that each occupant of a school-room shall receive a quota of 850 liters of air per minute. The air of a school-room ought to be changed about once in three hours. Floor space.—Each child should have a floor space of at least 4.25 square meters. This amount of floor space, when the height of the room is 4 meters, will give each child a minimum cubic space of 17 cubic meters. The Lighting of School Buildings is a matter of very great importance. The windows should never be in front of the rooms, only at the side and rear. It is preferable to have them on the left side of the rooms, so as to have the light fall over the left shoulder of the pupil. As the sense of sight is the chief medium of education, it is hardly possible to overestimate the importance and necessity for carefully observing the proper management of light in school rooms. The Position of Blackboards.—The blackboards should be on the inner walls of the rooms, where the greatest amount of light will fall upon them, and they should be of a dull black color. The position of the blackboards and their frequent use for copying exercises, while the pupil is at its desk, requires rapid changes of accommodation of the eye, which is also a factor in producing defective eyesight. The Medical Inspector should also see that the books are printed with good clear large-size type.

Ventilation.—Needless to say this is one of the most important and far-reaching problems which the officer of public health has to deal with. As to the best method to introduce the requisite amount of air
into the school-room numerous systems of ventilation are in use, several of which have given satisfactory results. Water-supply and Sewage Disposal.—The building should have an abundant supply of pure water, so as to insure against diseases ordinarily carried by water, also to facilitate the maintaining of strict cleanliness among the children in the building. It is also necessary to devise some means for the disposal of the sewage, in the absence of a system of sewers. Water-closets. Where there are no sewers, closets should be used, but these should discharge into specially constructed tanks, so that the sewage may be disposed of in a sanitary manner. There should be no connection of any kind between the class-room and water-closets. The best urinal is of slate, with the dry earth system. These water-closets of schools should all be provided with sinks, so as to facilitate maintaining a proper degree of cleanliness of hands and persons of pupils. The expense of soap and towels to the community is small compared with the detriment occasioned by permitting children to come in contact with each other, when some of them are not as clean as they should be.

Medical Inspection of Schools.—Both in Europe and in America nearly every school now has a regular public health officer, known as the Medical Inspector. It is his duty to investigate the purity of the air in each class-room and regulate the number of children in each room. He should analyze the drinking water used in the schools and endeavor to procure healthful drinking water. With regard to health of the pupils, it is the duty of the school physician to examine all new pupils on entering school. He should examine each new pupil to determine whether it is suffering from any infectious disease, especially tuberculosis. He should examine the eyes and ears, and determine the degree of vision and hearing power. The objects to be attained by the systematic daily medical inspection of schools are: 1. The early detection of any cases of communicable diseases among the pupils and their prompt exclusion from school. 2. The discovery of children suffering from non-communicable diseases or physical defects which hinder their proper advancement in their studies, such as defects in vision or hearing. 3. To note the growth or development of school children.

Industrial Hygiene: The influence of occupation on the health of the laborer is a subject of the greatest hygienic importance. Certain occupations are far more dangerous than others because of the liability to accident; some occupations are more dangerous than others because of poisonous fumes and gases that are given off in certain manufac-
turing processes; again, other occupations are dangerous to health because of the various kinds of dusts that are produced, thus causing irritation of the respiratory organs. Analyses of deaths occurring in the different occupations have given us a knowledge of the relative degree of danger from different forms of industrial pursuits. Dr. Ogle classes the causes of high death rate under seven general headings:

1. Working in a cramped or constrained attitude, and especially in such attitudes as cramps the chest and interferes with the action of the heart and lungs.
2. Exposure to the action of special poisonous or irritating substances, such as phosphorous, mercury, lead, etc.
3. Excessive work, mental or physical.
4. Working in confined spaces, and in foul and overheated air. This is probably, in the aggregate, one of the most destructive agencies in operation, because of the very large number of trades that are exposed to it.
5. Excessive use of alcoholic beverages.
6. Liability to fatal accident.
7. Exposure to inhalation of dust.

Lighting of Industrial Establishments: Hygiene makes the following demands on lighting technique.

1. The quantity of light falling upon each work-place, as well as the brightness of the surface, must be sufficiently great.
2. The pollution of the air by the product of combustion of illuminating material must be as low as possible.
3. The heating effect of the source of light must be as low as possible.
4. The heat-rays of the source of light must not produce any discomfort.
5. Sources of light that possess a high reflecting power must be shaded from the eyes.
6. Flickering of the source of light is to be prevented in the illuminating of rooms.
7. The dangers—poisoning, explosion, fire, electric shock—to which the public is exposed, shall be as small as possible.
8. Of not less importance, and for certain rooms (especially school rooms) of more importance than the supplying of as large a quantity of light as possible, are the uniform distribution of the light and the reduction of the shadow-production.

I have now, very briefly and very superficially, taken you over some parts of the field of human activity in the domain of Public Hygiene. I have tried to show you some of the questions that are continually coming up before the medical men, in this line of their profession, in Europe and America, and I have given you some of the conclusions that they have arrived at, and some of the methods they are using. If you will thoughtfully and impartially contrast these ideas and methods with the situation here in China you will find what are some of the present-day problems before you, as the coming leaders of your people. You will see what a grand, what a useful field lies before some of you, perhaps. The field and opportunities are great
enough to occupy the greatest minds among you, and the results will be commensurate to the energy and enthusiasm which you expend.

You will soon have, in this empire, a great system of railroads, which will demand a large corps of leaders in Public Hygiene, who must draw up rules and regulations governing questions of Industrial Hygiene, quarantine methods, etc. Your new public school-system is going to demand a large number of Medical Inspectors, who will have to face all those problems which are before their fellow-colleagues in the West. Your large cities are already installing large public water-supply systems and sewage systems, and these are bringing to you immense problems, which only men trained in the technic of Public Hygiene can solve correctly.

But I am one of those who have faith enough to believe that this great empire will not only solve these problems as well as they are being solved in the West, but also, I believe, that she will contribute men who will bring new light and new blessings to humanity at large.

It has been said that it was plague that put an end to serfdom in England, by producing a scarcity of farm laborers. It was plague that reduced the power of the monasteries, and so paved the way for the revolution. It was an aid even to English literature, inasmuch as it nearly exterminated the classes that spoke French and Latin, and called into activity a new body of educationists who spoke only English. The plague may be said to be the father of Hygiene, for not even the terrors of small-pox was so great a stimulus to cleanliness as the plague. Who shall say what the "great calamity" that came to North China last winter, in the form of the plague, was not, in reality, a great blessing in disguise? Nothing short of if, probably, could have so vividly brought to those in authority in China, nor have helped the masses to understand, the great advantages that are to be derived from modern hygienic methods. Nothing short of it could have given to such leaders among you as Dr. Wu Lien-teh, the position and the influence which he so richly deserves. With such well-equipped men, such self-denying men, as Dr. Wu showed himself to be, I, for one, do not fear but that China will solve these immense present-day problems both with credit and advantage to her own people, and will also make new contributions to the welfare and happiness of the whole world.
It is said that malaria was a potent factor in the downfall of Greece and Rome. We are told that the literature on this subject dates back more than two thousand years. For the few minutes at our disposal, we will consider recent literature mainly, and that of necessity more or less superficially.

"Malaria fever is perhaps the most important of human diseases. Though it is not often directly fatal, its wide prevalence in almost all warm climates produces in the aggregate an enormous amount of sickness and mortality. In India alone the average annual death rate from malaria is one million one hundred and thirty thousand persons. This is more than the mortality of plague at its height, or of cholera and dysentery combined.

The total amount of sickness due to it is incalculable, but may be put by a rough estimate at between one-fourth and one-half the total sickness in many of the tropical countries. Malaria is the great enemy of the explorer, the missionary, the planter, the farmer, the soldier, the administrator, the villager, and the poor; and has, I believe, profoundly modified the world's history by tending to render the whole of the tropics comparatively unsuitable for the full development of civilisation." (Ross.)

"Malaria has been one of civilisation's greatest foes, both in time of war and peace. Where shot and shell have slain their thousands, malaria has slain its tens of thousands. Malaria is the chieftain of the army of disease." (Deaderick.)

"Europeans in the tropics suffer severely from malaria in one or other form, and the presence or absence of malaria in a place is decisive as to whether the climate is unhealthy or not. This disease therefore lays claim to our most particular attention." (Shebb—Diseases of Warm Climates.)

"Diseases of China" has the following introduction on malaria:—

"Malaria is a subject the literature of which might now fill libraries; it is pre-eminently the disease in which patient scientific research has been rewarded by such exact knowledge of aetiology, prophylaxis, course and treatment, as we possess of few other ailments. So completely has malaria been dealt with in every text book of tropical medicine that we should have felt inclined to omit it from a work of this nature, were it not for the fact that malaria still remains the
commonest of all diseases in China and the most serious cause of invalidism among Europeans in the East. We consider that this latter fact is little short of a scandal, and we are very sorry to have to acknowledge that of all the foreigners in China, the missionary body is the most to blame for this state of things. That this is through ignorance we gladly allow, but there is a time when ignorance becomes culpable, and we are already long past that time."

These quotations serve to show the present day attitude toward this subject. Manson defines malaria as a "morbid condition produced by certain protozoal parasites belonging to the class sporozoa, whose definitive host is the mosquito, and whose intermediate host is man, and possibly other vertebrates. In man these parasites inhabit the red blood corpuscles, giving rise to fever—usually of a periodic character, anemia, enlargement of the spleen, and the deposit of a black pigment in the viscera and elsewhere. Some of their phases are amenable to quinine."

You are all well acquainted with the clinical and microscopical pictures, but for the refreshment of our memories we will review somewhat. Malaria is caused by being infected from the bite of an infected mosquito. This mosquito belongs to the genus Anopheles. The distinguishing points in this mosquito from his fellows, according to Stephens and Christophers, briefly are:—1st. The relative length of the palps and probosis. 2nd. As a rule, the wings are spotted, but not always. 3rd. The probosis continues on in the line of the body, the result of which is to give the mosquito a peculiar and very characteristic awl-like appearance. 4th. When resting upon a wall, its body projects so as to form a distinct angle with the wall. 5th. It rests by preference on the first two pairs of legs only, and keeps the last pair stretched and stiff and straight, or they slowly oscillate to and fro. The eggs are deposited in the grassy or weedy edges of clear water courses preferably, but may select broken crockery, utensils of any kind containing water, and even sea water. The larvae lie near the surface of the water and in line with surface plane.

The germ then having entered the blood stream, enters the red blood corpuscle, where it grows and multiplies at the expense of the corpuscle, forming from seven to twenty-five spores in each corpuscle, according to the variety of the parasite. These spores being fully developed, the corpuscle is ruptured, setting free these spores in the blood stream, when each individual seeks to enter a red blood cell. The chill occurs with the rupture of the corpuscle and the setting free of the spores.
Three distinct varieties of parasites are recognized:—1st. Benign-tertian, or Tertian. Length of cycle forty-eight hours, number of spores, fifteen to twenty-five, very active movement of parasite in corpuscle; sporulation common in circulating blood, abundant in spleen, pigment yellowish-brown fine granules, corpuscles swollen and pale, and stain shows Schuffner's dots. Gamete is rounded body. 2nd. Quartan or Benign-quartan. Length of cycle seventy-two hours, spores eight to twelve, movement is usually sluggish, sporulation is in circulating blood, pigment black coarse granules, corpuscle becomes smaller and darker, gamete is rounded body. 3rd. Malignant-tertian or Sub-tertian. Length of cycle variable and difficult to determine, about thirty-four to forty-eight hours, number of spores varies seven to twenty, very active movement, sporulation is in the internal organs, rarely circulation blood, pigment at first fine and black, but masses earlier than in the others, corpuscle at first little changed; later decolorized, gamete is a crescent. (Daniels.)

The first and second are more or less constant in their behavior, the organisms developing at the same time. The third division is very different in many respects, the development of the organism taking place at different stages, of which more shall be said later. There are two cycles. 1st. Developmental cycle in man. The malarial organism enter the erythrocyte, developing at the expense of the corpuscle; at first it is a hyaline ameboid body within the substance of the corpuscle. It increases in size and derives fine pigment granules from the hemoglobin of its host, which is destroyed at the time of its full maturity. Full development of the parasite being reached, it divides into a number of segments, which, by the rupture of the blood cells, are set free to enter afresh unininvaded erythrocytes, and there to initiate a new developmental cycle of similar characteristics. 2nd. Developmental cycle in the mosquito:—In the blood of man, certain of the parasites do not undergo segmentation, constitute sexual forms of the organism, known as gametes, which, after having been imbibed by the mosquito while biting a malarial individual, develop into impregnated bodies by reason of the fecundation of the female sexual elements, or macro gametes, by the free flagella, or microgametes, which have become detached from the male sexual elements, or microgametocytes, which, having penetrated the muscular wall of the mosquito's stomach, lodge and become encysted in this situation, and are now known as Zygotes. From the latter are derived large numbers of delicate spindle-shaped cells, or sporoblasts, which, by the rupture of the Zygotes capsule, are set free, and as sporozoids
make their way into the salivary gland of their host, whence they pass by way of the salivary duct into the probosis of the insect and consequently into the blood of the individual of the infected mosquito. (Da Costa.) The gamete is also the resting phase of the parasite, and is not affected by quinine. The cycle in man is asexual, and may last for two or three years. In other words, an untreated case of malaria will tend to self-extinction in from two to three years providing no reinfection has taken place. The cycle in the mosquito requires about ten days. In other words, a mosquito requires ten days after biting an infected person until she is capable of infecting. This cycle is the sexual one, and its purpose is to rejuvenate. (Manson.)

To return to the varieties of the parasite. The second, the Quar-ton, is said not to occur in this part of China. The first is so readily recognized we will not stop to consider it. The third is the one likely to give us trouble. Let us bear in mind some of its characteristics: lack of harmony in time of sporulation, and its adhering to the walls of the capillaries of the internal viscera with consequent tendency to block the capillaries. Selective site of capillary stasis is the brain. Daniels says, "Stasis occurring in the capillaries of the intestinal mucosa impairs the vitality of the cells and renders them liable to be invaded by some of the bacterial contents of the alimentary tract. Secondary inflammation and superficial necrosis may result, causing fatal enteritis. This throws light on some of our alimentary troubles. The symptoms in our part of the country are headache, backache, vertigo, bone ache, and intestinal trouble in the milder forms. Manson groups the symptoms roughly into cerebral—including the hyperpyrexial, comatose, convulsive, and paretic forms—and algid, including the symcopal, choleraiform, dysenteric, and hemoglobinuric forms."

When a person is once infected with malaria he is subject to malarial outbreaks for months or even years afterward. When the acute clinical symptoms subside, the malaria parasite may disappear from the general circulation. This it does either spontaneously, or as a result of the administration of quinine. Usually, after an interval of weeks or months, the parasite reappears in the general circulation and there is a renewal of the clinical phenomena. As to the organ or tissue it selects, or as to its appearance and structure during this time of latency, or as to the exact conditions which cause it once more to resume active propagating, circulating life, nothing is positively known. It is known, however, that physiological strain or vital de-
pression in the host tends to bring about conditions which break up, and quinine and vital vigor tend to bring about conditions favoring latency." (Manson.) Ross gives twelve determining factors of relapse in which he says all observers agree. 1st. Absence of good food and health. 2nd. Gastro-intestinal troubles. 3rd. Fatigue. 4th. Traumatism. 5th. Sudden chills, damp and wetting. 6th. Change of climate. 7th. Certain foods and medicines (?) due to intestinal disturbances. 8th. Intercurrent sicknesses. He himself adds: First: anxiety, sorrow, shock or fright. Second: alcoholic and other excess. Third: sudden exposure to a tropical sun. Fourth: premature cessation of quinine. The puerperal state is also prone to stubborn outbreaks of malaria. Sir Patrick Manson says that small doses of quinine may sometimes cause an outbreak, which may also be said of a course of mineral waters, of hydropathic treatment, and of sea bathing.

Such then are the cause and some of the peculiarities of malaria. In diagnosing malaria it is necessary to take the clinical and microscopic findings. By the use of the microscope we will become more confident in and more apt at interpreting our clinical symptoms. Ross says that an average man contains about three million cu. mm. of blood, and that one-fourth hour is require to examine one-fiftieth of a cu. mm. under the microscope. Which would teach us that the germs may be present in the blood and we not find them. Ross remarks that we know the cause of malaria and the manner in which it is spread. We know a specific cure for it and several efficient methods of prevention. That malaria can be completely extirpated in a locality by the complete adoption of any one of the three great preventative measures, namely, protection, mosquito reduction, and treatment. Prophylaxis gives excellent results. Careful attention to personal habits in work, exercise, rest, sleep, food, drink, clothing, must be given. Clothing must be dry. Woolen or silk should be worn as a protection to the abdomen, which is especially susceptible to chill. Quinine in prophylactic doses. Screening of dwellings, schools, and hospitals. All water under control, within two hundred yards of village. Vegetation kept short, trees not allowed to shade so that the sun is kept most of the time from shining on any part. All water must be drained, oiled, or screened. Fish are of some value for ponds, but are not reliable in all cases. Houses must be dry, and sites well drained. Segregation is strongly advocated for the reason that native children are constant sources of infection. No water should be allowed to stand ten days unprotected.
Quinine is the only drug that seems to be constantly reliable as a cure, and is given in prophylactic doses and therapeutic doses. Its manner of destroying the germ is not known. Some think it acts as a poison, or by stimulating phagocytosis, and others say by increasing fluorescence of the blood. The "Present Position of the Quinine Prophylaxis of Malaria" is the title of a paper read by Dr. Carnegie Brown on the 19th of May last from which we quote: "The best results in prophylaxis were obtained by keeping up a percentage of quinine in the blood. A readily soluble salt for a rapid and concentrated germicidal effect. For prophylactic use, a slower solubility was more desirable. German physicians generally prescribe large doses while American, English, French, and Italian authorities agree that the best prophylactic results were obtained by small daily doses. Carter of Panama Commission states that in the Canal Zone the evidence in favor of quinine as a prophylactic was overwhelming, and that they gave from three to six grains daily. He concludes in part by saying: 1st. Quinine prophylaxis was now fully accepted as an auxiliary of the greatest importance in the prevention of malaria. 2nd. The most suitable salts for purposes of prophylaxis were the sulphate, tanate, and nucleinate, in daily doses of from three to five grains for adults, and for children one grain daily of tanate for every three years of age. Some lay stress on giving quinine in an agreeable form. When the prophylactic dose fails, increase to therapeutic dose. A cathartic is necessary to the success of quinine.

The lesson then is that malaria is preventable. The methods in order of importance as reported from Panama are: 1st. Drainage. 2nd. Brush and grass cutting. 3rd. Oiling. 4th. Use of Larvicide. 5th. Prophylactic quinine. 6th. Screening. 7th. Killing mosquitoes in quarters."

"The work done in Ismallia, Havana, and Panama demonstrates that malaria can be banished from the worst places in the tropics." Incidentally the fly is gotten rid of also, thus controlling two of man's worst enemies.

You will notice that malaria is a broad subject and that a mere outline has been given, time and space forbidding amplification. By this outline, imperfect though it be, it is hoped that we may be stimulated to thought and to action. Let us first begin at home in our own mission fields. If by applying a few of these simple rules we increase the health, comfort, and efficiency of ourselves and fellow-workers, are we not doing good? Will we be held blameless if we do not try to accomplish these things? Under average circumstances,
what then can we do? First, advocate screening for dwellings, control all water on compound, and also vegetation. Second, prophylactic quinine medication. These are not beyond doing, and let us remember that malaria will disappear with good sanitation, and again that malaria is preventable.

SCHISTOSOMIASIS (JAP.), AND SO-CALLED URTICARIAL FEVER.—THEIR IDENTITY.

ALEXANDER C. LAMBERT, M.D., C.M., KIUKIANG.

In March 1910 I published in the Transactions of the Society of Tropical Medicine, London, a series of cases presenting certain peculiar symptoms and occurring amongst foreigners residing in the Yangtse ports.

The same disease was also mentioned in the Report of the Custom’s Surgeon at Kiukiang, published in the CHINA MEDICAL JOURNAL for September, 1910. In the same JOURNAL for March 1911, Dr. Logan publishes very full and interesting notes on “Schistosomum Japonicum Infection in an American Child,” and at the close of the article says, “There is a probability that the disease described by Lambert, of Kiukiang, may be incipient schistosomiasis.”

Recent investigations upon one of my old cases described as Urticarial Fever have resulted in the discovery in the stools of the eggs of Schistosomum Japonicum, and from the evidence brought by this case and those of other investigators I have no hesitation in saying that I believe the disease described under the various names of Urticarial Fever, River Fever, Yangtse Fever, etc., is, in the vast majority of instances, incipient Schistosomiasis. As the notes of this case may be of interest they are as follows:

A foreigner aged forty-two, keen sportsman, amateur jockey and athlete, a teetotaller, and inclined to early rising, fond of bathing in the river, used to go out snipe shooting in the autumn before breakfast, and when heated would bathe in the ponds. On November 11th, 1909, he complained of not feeling very well. Had cold in the head and cough. Was given aspirin and stayed in the house that day. Next day felt better and went to the office. Felt seedy night of 12th, and took temperature, which was 102. Stayed in bed next day and was seen about 10:00 a.m., when temperature normal. Previous health had always been good; no history of phthisis, dysentery, or liver disorders; had had malaria three years previously, but since that time had not lived in a malarial district. Had come to Kiukiang from Shanghai four months previously, and had enjoyed the best of health during the hot weather. Temperature, evening of November 13th, 101; pulse, 80; pains in back and limbs and along course of intercostal nerves. Some cough present, with scanty expectoration. Percussion showed
slight impairment of resonance over left base; auscultation, fine crepitant râles on
depth inspiration, breath sounds also diminished in intensity over same area. Was
given a purge and aspirin. Temperature normal morning 14th, but rose to
100.8 at night. November 15th, morning temperature 98; evening temperature
100, pulse 82. On the afternoon of November 16th, the first urticarial wheals
made their appearance on the body and legs. They were accompanied by
a good deal of itching, remained out in one situation two or three hours and
failed in large rings. Cough still troublesome. Was given an expectorant mixt­
ure and mag. sulph. in small doses every two hours. These medicines had very
little effect on the rash, which continued to appear until the 20th. Salol grs. 5,
with quinine grs. 5, was then substituted for the salines. No rash appeared on
the 22nd nor on any of the subsequent days. During all this time the patient's
appetite was poor, his tongue thickly coated with yellowish fur, his bowels acted
only after purgatives or enemas had been given, his temper was irritable, and
he had little inclination to read or otherwise occupy his time in bed. His morn­
ing temperature was always normal. At night it reached his highest point about
7:00 o'clock, and commenced to fall shortly after, reaching the normal again
the following morning about 8. Defervescence always accompanied by
more or less sweating. There was slight cough, which released scanty tenacious
mucus, in which a multitude of organisms were present, but none which gave
promise of being the cause of the illness. No cultivations were made. Areas of
dullness, which varied from day to day, were discoverable on examination of the
lungs. These dull areas could be prophesied as being about to be formed by
hearing some hours before a fine crepitant râle like that preceding the first stage
of pneumonia. In no instance was there any pain of a pleuritic nature complained
of, though a tightness on taking a deep breath was sometimes noticed.

As there was no improvement in the condition after several days, Dr. Barrie,
of Kuling, was called in consultation. It was decided that as the case might
quite possibly be one of incipient tuberculosis, to try mountain air and out-door
treatment. No T. B. had as yet been found in the sputum after several examin­
ations. Blood showed nothing except an eosinophilia.

The patient spent a month at an altitude of 4,000 feet, and returned at the
end of that time with all traces of illness vanished except for the loss of weight
and some impairment in the distinctness of the respiratory murmur over the
extreme right base. During the time he spent in the hills, he was subjected by
Dr. Barrie to tests with tuberculin, and for Calmette’s reaction. These were in­
varily negative, as was also Widal’s reaction. Thoracacentesis was twice re­
sorted to, in the expectation of finding fluid, but with negative results. Blood
examination in Dr. Barrie’s hands failed to show the presence of any parasites,
but the eosinophilia had increased to forty per cent., the highest in any of our
cases. Fæces and urine showed nothing to be considered abnormal. Quinine
was found to be the best drug to combat the persistent evening rise in temper­
ature, and after its steady employment the temperature soon fell to normal, and
remained there with only one slight relapse.

There was in the previous history of this case abundant evidence to show that
the patient had frequently allowed the muddy water of ponds and creeks to come
in direct and more or less prolonged contact with his unprotected skin.

The further history of this case has been uneventful. The patient
has enjoyed very good health, has had no more attacks of fever, has
not been absent from duty during the whole period, and has been able to
take up his shooting and riding again. At the same time it must be said
that he has never regained his full weight, and for several months after his
original illness was listless, subject to fits of depression and irritability.
I have always had a desire to examine his stool for eggs of *Schistosomum Japonicum* but for several reasons connected with the case it was deemed unadvisable to arouse any suspicions in the patient's mind, particularly as he was presenting no symptoms. However, a recent slight ailment caused the patient to send for me and I was able to examine a freshly passed stool without exciting his suspicions that the examination had anything to do with his previous illness. The stool was quite normal in appearance but on the top was the well-known streak of blood-stained mucus, which under the microscope showed the typical eggs from which later hatched out the embryos of *Schistosomum Japonicum*. An interesting feature of this case is that at no time were there any dysenteric symptoms whatsoever. I am quite certain in my mind that the original fever in the autumn of 1909 was caused by the entrance into the system of the embryos, in some form or other, of *Schistosomum Japonicum* and I would venture to make the following combination of events and symptoms the criteria by which a case of incipient schistosomiasis may be recognised, before ever the eggs appear in the stools.

1. History of bathing or wading in shallow lakes, ponds or rivers, etc., in the vicinity of the Yangtse River, followed, if only one prolonged contact with infected water has been made, by

2. An incubation period of 10 to 15 days.

3. Then commences the fever, usually in the form of an evening rise to 100 to 102 or higher, followed by profuse sweating and a gradual return to normal or nearly normal in the morning. Then follows a short apyrexial interval of two to four hours, when the temperature again commences to rise. Drugs have very little influence upon the fever. Quinine and other antipyretics will in some instances reduce its height, but the evening rise still continues. The higher the temperature the more severe the infection.

4. Blood examination shows from the commencement of the attack a marked and increasing eosinophilia, reaching to as high as sixty per cent. in some cases. The polymorphonuclears are reduced in proportion as the eosinophiles are increased. There is a moderate increase of the mononuclears up to ten per cent. to twelve per cent. There is at first a leucocytosis which is later followed by a leucopenia. As the case progresses a moderate degree of anaemia sets in, but this is never very marked. In fact in the milder type of case it is surprising how well the patient looks, though he may lose weight fairly rapidly.

Other symptoms vary considerably, particularly is this the case with the skin eruption. When present this is usually of an urticarial
type. The wheals may be large or small, few or many, readily diagnosed, or difficult to distinguish from mosquito bites. It may persist for long after the fever has subsided, or it may last but a few days. No reliability can be placed on this symptom in diagnosis. The presence of gastric symptoms is not a constant one. In practically every case there is a particularly heavily furred tongue, cream yellow with red edges, and flabby appearance.

Dysenteric symptoms are sometimes marked and distressing, again may be entirely absent, the patient suffering from constipation. Eggs of Schistomum Japonicum have been found in the bloody mucus of the stools in this acute febrile stage, but whether these cases had been previously infected and whether in the febrile attack caused by a first infection eggs are present in the fæces there is not sufficient evidence yet to show. Anyhow, their absence in a case of fever of this kind should not be taken as negative of Sch. Jap. The spleen is, I believe, always sufficiently enlarged to be palpable. Another frequent symptom is a feeling of weight and discomfort in the region of the liver, which may be slightly enlarged. I have not found very marked increase of the knee-jerks in those cases in which I have examined for this sign, but it may be a later one, or present only in heavy infections.

The three signs upon which I should base a diagnosis of Incipient Schistosomiasis are (1) a history of bathing or wading in likely to be contaminated water, (2) a remittent fever with no parasites in the blood or other definite symptoms to account for it; and, most important of all when taken in conjunction with the other two, (3) marked and increasing eosinophilia. The presence of the typical eggs in the stool would clinch the diagnosis.

The question naturally arises as to what prognosis we can give our foreign patients. It is so obviously difficult to give a good one to the Chinese farmer who is continually re-infecting himself, but with a foreigner who has possibly exposed himself but once or twice to infection, I think that the prognosis is good. We know so little of the life history of the Schistosomum Japonicum that it is difficult to say how long the worm may live in the blood vessels of its host—probably its life is not a very long one. Given a small infection and an otherwise healthy subject it is probable that the disease will die out of itself in the course of a few years, and if the mucous membrane of the bowel is not very extensively damaged the passage of a little egg-containing mucus surely cannot be very harmful. Writers in this Journal have mentioned cases amongst the Chinese which have been under observation for years enjoying good health. With the severe
infections we should be guarded in our prognosis, as apart from the disease itself intercurrent disease may prove fatal in a constitution undermined by the excessive drain. Logan's case must have been many times re-infected, as the patient was continually bathing in dangerous water, so that its further history would be of great interest.

Treatment:—Now that it is pretty certain that given a certain series of symptoms in a patient who has run risks of infection, we are dealing with Incipient Schistosomiasis, treatment naturally lies in an endeavor to destroy the young worms before they can become adults capable of egg producing.

Until we know more of the manner of entrance of the worm into the body any treatment is bound to be empirical, though it may be that in the newer arsenicals we have, if used early, useful therapeutie weapons. When eggs have reached the interior of the bowel I believe there is great good to be found in occasional large doses of castor-oil, and continuous treatment for long periods with Fowler's Solution or other preparation of arsenie.

In the acute stages rational treatment is the only thing.

As the body becomes tolerant of the parasites the symptoms gradually disappear. A change of air is frequently beneficial.

Finally, my excuse for writing this article is partly to reply in the affirmative to Dr. Logan's question, and also through the medium of the Journal to acquaint those workers who have done me the honour of coupling my name with the disease described as Urticarial Fever that it is identical, in my opinion, with Schistosomiasis Fever, and the symptoms are caused by the entrance into the system of the Schistosomum Japonicum in some form at present unknown to us.

A FAMILY OF CRETINS.

By B. Scores Brown, M.B., Ningpo.

In a recent overland journey from Tsitsihar to Ayuin in the province of Hulunghsiang, we passed through a village in the Alin Mountains, at an altitude of about 1,800 feet, in which dwelt a family having three dwarfs, presumably cretins, amongst their number.

Two were 'men' about thirty-nine inches in height (unfortunately I did not possess a measuring tape) and one was a woman of about thirty-six inches. The men were aged fifty-three and forty-two respectively, and the woman thirty-five. Family History. Grand-parents and parents were all said to be perfectly normal in size. The relations of the
cretins were a brother and two sisters (one died age thirty-two), and the other cretin was a first cousin. No other relations were dwarfs, nor could we find any evidence of goitre in the family. The mother of the younger man and woman was living and quite normal in appearance.

Both male cretins were married and had children—the elder a grown up and married daughter of about five feet in height, and the younger a son and daughter both perfectly normal. This was what we were told, but it was significant that when I wished to examine the men, neither of them would strip further than the waist, even a bribe of five roubles being ineffectual. As cretins are usually sexually functionless, I strongly suspect that outside aid was called in to keep the family name alive. The woman was not even married, which is hardly to be wondered at, considering her size. These cretins were very intelligent, answering questions in a sharp decisive manner. Except for their stunted growth and wrinkled, shrivelled faces, no other abnormalities were noticeable, such as goitres, osseous tumours, bent legs, or large mouths mentioned in Taylors' medicine (p. 866). On the contrary, their heads were quite small and not out of proportion to the size of their bodies. In travelling over these regions, I did not notice a single case of goitre, although I was warned to look out for it. Other cases of cretinism are to be found, I am told, in Yunnan Province.

DESCRIPTION OF MISSION HOSPITAL, KWANGJU, KOREA.

By R. M. Wilson, M.D.

This brief report of our hospital plan is written with the view that it may be of some help to those planning mission hospitals in Korea and possibly elsewhere, and also that we may have suggestions from others.

The plan was drawn after three years study of conditions here and after visiting most of the doctors and medical plants of Korea, and then it was put into good building style by an architect, Mr. Arthur Thompson, who is the best authority I know on the construction of mission buildings and architectural work in Korea. It is simple, and compact, with no waste space, and as the walls all run through to the top floor it makes a very strong building and practically fire-proof, except for the floors and woodwork of the roof under tiles. There is
no need of a fire escape, as the stair-way and landings are of re-
inforced concrete and the basement floor the same.

We have two floors and full basement, and storage room in the
attic. In the basement we have furnace room, coal room, men's recep-
tion, women's reception, kitchen, and three native hot floor wards; also
laundry and a sort of outside waiting room, the end of hall cut off.
The reception rooms are fitted with two dozen lockers for patients'
clothes and shower baths for carrying away the surplus odors and crusts
which usually adhere to the sides of a bath tub. The bath rooms on
the two main floors are fitted with porcelain bath tubs, for further use
of the patients.

As the appropriation from the mission for the running of the hos-
pitals is usually scant, and the Koreans as well as the receipts are very
poor, it is necessary to economize in every way, so we have tried to
utilize all the heat of our expensive fuel and as much as possible
from the sun. This is done by placing practically all the wards on
the south side of the building. Then the heat of the laundry boiler
is utilized by the native floor of the woman's ward, that of the kitchen
to heat the floor of the men's ward, and the flue from the furnace will
be of iron and run up through two rooms before entering the brick
chimney. The remaining portion of the building is to be heated by
hot water with the Andrew's system, which has been tried in Korea
and proven quite satisfactory. These people are also putting in water-
works for the building, with tank in basement and compressed air
power, which system is no longer in the experimental stage, and will
give us water over all the building and dispensary.

On the first floor we have the Bible or reception room to right of
front hall, and to the left two offices for the doctor, a general and a
private one, and adjoining the private office a small laboratory which
is the end of the hall cut off. Then we have a ward and lavatory
for each the men and women, and a bath and operating room with
sterilizing room. It is quite a loss, the absence of skylight to operation
room, but feel that this sacrifice is far outweighed by having the
operating room convenient on the first floor where most of the work
will be done. With the three windows reaching to the ceiling on the
northern exposure all the light needed will come in, we feel. The
walls will be of washable enamel. Have not as yet decided on
what flooring to use for the operating room. Would like suggestions
on this point and also whether it is a mistake to have only one operat-
ing room. While there is an operating room in the dispensary, sepa-
rate building, for minor operations, it may prove later to be a mistake
to have only one operating room in the main building. The extra one could be added now by using the reception room and putting high windows.

On the second or top floor there are two 14x16 ft. southern wards and one 11x14 private ward, also nurses’ quarters of two rooms and closet, two baths, two lavatories, supply room and laboratory.

The native hot floors spoken of for the basement are simply flues under ground covered by flat stones and over this a coat of plaster and then over all a very heavy kind of thick oiled native paper, something like linoleum. I consider these floors, one or two to a hospital, most valuable for pneumonia and post-operative cases, for they are always hot and heat a patient from head to foot with a nice even temperature. Have had only one case of shock in our operative work here and feel quite confident that the saving of his life, as well as many others, was due to the hot floors. It is superior to hot water bottles for heating in that often the bottles are not prepared, or are too cool and get cold too fast. The floor remains hot all night and if my patient passes through, the anaesthetic I have no anxiety afterwards.

The appropriation for building and equipment is seven thousand dollars given by Mr. and Mrs. C. E. Graham. They have been so kind as to give an extra thousand for the heating and water plant. The water supply comes from a well about three hundred feet away.

The building is of gray brick and tiles which the Koreans make right here for us. The foundation is of gray granite, which with the native tile and gray brick makes a pretty building.

In the study of these plans I have found two good helps: first the book on the diseases of China which every medical missionary should have in his library; and second, that of the International Hospital Record which gives many good plans and suggestions for hospitals.

The location of the hospital is on a beautiful little hill, all to itself, just across the public road from the compound. The dispensary, which is a separate building, is about two hundred feet away. The plant is situated about two hundred yards from the doctor’s residence across the big road.

Just a word in conclusion along another line. This is no appeal for help, but most of the hospitals in mission fields receive too little financial support. Think of a hospital running on four hundred dollars a year, and that is the amount appropriated for many of the hospitals in Korea. If the expense runs over this they have to get it the best way possible. In Berlin they put four and a half million dollars into a hospital and if you were there and were sick you would
say it was not too much. In Manchester two and a half million, or the average cost per bed about the cost of the hospital above described. $4,500,000. is going into the erection of new hospitals in St. Louis at present. Money well spent! A Korean woman here works all day with a hoe for five cents; our usual charge at the dispensary is this amount. For an operation twenty-five to fifty cents, and many of them have not this amount. So it's too often a struggle of the doctor with the poor ignorant sick to make ends meet financially. We treat thousands of poor sufferers, many whose conditions are too horrible to describe. A poor sick prisoner was released yesterday and came into our little hospital, where he heard the Gospel and was administered to by kind hands. His prayer to God aloud this morning was that He would save his soul. Shortly after this he died. After waiting two long years for her only son his mother had one day of joy and one of great sorrow. He was buried a pauper.

The Korean Medical Missionary Association took action toward establishing some separate board or committee to work with the mother board at home, but for the medical work especially. Such a committee would be just the thing for our work, we think.

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OPENING OF THE UNION MEDICAL COLLEGE, TSINAN.

By Rev. William P. Chalfant.

Another important step in the development of the Shantung Christian University was marked by the formal opening, on April 17th, 1911, of the Union Medical College at Tsinan. Regular class work has, however, been in progress since March of last year.

The institution is located in the western part of the south suburb of Tsinan, where it has the double advantage of being in the quarter of the city where many of the better class of the people are settling, and of being at the same time adjacent to the dense populations of the south and west suburbs, which will furnish an ample supply of clinical material.

As many of your readers know, the Shantung Christian University originated in the agreement of the English Baptist and American Presbyterian Missions to unite for the purpose of higher education. Its Arts College is at present located at Weihsien, in connection with the American Presbyterian Mission, the Theological College being at Tsingschowfu, a station of the English Baptist Mission.
Group taken at Opening of Union Medical College. Toinan, Shantung, April, 1911.

H.R. Governor Sun Pao-chi in center.
Group of Twenty Students and Faculty, Union Medical College, Tsianan, Shantung.
Opening of the Union Medical College, Tsinan.

It may be added here that plans are on foot looking toward the consolidation of the three colleges of the University at some suitable site at Tsinan, and, moreover, that there are prospects that other Missions may join the union. Indeed, the Anglican Mission has had, for three years, a representative upon the staff of the Arts College at Weihsien.

The main building of the Medical College is an imposing three-story structure, the lower part of which is built of rough-finished limestone, and the upper part of gray brick. It contains the necessary class rooms and laboratories, including a sufficiently large operating amphitheater.

The all-too-limited funds available for equipment have been judiciously expended, but it is to be hoped that more will be forthcoming from some quarter, especially if the number of students should be increased. There are twenty-one at present under instruction.

In addition to the main building there is a free dispensary and hospital, where the students can get practical training. There are also dormitories for the students and teachers and a bungalow for visiting lecturers, besides two dwelling houses for foreign professors.

On the morning of Monday, April 17th, the visitors began to arrive. They included a goodly number of foreigners, missionary and non-missionary, and many Chinese friends, official or semi-official, among whom were representatives of the Foreign Bureau and H.E. Governor Sun Pao-chi himself. The writer counted thirty-seven sedan chairs, while chair-bearers, mounted retainers, bearers of red umbrellas, and policemen, were legion.

After an informal reception on the ground floor, in rooms hung with presentation banners, Chinese and foreigners mingling in most friendly intercourse, the guests were led on a visit of inspection through the buildings by Dr. James B. Neal, Dean of the Faculty, assisted by the other members of the teaching staff, Dr. Baron von Werthern, Dr. Chas. F. Johnson and Dr. William M. Schultz. At eleven o'clock all gathered in the Assembly Room upstairs, where Dr. Johnson, Chairman of the University Council, called upon Rev. Frank Harmon, of the English Baptist Mission, to explain to the guests the status and aim of the Medical College. In response to Mr. Harmon's well-chosen words the Governor arose and delivered an impressive address in which, fresh from his struggle with the plague, he expatiated on the debt which China owes to Western medical skill. He laid special emphasis on the value of hygienic knowledge, which has been impressed upon the official mind by recent events. He said that all were beginning to see that the same principle applies to the public health.
as applies to the Yellow River floods and the Central China famines—prevention is better than cure. His speech was warmly applauded.

After prayer by the Rev. J. Percy Bruce, M.A., President of the Theological College, and a few words by Dr. Neal, in appreciation of the services of those who have helped in planning and erecting the buildings, the whole party moved to adjoining rooms, where substantial refreshments were served. So ended an unusually enjoyable occasion.

The hearts of all concerned were made glad by the generous gift by the Governor of one thousand taels (gold $700, pounds sterling 140) to the new institution. Doubtless the money was given partly in recognition of the gratuitous services of the members of the college faculty in suppressing the plague, but the gift may none the less be taken as indicating a real interest in the success of the new Medical College.

On the 18th, the missionary ladies received the wives and daughters of the distinguished guests of the preceding day, and on the 19th, the premises were thrown open for the inspection of the Chinese Christians and the neighbors. Candor compels us to record that about the most interesting personage in this whole affair was a gruesome but exceedingly convincing manikin! The "Chia Jen", the "Make-believe Man", quite won the hearts of high and low.

What may be termed the festivities of the whole occasion were brought to a close by a reception and banquet tendered to the foreign residents and visitors by the Governor in recognition of the help rendered by the Tsingtau Government and by the Protestant and Roman Catholic Missions in dealing with the plague. To the accompaniment of music—and good music too—by the uniformed band, we ascended to the drawing room, sumptuous in appointments and blazing with electric light; we shook hands with the ruler of thirty millions of people and sat down to a banquet of Chinese dishes, served in conventional foreign style; we listened to the kind words of formal thanks by the Governor, but it was hard for some of us to keep in touch with reality. For us the brilliant scene had a tendency to fade away, and memories of twenty-five years gone by kept coming to the fore—memories of the days when some of us lived in Chinese houses, in the midst of this very city, when to step upon its streets was to run a gauntlet of more or less open insult, and when one would as soon have thought of getting audience with the Emperor as of speaking face to face with the Governor of Shantung. Verily "times have changed".

April 27th, 1911.
UNION MEDICAL COLLEGE, PEKING.

To those who are facing the problem of medical education in China, the time-table of the Union Medical College, Peking, may be of interest.

In addition to the five years of the regular medical course, we have been compelled by stern necessity to add a preparatory year to prepare students to pass our entrance examination. By means of this class we are also able to matriculate students who pass the entrance examination in all but one or two subjects, on condition that they satisfy the faculty in these subjects before sitting the first professional examination. We have twenty-five students in the preparatory class this year. The subjects are at present taught by senior students, but we hope next year to have Dr. Hill and Mr. Read in charge of physics and chemistry respectively.

Some teachers have taken two classes together, but it has been found far preferable to keep the different years separate whenever possible. Teachers from a distance sometimes take two classes together for a special subject, e.g., public health; so that the course need only be given once in two years.

For clinical classes we find that a class of six is the most convenient size, and the three senior years are divided accordingly. The third year attend the out-patient clinic in the afternoons and are divided into three divisions. One division attends the consulting-room and on two afternoons has a clinic on selected medical cases, another division does dressings in the surgery, and the third division do dispensing.

The fourth year is divided into two divisions, which have work in the surgical wards. One division has also medical clinics at out-patients, two afternoons a week. We intend next term to add a class in surgical pathology and section-cutting for the other division.

The senior year is divided into three divisions. One division works in the women's hospital, another in the surgical wards, and the third in the medical ward. At out-patients they have clinics in medicine, ear, nose, and throat, and eyes respectively. A class in medical pathology—blood-counting, examination of urines, faeces, etc., is to be added next term. Each division of a class takes the appointments allotted to that class in rotation.
### UNION MEDICAL

#### Timetable of Lectures

- **Monday**
  - 7-8 a.m.: Hospital Dressings.
  - 8-10 a.m.: English E., Hs. Anatomy, M. Biology, B.
  - 10-11 a.m.: Anatomy. Hs. Thermodynamics. I.
  - 1-2 p.m.: Operations. G. Medical Clinic. Ha.
  - 2-3 p.m.: Chemistry. H. Histology. H.
  - 3-4 p.m.: Physiology. H. Histology. H.
  - 4-5 p.m.: English C. & D. A. & Ha.
  - 5-6 p.m.: Chinese II.

- **Tuesday**
  - 7-8 a.m.: Hospital Dressings.
  - 8-10 a.m.: Anatomy. Hs. Thermodynamics. I.
  - 10-11 a.m.: Anatomy. Hs. Thermodynamics. I.
  - 11-12 a.m.: Medicine. C. & S. Operations. P.
  - 1-2 p.m.: Operations. G. Medical Clinic. Ha.
  - 2-3 p.m.: Physiology. H. Histology. H.
  - 3-4 p.m.: Physiology. H. Histology. H.
  - 4-5 p.m.: Physiology. H. Histology. H.

- **Wednesday**
  - 7-8 a.m.: Hospital Dressings.
  - 8-10 a.m.: Anatomy. Hs. Thermodynamics. I.
  - 10-11 a.m.: Surgery. C. & S. Ward Clinic. C. & S.
  - 1-2 p.m.: Operations. G. Medical Clinic. Ha.
  - 2-3 p.m.: Histology. H.
  - 3-4 p.m.: English D. Ha.
  - 4-5 p.m.: Chinese II.

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**Union Medical College, Peking.**

**Spring Term, 1911.**

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<tr>
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**Instructors:**

- Aspland A.
- Biggin B.
- Cormack C.
- Dilley D.
- Gibb G.
- Hopkins H.
- Hall H.
- Hill H.
- Ingram I.
- McIrmone M.
- Peal P.
- Reid R.
- Stenhouse S.
- Stuecky S.
- Wheeler Wh.
- Young Y.
- E. T. Hsie
The English classes are now compulsory for all students. Our aim is that all our students at graduation shall be able to read an ordinary English medical book or medical paper. The students are divided into six grades. The top class includes those who are proficient in English; they do translation work under the supervision of Dr. Cormack. The other classes are graded right down to the beginners. We are now asking for a better knowledge of English in students entering the College, expecting a student to rise one class each year.

The classes in Chinese are in two grades. Those who are proved by examination to be proficient in Chinese are excused Chinese classes. In the monthly examinations ten marks in every hundred are given for Chinese style and writing.

E. J. Stuckey.

Some Practical Notes on the Use of Rubber Gloves.

Arthur Neve, F.R.C.S.E., Kashmir Mission Hospital.

In India, with dirty patients and ill-trained assistants, the surgeon needs every possible help towards the attainment of complete asepsis. The skin of the Indian ryot requires an extensive course of scrubbing, shaving and antiseptic poulticing to remove the accumulated top strata, but fortunately it is more tolerant of friction and chemicals than that of his Aryan cousin in the West. More difficulty is likely to be experienced from the operation assistants, who seldom grasp the principles of asepsis, and are not over conscientious in carrying out even those minutiae which they do understand. But for our own locally trained men, most of whom have been many years with us, I must say that, with the introduction of high-pressure sterilisers, and a complete outfit in the way of operation coats, aprons, towels and rubber gloves, there has been corresponding carefulness in attending to the laws of surgical cleanliness.

Gloves are not necessary to the surgeon who only does one or two operations a day, and who has careful assistants. Five minutes spent in cleaning up the hands and a bowl of dilute antiseptic in which to rinse them during the operation are sufficient precautions. But if a surgeon has to spend hours operating on a series of cases, some of which are already septic, the more he endeavours to complete the full ritual of scrubbings and soakings between each case the more will his roughened and fissured epidermis become unsightly to his friends and dangerous to his patients. But if, having cleaned his hands
First Class of Graduates of Union Medical College, Peking. 1911.
thoroughly and dried them on a sterilised towel, he puts on dry gloves, his skin is then protected, however numerous the subsequent washings and however strong the solutions he may need to use, while the smooth nonabsorbent surface minimises the risk of contamination from handling unsterilised articles, and the gloves act as a constant reminder against promiscuous use of his hands.

I began using gloves five or six years ago. The first rubber ones were far too loose, were clumsy and quickly got damaged, their only real value was for the native assistants who helped with sponging. I then tried thread gloves, using them only in special cases. They were comfortable, but did not prevent one's skin from becoming sodden, or from contamination by septic fluids.

The present rubber gloves admirably fulfil their purpose. There are three thicknesses, the strongest being suitable for dressing, handling instruments and sponging, while the medium thickness is suitable for ordinary operations. It is important that they should fit well, and for this purpose one needs a smaller size than for kid gloves, 7½ instead of 8, or 7 instead of 7½.

The cost is no longer prohibitive; a few years ago they were five or six shillings a pair, now only about half-a-crown. This is an important factor, for the life of gloves is short. We have purchased about twenty pairs in two years. They have been used in not more than twelve per cent. of our total operations, say in 1,000 operations, and to a much less extent in the dressings, so the cost would scarcely be one pie per operation.

When beginning to work with gloves they were more frequently damaged than after some experience in the art of putting them on and manipulating. It is fatal to allow any loose fold of the rubber at the end of a forefinger, or to attempt to use a finger to guide instruments in the deeper parts of a wound, as, for example, in passing Macewen's needle in hernia operations.

It requires a little practice to avoid tying the tip of a glove into a ligature, or catching it in forceps, or perforating it with a needle. But such damage is not irrevocable; a little bicycle solution and a deftly applied patch fits it for use again. Even a small tear endangers asepsis unless the hands have been sterilised before putting on the gloves. For this reason, if the operation is a short one, the gloves may be filled with a weak antiseptic solution, and slipped on to wet hands.

If daily boiled the life of gloves will certainly be shortened, and the rubber becomes soft and sticky if oil or lysol, etc., gets on to it, so after use they should be cleaned with soap and water and dried,
or kept in a solution of carbolic acid. Three minutes spent in cleaning the gloves, with their smooth non-absorbable surface, on which lotions of any strength can be used, is more efficacious than twice the time spent upon the skin.

This makes them of special value when going from case to case and dressing in the wards.

I should like to hear from others how rubber gloves stand an Indian hot weather. One pair lasted me for three months at Amritsar in the cold season, and somewhat infrequent use, as I do not put them on for eye operations. But I presume that in hot climates they would last well if frequently used, and with the occasional application of glycerine. Anyhow the expense would not be prohibitive; if one pair only lasted for a dozen operations instead of for seventy-five, according to our experience here, that would only mean 2½ annas per operation, a low cost for the additional safety to one’s patient and in many cases to oneself. Sad deaths like that of Moir of Calcutta emphasize the need of such protection when doing septic operations. When performing nerve stretching or tracheotomy in lepers or syphilitics, I protect my face with a mask of antiseptic gauze as well as my hands with gloves. Moynihan and others lay special stress on the value of gloves in abdominal operations, and in hospitals where they are used, it has been noticed that stitch abscesses become rarer, and that the pulse and temperature run a more level course. For myself, I must confess that they detract slightly from speed, and so far dull the sense of touch that I do not put them on when searching for a foreign body, or examining the condition of a bone with osteomyelitis, or in obstetrical cases when feeling the state of the os. Such limitations are not numerous, and when all the drawbacks are recognized, it is evident that gloves fulfil a real function and have come to stay.

P. S.—If rubber gloves are punctured or slightly torn, they can be mended with a patch cut from an old glove and fixed with bicycle solution, or a new finger may be similarly put on.

It is convenient to have the different pairs marked with consecutive numbers, to identify for use for various purposes.

—Indian Medical Gazette.

[Note:—Doctor Neve may be known to some of the members of the Association, and he is a nephew of a friend of many of us, Dr. Robert S. Ivy, D.D.S., of Shanghai.]
REPORT ON THE HEALTH OF CHANGSHA FOR THE
HALF-YEAR ENDED 31ST MARCH, 1911.

Dr. Edward H. Hume's.

General Health of the Foreign Community.—Although more of the foreign community have been under the care of a physician than in any previous half-year, still the ailments were for the most part not of a serious nature. It must also be remembered that the foreign population has grown considerably during the past four years. No case of typhoid fever was seen among foreigners, this being the first half-year for some time that Changsha has been so free from this disease. Influenza was epidemic from January through March, 12 cases having been seen among foreigners. In several of the cases the influenza bacillus was definitely observed, making the diagnosis certain. In all but one the type observed was the respiratory type. The one exception was a case of intestinal influenza. The symptom of profound depression and rather protracted convalescence has been present in nearly every case. In one case the prostration was so intense that, coupled with the presence of a troublesome cough and suspicious signs in the lungs, there seemed to be indications of pulmonary tuberculosis. Complete recovery, however, followed.

The frequency of typhoid in previous year made quite a number glad to avail themselves of the opportunity to receive anti-typhoid inoculations. 12 foreigners have already been so inoculated, receiving two doses of the vaccine, the first of 500,000,000 organisms and the second of 1,000,000,000 organisms, 10 days elapsing between the injections. Out of 24 injections thus given to 12 people, only one caused any real discomfort. In this case the patient had just recovered from influenza, his resistance was low, and the anti-typhoid inoculation caused a certain amount of brawny induration, without, however, the slightest tendency to suppuration.

Out of a considerable number of skin conditions observed, only two were unusual; one of these being a definite case of lichen planus, in which complete recovery did not follow until after two months of arsenical medication. The other was a case of blastomycetic dermatitis. Here, again, local applications were only of moderate value and recovery was quite slow, being aided by the internal administration of potassium iodide.
The Health of the Chinese Community.—Each added year of opportunity to observe health conditions in this vicinity makes it possible to form more and more correct deductions about the incidence of disease among the Chinese. The total absence of any mortality registration system makes it impossible to do more than guess, from hospital attendances, as to the prevalence of one or another malady. And one realises that there must be many diseases which, either because their nature is supposed not to be intelligible to, or their severity amenable to, the treatment of the foreigner, are never known of in the records of a Western hospital.

In the period under review a widespread epidemic of influenza has prevailed throughout the city, in many families attacking a large percentage of the members in the household. In not a few instances more serious maladies have followed in the train of a fairly light attack of influenza. In one such case cerebral haemorrhage and death occurred a few days after recovery from influenza.

It has become possible to judge fairly accurately as to the prevalence of certain forms of tuberculosis, especially because this disease so baffles the Chinese physician (as well as any other). Comparing the figures of the Yale Mission Hospital, in Changsha, with those of the John's Hopkin's Hospital, in Baltimore, U. S. A., for one year, it was noted that of 2,207 medical cases seen in the out-patient department of the former, 83, or 3.7 per cent., had pulmonary tuberculosis definitely recognisable. Undoubtedly twice or three times as many actually had the disease, but the diagnosis was not put down as positive, on account of the failure of the patient to return for observation. In the American hospital, on the other hand, but 1.3 per cent. had pulmonary tuberculosis. In the Changsha hospital 94 out of 500 surgical cases had surgical forms of tuberculosis, a percentage of 18.8. In the American hospital 0.61 per cent. had surgical forms of tuberculosis.

Following up the statement about schistosomiasis made in the report for the previous half-year, attention should be drawn to the fact that Katsurada, the original discoverer of this parasite, has shown by conclusive demonstration that infection cannot occur through the mouth, but occurs regularly through the skin. Healthy animals were immersed in fields known to be infected with Schistosoma japonicum, all oral ingestion of contaminated matter being carefully prevented, and after varying periods all were found infected. Those animals, on the other hand, that were fed with infected water, never developed the disease. In the March, 1911, issue of the China Medical Journal, Dr. Logan, of Chaugteh, has given a full description of a case of this
disease as occurring in an American child. The history was that he had been wading and swimming in the Tungting Lake, near Yochow, and, later, developed fever with strange blotchy cutaneous eruptions. Blood was passed with the movements. The cutaneous signs remind one of those described by **Lambert** in the Customs Medical Officer's report from Kiukiang (**Chinese Medical Journal**, September, 1909), and lead Dr. **Logan** to believe that the disease described by **Lambert** was very possibly incipient schistosomiasis.

The lesson from this case is that wading and swimming in the waters of districts where this parasite abounds ought to be absolutely prohibited. In the vicinity of Siangyin, 40 miles down river from Changsha, quantities of villagers come with signs that point unmistakably to schistosomiasis. At the Yale Mission Hospital during the past year we have seen not a few patients in whom it was possible to make a fairly positive assertion that the parasite would be found, even before the patient's history had been taken. At the close of the period covered by this report one such patient is in the hospital from Siangyin. He has been a farmer and done no more than the usual working in fields, transplanting rice, and yet he is full of the treacherous parasite, infection with which seems to produce what we must, with our present knowledge, call an incurable condition.

**REPORT ON THE HEALTH OF CHUNGKING FOR THE FIFTEEN MONTHS ENDED 31ST MARCH, 1911.**

**Dr. James H. McCartney's.**

From a Western medical standpoint, Chungking is well cared for. I doubt if there is another city in the Yangtze Valley where so many patients, daily and yearly, place themselves under European care as here. We have five European hospitals, in charge of four different nationalities, with accommodation not far short of 406 beds.

During the period under review four deaths took place among the foreigner residents. The first, an English lady (an anti-vaccinationist), died from haemorrhagic small-pox on the 5th day of her illness.

The second case was that of a missionary, just returned from a journey in the country, who died on the 7th from typhus fever. He did not remember encountering the disease; and the only possible cause of infection was the bedding used—his own bedding not having come to hand.

The third was that of a Japanese lady, who died from post-partum haemorrhage.
The fourth was the husband of the Japanese lady. Death was caused by typhoid fever, perforation occurring on the 18th day.

Two other deaths took place among transient visitors to the city: one from heart failure, induced by pernicious vomiting during pregnancy, and the other from heart-clot at beginning of labour.

Relapsing fever was frequently encountered during the spring and summer months, almost, if not entirely, among the extremely poor. Among Europeans typhus fever occurred once and typhoid three times. The cases of typhoid are the first I have met with in 20 years among European residents in Chungking. None of the patients presented the classical symptoms of typhoid; but in each case the agglutinating test gave positive signs of typhoid. In the case where death occurred the patient treated himself for malaria for two weeks before coming to hospital, and in a few days haemorrhages began, which soon terminated fatally.

Out of 57 cases of fever treated in the wards of the Chungking men's hospital in 1910, 53 were remittent malaria, one relapsing, and three typhoid. One fatal case of typhoid also occurred among the Chinese, perforation being caused by eating meat during convalescence. The freedom from much illness among foreigners is no doubt due to the fact that the large number residing here spend at least two months during the hot weather on the hills across the river. Malaria among foreigners is becoming a thing of the past. At the beginning of 1910 we began a systematic examination of the faeces of each patient on admittance into hospital. During the year 1,075 patients were examined. The percentages of the results are given below. About 20 women were examined, and of this number only two had infection from anchylostopoma.

| Roundworms   | 856 | 83.6 per cent. |
| Anchylostopoma | 445 | 44.5 |
| Trichocephalus | 257 | 25.7 |
| Oxyuris      | 35  | 3.5 |

Over 50 per cent. of the operations performed in the men's hospital during 1910 (of which there were 465 under some anaesthetic) were due to the ravages of tuberculosis in one form or another, principally of the bone, joint, or glands: over 30 joints, principally the elbow, were resected during this time. The majority of cases of fistula in ano, of which a large percentage were out-patients (large, as compared with home clinics), are also due to the same disease; while all the appendicites cases seen, with one exception, were due to tubercle. This one case occurred on one of the British gun-boats. Patient had had two previous attacks, the latter lasting about one week. The
usual operation was done. The appendix was found bound down, with adhesions, in its entire length, and beginning to gangrene in two places. The patient made an unusually good recovery, considering the complications encountered, and was up and about in 10 days.

The Chinese are making good progress in the suppression of opium. None is being grown here; and there are 110 dens open for smoking, as far as one may observe in passing through the streets. The trouble that was expected, when this reform was initiated, has not occurred; and, before we were hardly aware of it, the curse of opium smoking has become a thing of the past. All honor to the officials who have enforced the Edicts.

I append an abstract from the Customs meteorological observations taken at this port.

**METEOROLOGICAL TABLE, JANUARY, 1910 TO MARCH, 1911.**

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<th>Thermometer</th>
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<th>River</th>
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* No record.

**REPORT ON THE HEALTH OF ICHANG FOR THE SIX MONTHS ENDED 31ST MARCH, 1911.**

**Dr. Andrew Graham's.**

The outstanding feature of the period under review is the epidemic of cholera, which was present in the months of November and December. Two of the three foreigners who became infected died. Many Chinese were attacked, and the death-rate was said to be very high. The notable thing about this epidemic is the season at which it began, and the fact that at such an unusual season of the year for the occur-
rence of such an epidemic its source could not be determined. Most of the cases were confined to the area around the South Gate of the city—the region in which most of those who come into contact with the steamer traffic reside. The incubation period was a short one, as in one of the Europeans attacked she became ill in less than 24 hours after being exposed.

**SMALL-POX.**

This disease has been conspicuous by its absence this winter. Whether this is due to the artificial control of the disease or not is uncertain; but the natives in this city are becoming increasingly fond of availing themselves of the protection received from vaccination.

**MALARIA.**

A larger number of patients have sought treatment from malaria during this winter than in former years. Many of them were suffering from the malignant form, and have been suffering since the previous summer. Many of them show severe anaemia, neuritis, enlarged spleen, and consequent dropsy.

**ELEPHANTIASIS.**

Two cases of the disease have been treated in the hospital by the operation of lymphoplasty, and with fairly good results. There is a marked disappearance of the swelling. In a severe case we implanted two strands of silk on the anterior, posterior, and the lateral aspects of the leg. The patients were very gratified at the reduced size of the limb; but time will tell how lasting the result is.

**PTHISIS.**

This and other forms of tuberculosis are coming more and more into evidence. Whether this is due to an increase in the disease or simply that more of them are seeking our aid is uncertain. What is certain is that the Chinese seem to be an agreeable soil for the growth of tubercular bacilli, and what is equally certain is that those in authority ought to make provision for the treatment of those cases which are a danger to the community. The very fact of the want of urgency, however, is sufficient to bring about, on the part of the Chinese, an absolute indifference and inactivity.

We have had evidence of what can be done in active measures against plague, and yet for this disease, which yearly must be carrying off more than any plague yet seen, there is at present nothing being done.
The China Medical Journal.

Vol. XXV. SEPTEMBER, 1911. No. 5.

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

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

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

Editorial.

DOCTOR GEORGE A. STUART.

Before the July number of the Journal was actually out, but too late for any reference to be made of the event, our beloved friend and former editor of the Journal, and ex-President of the China Medical Missionary Association was called to the Higher Life.

For twenty-five years as doctor, teacher, editor, president, and translator, he has worked faithfully and effectually for the cause of general and medical education in China. The medical department of Nanking University and the new Union Medical School in Nanking are witnesses of his interest and wisdom, while scores of young men, now scattered throughout this great country, who under his influence and inspiration first learned to serve their God and their fellow-men, will thank God for the memory of his life and the heritage of his service.

To his medical colleagues in his own Mission, and to those in the Medical Association who have been more closely identified with him, in work for the present or in plans for the future greater usefulness of his beloved profession among this people, his sudden call from the life in which he was so manifestly able to do great things for the Master can only be regarded as a grievous loss. But in the light of faith which is from the Father's House ought we not to believe that in the life beyond, where the limitations of the flesh are no more, he will be able to do even greater things for the work of God than was possible for him on earth.
BRANCH CONFERENCES.

Some time in the last two months meetings of branch societies of the Medical Missionary Association of China were held in Peitaiho, Kuling, Mokanshan, Kuliang, and Cheungehan, and possibly at other places at present unknown, which in the ordinary course of events ought to be productive of much good to the Journal and to the scattered members of the Association who are not fortunate enough to come into annual communion with any great number of their professional brethren. So far the North and the South, Chihli and Canton, have been heard from. We are still listening for the voices from Mid-China.

The deepest gratitude is due to the men who have stood by the Journal in the past year; the editor, the appreciative reader in his lonely station, and the index know who they are. Would that there were more. *Verbum sap.* Be sure that your name is in the index of both 1911 and 1912.

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**In Memoriam.**

**DR. STUART AT NANKING.**

**By Rev. Wilbur F. Wilson.**

I do not remember having met Dr. Stuart until he came to Nanking in 1897. Before that he had been in Wuhu, and at that time he came to the University as Vice-President, and Dean of the Medical School. A little later in the same year, when Mr. Ferguson went to Shanghai, he was made president. For ten years we worked together without a break, except that during that time we each spent a year at home on furlough.

As I look back at those years, that which impresses me the most is what might be called his great *breadth* of character and ability. On almost any line which might be broached he was a fountain of knowledge. His judgment on many questions was eagerly sought and his advice most frequently followed.

He had a good medical and scientific training, these might be called his specialties; but he was also well read in theology and literature and music. Not long ago one who is thoroughly trained in music said to me: "Dr. Stuart had a wonderful voice; its range
In Memoriam.—Dr. Stuart at Nanking.

was so unusual. Several years ago we sang the Messiah, or a large part of it, in Nanking, and without any seeming strain of voice, Dr. Stuart sang both the tenor and bass solos excellently. So it was all along the line; he seemed to be ready for anything.

Today as I look back, I am not so sure but that this same breadth is partly the reason why he has been cut off in the midst of his labors. Because he was ready for so much, he was called upon for more than he had strength to do. While at Nanking, in addition to the development of the University, a task surely large enough for one man, he was for a season the president of the Educational Association: also president of the Medical Association: he was translating hymns; he revised and practically retranslated the Methodist Discipline, also the Blakeslee series of Bible Study Lessons: he was on the committee for determining medical terms in Chinese: and was, during those years and almost up to the last hours of his life, working on a Materia Medica.

Dr. Stuart almost never talked about himself or his work, except as it had direct relation to his colleagues, and the things which I have mentioned are only such as I have seen going on before my eyes. How much else he did which was not so open, I cannot tell. I know he read a great deal.

Some have breadth and but little depth. But on many of the lines mentioned Dr. Stuart was more thorough than many who specialize on some one line. He did not pretend to be a master in all: in fact he said nothing about being a master in any, but I believe, as I have said, that he considered the Theory and Science of Medicine his specialty. He had a large personal library, and his medical library was by far the most important part of it.

The development of the University under Dr. Stuart’s regime should be mentioned here. While he was in charge the financial question was pressing hard both here and at home. The Doctor had many things in mind which for lack of funds he could not carry out. However, outwardly, several acres of ground were added, and also a new story to the old dormitory.

But these outward additions were the least important, although the most evident. The curriculum was developed, the staff of teachers both native and foreign was increased and strengthened, the number of students in attendance more than doubled, and the University secured a broader and a stronger hold on its constituency. Dr. Stuart was conservative, and yet ready to take advantage of every opportunity for advance, and one of the last things he did while president was
to draw up a basis of union for the three mission schools which now form the University of Nanking. It was not an easy thing to do from any point of view, but after repeated meetings in committee the final wording was left in his hands, and though some changes have been made in the scheme as he drew it up, yet a comparison of his original plan and the present basis of union will be seen to vary in no important degree.

His relation to the teachers and pupils, while not one of familiarity, was one which made approach easy. My personal relation to him as a co-worker could hardly have been closer. During nearly all the period when we were working together Dr. Stuart was president and I proctor. The discipline and control of the students was very largely left in my hands. It is not necessary for me to speak of the possibilities of misunderstandings between those who in a sense are equally responsible for the same work. Yet I can hardly recall an instance where we did not see together or where there was cause for the slightest disagreement.

To be perfectly honest, I believe there were two or three days in the ten years, and they were consecutive days, when we could not in perfect freedom sit down at the same tea table; but the fault then was mine and not his, and the atmosphere was perfectly clear after I had gone to him about it. I mention this only to show the perfect fairness and kindness of Dr. Stuart in dealing with his co-workers.

He was also very helpful and friendly towards the development of the Methodist girls' school which was in close proximity to the University. He was always glad to do anything possible to help them. Certain advanced classes in the University were opened to them, the girls and boys meeting under proper supervision in the same class. And this little incident, overheard by one of the foreigners, will show how the girls felt toward him. One of them was asking another whether she thought that Dr. Stuart would permit them to do something at the University, and the other replied: "Why, of course, Dr. Stuart is always too good to us." She said, "Tai o-men tai-hao."

Another side of his life, which I can only touch upon here, was his hospitality. As president and a public man nearly every one knew him, and when any visitors were coming to Nanking, Dr. Stuart's home was usually mentioned to them as a possible place where they might stay.

In spite of the fact that there was some one being entertained in the home a great deal of the time, nothing but the warmest welcome
was given by both Dr. and Mrs. Stuart to those who came. Nor did I ever hear him complain about it.

Nearly all of the time that he was president he did the most of the preaching. And the religious work and the development of Christian character was ever uppermost in his mind. His many and pressing duties both within and without the school made it impossible for him to spend as much of his time in the Bible classes and prayer meetings as he desired, but he felt that others should share with him the responsibility of the religious work.

No student has gone away from the University at Nanking who has not been deeply impressed by both the spoken and living testimony which Dr. Stuart gave.

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GEORGE A. STUART, M.D., DECEASED.

WHEREAS, By the death of Dr. George A. Stuart we have sustained the loss of one of the most influential of our members; a man widely known for his interest and activity in general missionary work as well as for his attainments in the medical profession; a pioneer in union medical teaching, and one whom we were proud to honor as president of the Medical Missionary Association; a thorough student of Chinese, whose literary activity was widely appreciated; be it

Resolved, That we, the members of the Kuling Branch of the Medical Missionary Association, hereby extend our sincere sympathy to the family in their bereavement, and that we hereby express our thanks to God for the life and example of such a man.

Resolved, That one copy of these resolutions be sent to the family and one be published in the Medical Missionary Journal.

W. E. MACKLIN.
P. S. EVANS, Jr.
F. F. WILLS.

KULING, July 26th, 1911.
A very interesting monograph has just been received from the Institute of Medical Research of the Federated Malay States, on the **Etiology of Beri Beri**, by Drs. **Henry Fraser** and **A. J. Stanton**.

The experiments therein recorded are based on the assumption that the disease is caused by the deficiency of some necessary substance in the food and that the particular food at fault is rice.

There is a brief résumé of the investigation previously made by Takaki in Japan, Bijkman, Vorderman, Fletcher, Braddon and others, with the conclusion that rice was the food in question. Their own results are based upon experiments with fowls, feeding them with different varieties of rice.

Their conclusions briefly are as follows:—

The occurrence of beri beri in the Malay Peninsula bears a close relationship to the use of a diet of which white polished rice forms the principal part. Those using the unpolished, slightly polished, or parboiled rice, do not suffer from the disease.

Fowls fed upon polished white rice, known to have been associated with outbreaks of beri-beri, develop a polyneuritis clinically and pathologically analogous to beri beri.

Other white polished rice produces similar results. Fowls fed upon white polished rice constantly develop polyneuritis. If the meal or polishings, removed from such rice by the process of milling, be added to their diet they remain healthy.

Sterilization of unpolished rice in the autoclave at 120 C for two hours destroys a protective substance contained and such rice will produce polyneuritis in fowls.

There is no evidence that white rice contains a poison generated after milling by the action of moulds or other organisms.

As measures for the prevention of beri beri, it is recommended that the use of unpolished, under milled rice be encouraged among those classes of the community in which the disease occurs. The polishing process should not extend beyond the removal of the outer skin or pericarp. Parboiling rice before milling, as recommended by Dr. Braddon, hardens the outer layers of the grain so that their removal is less easy and over milling is less likely to occur. Cooking of rice by steam under pressure should be prohibited. As an indicator of the extent to which rice has been milled, we recommend to chemists the use of the phosphorus pentoxide standard. In a large number of rices examined none were found associated with human beri beri or polyneuritis in fowls which had a phosphorus pentoxide content of 0.4 per cent. or over, as estimated on the undried material.
The question is one of such vital interest to the physicians in the Far East that a real solution of the cause of beri beri will be of the greatest importance. The monograph is printed by Kelly and Walsh, and the price is seven shillings.

A Treatise on Materia Medica and Therapeutics, including Pharmacy, Dispensing, Pharmacology, and Administration of Drugs, by Rakhaldas Ghosh, L. M. S., Calcutta University, late lecturer on Materia Medica, Calcutta Medical School. Edited by Lieut Col. J. T. Calvert, Indian Medical Service; published by Hilton and Co., Calcutta. Price 7s. 6d.

This modestly designated "little volume" has evidently grown in size since its original appearance and has now reached its 4th edition. For size, information contained, and the interesting and convenient arrangement of the same, it is quite the best we have seen; the nearest work approaching it being Hale White's little volume on the same subject. This book is particularly useful to any one working in Southern Asia or the East Indies. A touch of added interest to the student, and of high utility to the practitioner in the country where those languages are used, is the nomenclature of the drugs in Bengali, Hindustani and Sanscrit. We most cordially recommend it as a book to be used.

Golden Rules of Pediatrics, by John Zahorsky, M.D., Clinical Professor of Pediatrics in the Medical Department of Washington University, St. Louis, is apparently one in a medical guide and monograph series published by C. V. Mosby Co. of St. Louis.

It is one of those books which might be properly called a digest; and just escaped being a quiz compend, and is designed to be a handy book of reference for the busy man. There is a useful formulary at the end, and a diagnostic index. The teaching seems to be sound and up-to-date. The book has evidently been popular, as it has run through one edition. It retails for $2.50 which is perhaps not high, but one would certainly want something more substantial in his library to fall back on.


This is a book of 87 pages, printed on excellent paper, with 105 illustrations from the original blocks. To quote from the preface:—

"The plan which has been adopted is to teach by numerous illustrations, rather than by elaborate description, the method of applying the roller bandage. Each bandage was applied to a living model, and whenever the roller pursued a course which the author has found in his association with students was the cause of uncertainty it was at once photographed. From these photographs the reproductions were made."
This is just the book required in all our schools and hospitals, and the 500 copies Dr. Fulton has printed should disappear with great rapidity. At this time of writing it is not known whether copies can be had elsewhere than from Dr. Fulton or what the price is. P. B. C.

P. BLAKISTON'S SON & CO., announce the following publications:

**Fullerton. Obstetric Nursing.** By Anna M. Fullerton, M.D., formerly Demonstrator of Obstetrics in the Woman's Medical College; Obstetrician and Gynecologist to the Woman's Hospital, Philadelphia, etc. 61 Illustrations. Seventh Edition Revised. 12 mo.; xvi + 272 pages. Cloth $1.00. This edition has been increased in size by 18 pages, and contains 24 new illustrations.


**Davis. The Principles and Practice of Bandaging.** By Gwilym G. Davis, M.D., M.R.C.S.; Professor of Orthopedic Surgery, University of Pennsylvania; Surgeon to the Out-Patient Departments of the Episcopal and Children's Hospitals; etc. Third Edition Revised. 12mo., xiii×128 pages. Cloth $1.00.

## MEDICAL MISSIONARY ASSOCIATION, CHINA.

### Statistics for the Year, 1910.

**Total Number of Medical Missionaries, 415.** Returns received from 126 Hospitals, representing 175 Medical Missionaries.

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<th>Number of Students Attending</th>
<th>Number of Books Issued</th>
<th>Number of Students Interviewed</th>
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### Medical Officers.

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### Notes.

- Hospitals and Dispensary patients intake and female are all classed as male.
- When total number of hospital and dispensary are given they are classed as new patients only.
- All two amounts are classed as hospital numbers.
Branch Reports.

Peking Branch.

One of the most helpful and most interesting Summer Medical Conferences ever held in North China was brought to a close last evening, August 9th, by a happy well-attended picnic on the rocks in front of Dr. Tenney's house by the shore. The program in detail was as follows:—

Program of the Conference.

Friday, August 4th.
1. Opening Exercises, Devotional.
2. President's Address.
3. Appointment of Committees.
6. A Discussion of the Interesting Cases Met During the Year. Open Meeting.

Saturday, August 5th. A Public Meeting.
1. Opening Exercises, Devotional.
2. Some Facts Regarding Pneumonic Plague made known during the international Plague Conference. Paper by Dr. Aspland, Peking.

Sunday, August 6th.
Conference Sermon: For some reason it was impossible to carry out this item of the Program.

Monday, August 7th.
1. Opening Exercises, Devotional.
2. The Life of William Harvey. Paper by Dr. Hall, Peking.
5. Discussion and Reports.

Tuesday, August 8th.
1. Opening Exercises, Devotional.
5. Election of officers and committees for ensuing year. The following officers were elected:

President, Dr. Peill, Peking.
Secretary, Dr. Mullowney, Peking.
Treasurer, Dr. Stevenson, Tientsin.
Librarian, Dr. Dilley, Peking.

Report of the Committee on Hospital for the Insane.

Dr. Mullowney, chairman for this committee, reported that inasmuch as it seems impossible, at present, to get the several Missions at work in North China together in a union scheme for this undertaking, and it seems impossible to get sufficient money for the proposed hospital from other sources, and inasmuch as Dr. Mullowney has found that the Chinese Government, under the Board of Interior, has made a fairly good beginning of a refuge for the insane in Peking, and that the said board has signified its willingness to allow the students of the Union Medical College in Peking to come to the refuge for clinical instruction, the committee felt that while there was a great need for an institution of this kind it would be better to encourage and urge the Chinese authorities to increase and perfect the good work that they have begun, under the Board of Interior, rather than for us to attempt anything further, along this line, at present. And inasmuch as one of the Missions in Peking has recently had a gift of money for the purpose of starting a small sanatorium for tuberculosis patients, and intends to build in the Western Hills, that whatever money is on hand be given over to aid on, and that we give every encouragement to this
Dr. Young gave a very interesting report for the Dispensary Committee. This committee has charge of a very needy and effective little dispensary for the Chinese who live in and near Peitaiho. Several of the medical men take turns in attending such cases as the Chinese assistant, in charge, is unable to manage effectively.

The weather on Wednesday, August 9th, could not have been more benign for our medical picnic, and after partaking of an evening meal in the open air, on the rocks by the sea in front of Dr. Tenney's, an exhibition of the varied talents of our medical colleagues was made in rendering the following program:

President-elect Dr. Peill, Peking, presided; and after the meal, called on our genial retiring president, Dr. Aspland, to act as toastmaster. He called for:

"The Possum Story."

Dr. Ingram.

The Quartette

A Story
A Song
A Story
A Song

"Masters of the Healing Art"

A Song
"Balloon Ascension"
A Song
"The Balky Mule"
The Quartette
Auld Lang Syne

By the crowd.

"Masters of the Healing Art."

II.

That art comes from the mystic eld.
For by Euphrates' storied banks
Physicians a high station held
Among proud Persia's proudest ranks.

III.

In Egypt, oldest wisest land,
Whence Isis and Osiris sprung.
The fame of the "Mysteries Band"
Through templed Thebes and Memphis rung.

IV.

[In China, hoary with the ages.
There is a record, now, forever.
We hear the proverb of the Sages:
"Knock for entrance, doctor, never."]

V.

To Asclepius hymns were sung,
And high Olympian worship given.
The healer had his place among
The gods and goddesses of heaven.

VI.

Hippocrates, so keen, so wise,
Nourished in Greece the sacred flame.
"Mid unburned Moors" meth Spanish skies,
Great Avicenna won his fame.

VII.

In England stately Harvey taught
His famous theory, which endures.
There, patient, to some Jenner sought
And found the first of serum cures.

VIII.

In China, hoary with the ages.
There is a record, now, forever.
A mission, noble and divine,
As masters of the Healing Art.

IX.

In every age, in every clime,
Our predecessors bore their part.
A mission, noble and divine,
As masters of the Healing Art.

X.

Before their eyes one beacon shone
A light faith-kindled, steady, pure.
One goal they sought by every road.
The patient's weal, the patient's cure
Was their unwavering, highest aim.

XI.

They valued reputation, sure.
They sought for gold, for power, for fame.
But yet to cure, to curing, to curb.
Was their unswerving, highest aim.

XII.

So, brothers, whatsoever befall,
Let us this lesson lay to heart,
With true devotion, one and all,
To practice well the Healing Art.
SOUTH CHINA BRANCH.

Since the origin of the South China Branch, three years ago, the chief work done and the most important has been the developing of union medical schemes. This year, however, these plans have so progressed that we have had time for other work. A review of the year's work is as follows:

At our first meeting held in Dr. Cadbury's room October 26th, fifteen members were present and the subject of tuberculosis was treated by four different writers:

Dr. Cadbury, paper, Suggestions for an Anti-tuberculosis Crusade in South China.
Dr. Todd, paper, Sanatoria for the Treatment of Tuberculosis.
Dr. Dobson, paper, Clinical Phases and Treatment of Tuberculosis.
Dr. Meadows, paper, Suggestions for Tracts on Tuberculosis.

After a free discussion of these papers a committee was appointed to raise money to establish a sanatorium. The Tract committee was asked to choose and publish for general distribution two tracts on the subject. Plans were also made so that a number of doctors would give lectures at the next teacher's institute.

Our second meeting was held February 25th, at the home of Mrs. John G. Kerr. Nineteen members were present. The Committee on Tuberculosis reported that Drs. Niles, Boyd, Li, and Cheung Hoh had given a number of lectures on tuberculosis.

Drs. Fulton and Cadbury were appointed to act as co-editors with Dr. Stuart in the publishing of the Chinese Medical Journal. Dr. Houghton's two weeks course on parasitology and microscopic examination of the blood, already reported in Journal, was greatly appreciated by the thirteen members who were able to attend.

The Committee on Constitution reported and, after some changes, the report was adopted as follows:

Constitution and By-laws of the South China Branch of the C. M. M. A.

ARTICLE I.—This Association shall be called the South China Branch of the China Medical Missionary Association.

ARTICLE II.—The object of the Association shall be the cultivation and the advancement of medical missionary work in all its departments, and the promotion of the spirit of brotherhood among the members.

ARTICLE III.—Members of the Association shall be divided into two classes.

(a) Active members, who shall be medical missionaries who are eligible to active membership in the China Medical Missionary Association. These shall constitute the voting members of the association.

(b) Honorary Members, who may be elected from the non-missionary community in accordance with the constitution of the C. M. M. A.

(c) Active and honorary members shall be proposed at one meeting and elected at the next. No election shall take place unless eight members are present, and no person shall be elected who does not obtain three-fourths of the votes cast.

ARTICLE IV.—(a) The officers of the Association shall consist of a president, vice-president and secretary-treasurer, who shall be elected at the annual mid-summer meeting by ballot without nomination.

(b) These officers shall constitute the executive council of the Association to manage its affairs.

(c) The duties of the president, vice-president, and secretary-treasurer shall correspond to those of the officers of the C. M. M. A. The president shall call a special meeting of the Association at the request of the executive council or any four members of the association.

(d) The executive council shall meet at least once a year, before the annual mid-summer meeting.

(e) All vacancies which may occur in the officers of the Association between the annual meetings shall be filled by the council.

ARTICLE V.—Quorum: Seven voting members shall constitute a quorum.
By-laws.

(1) Meetings shall be held quarterly and called by the president.

(2) At the mid-summer meeting, officers shall be elected and a report given by the secretary-treasurer.

(3) The secretary shall give to the members at least five days' notice, in writing, of every meeting.

(4) A subscription of one dollar Mexican per annum shall be paid by each member.

(5) The following shall be the order for the conduct of each meeting, in which Roberts Rules of Order shall be followed.

(a) Opening devotions, roll call, reading of the minutes, election of new members previously proposed and the proposal of new members, business arising out of the minutes, new business, clinical cases, paper or papers, discussion.

(6) Papers shall not exceed twenty minutes, after-speeches five minutes.

(7) Alterations in the Constitution and By-laws may be proposed at any regular meeting and adopted at the next regular meeting by three-fourths of the votes cast—notice of changes having been given all members.

On March 28th, a called meeting was held at the home of Dr. Thompson to consider the proposed plans for a union medical school. Seventeen members were present. Two proposals had been sent in for consideration—one proposed by the Canton Medical Missionary Society and the other by the University Medical School. These were read and opportunity given for discussion. Neither met the entire approval of the Branch, and a substitute constitution which had been prepared by the members of the University Medical School and officers of the Branch was submitted, and after a few changes unanimously adopted.

The third meeting was held May 23rd, at the home of Dr. Hofmann. Eleven members were present. The clinical part of the program had to give way to union affairs. Dr. Kirk reported that because of strenuous objections on the part of the members of the committee on union, appointed by the Canton Medical Missionary Society, the committee had decided that "the time was not yet ripe for union of the Canton Medical Missionary Society with the other missionary organizations." When this decision had been received it was moved that the section of the constitution referring to affiliation with the Canton Medical Missionary Society be deleted, carried. The following committee was then appointed to present the union plans to the various Mission Boards: Drs. Todd, Oldt, Seldon, McCracken, Hayes, and Dr. Kirk ex officio.

The last meeting of the year was held July 28th and 29th, at the summer home of Dr. McCracken, Cheungchau. Fifteen members were present.

The retiring president gave an address. Dr. J. M. Wright read a paper on Malaria.

The Committee on Research Work, Dr. Cadbury as chairman, reported the results of the year's work. This report was very encouraging, and it is hoped that this kind of work will in the future hold a prominent place in the efforts of the physicians of South China.

It was also decided at this meeting that the University Union Medical School should take in its first class in 1912, and that any deficit in the running expenses of the school at the close of the year should be born by the Branch.

The following officers were elected for the ensuing year.

President, PauL J. TodD.
Vice-President, Charles C. Hayes,
Sec.-Treas., J. Allen Hofmann.

J. C. McCracken,
Chairman Program Com.

CANTON, August 3rd.
LETTER FROM FOOCHOW
Showing the progress of the Association in that section.
"A gathering of nurses, staying at Kuliang holiday resort, was held on August eighth, at which it was agreed that a local Branch of the Nurses' Association for China should be formed, and that steps should be taken to get this Branch affiliated with the headquarters of the Association.

Miss Hook, Lung-sang Hospital, Foochow City, was elected secretary and myself chairman for this year, and about sixteen nurses have already given in their names as wishing to join."

KATHLEEN S. LOADER,
C. E. Z. M. S.

"I trust that the Nurses' Association of China is thinking of applying for membership in the International Council of Nurses. We meet a year from this, in August, 1912, and hope to have the pleasure of admitting the Association of Nurses in India. Surely China will come in also? All that is necessary is to have your application in at headquarters in time for the Executive Committee to present it with other business before the regular meetings, which will probably take place about the middle of August, 1912.

"The fees have been reduced to ten dollars a year, four delegates being allowed. We should be immensely pleased to include China in our membership.

"Hoping that we may greet you next year at Cologne, I am very sincerely yours."

Korea writes to enquire about our curriculum. "How can it be had? I have made so many endeavours and can not get it. It should be printed in the Nurses' Department of the Journal."

THE INTERNATIONAL COUNCIL OF NURSES.
Constitution adopted July, 1900, and Amended July 19, 1909.

PREAMBLE.
We, nurses of all nations, sincerely believing that the best good of our profession will be advanced by greater unity of thought, sympathy, and purpose, do hereby band ourselves in a confederation of workers to further the efficient care of the sick, and to secure the honour and the interest of the nursing profession. That we may more successfully prosecute this work, we adopt the following:

CONSTITUTION.

ARTICLE I.—The Federation shall be called the International Council of Nurses.

Objects of the International Council of Nurses.

(a) To provide a means of communication between the nurses of all nations, and to afford facilities for the interchange of international hospitality.

(b) To provide opportunities for nurses to meet together from all parts of the world, to confer upon questions relating to the welfare of their patients and their profession.

ARTICLE II.—Hon. Officers. The Hon. Officers shall be Trained Nurses, and the elected Hon. Officers shall be ex-officio members of all committees.

1. A president.

2. Hon. Presidents. A president of the International Council having held the office for a full term, may be made, upon retiring, Hon. President of the Council, with a vote on the Executive Committee and Grand Council for life.

3. Vice-Presidents. The presidents for the time being of National Councils of Nurses affiliated to the International Council of Nurses shall be vice-presidents. They shall have the right to speak and to vote, but shall not have a regular vote.

ARTICLE III.—National Councils of Nurses. National Councils of Nurses shall be affiliated with the International Council of Nurses.

Membership of a National Council shall be open to all nurses who are members of a local branch of the Nurses' Association of that country, and who are practising at the time of admission to the membership of the National Council. The members of the National Council shall be, at least, one-third of the membership of the National Council.

The National Council shall annually elect a president and two councilors, who shall be members of the Council for a term of three years, and shall be eligible for re-election.

The International Council of Nurses shall annually elect, from the members of the National Council, a president and two councilors, who shall be members of the Council for a term of three years, and shall be eligible for re-election.

The International Council of Nurses shall have the power to adopt, amend, and repeal the by-laws of the National Council, and to exercise all other powers and duties provided by the by-laws of the National Council.
Council shall hold the position of Vice-Presidents.

4. Hon. Vice-Presidents. In all countries where a National Council of Nurses is not already organised, or federated with the International Council, some representative nurse shall be elected by the Executive Committee to represent her country as Honorary Vice-President of that country in the International Council until such time as a National Council shall be fully organised and eligible for membership in the International Council.

5. Councillors. The Councillors shall be the Foundation Members of the International Council of Nurses.

6. An Honorary Treasurer.

7. An Honorary Secretary.

ARTICLE III.—Members. Any National Council of Nurses formed of representative societies and institutions of nurses, provided that their Constitutions be in harmony with the basis of the Constitution of the International Council, may become a member of the International Council of Nurses, with the approval of the Executive, and by the payment of 10s. per year for each of the four representatives deputed to act as delegates on the Grand Council of the International Council of Nurses.

ARTICLE IV.—The Executive Committee. The Executive Committee shall be composed of the elected Hon. Officers, the Vice-Presidents, and Hon. Presidents.

ARTICLE V.—The Grand Council. I. The Grand Council shall be composed of four delegates from each National Council of Nurses and the Honorary Officers, as defined in Article II.

ARTICLE VI.—Meetings of the International Council of Nurses. The International Council of Nurses shall hold Triennial Meetings, at which the President, Hon. Treasurer, and Hon. Secretary for the ensuing period shall be appointed. Five shall form a quorum.

At the Grand Council the Hon. Officers and the officially appointed delegates who compose the Council will alone have power to vote on the business brought before it.

All business to be brought before the Council must first be submitted to the Executive Committee as a notice of motion.

ARTICLE VII.—Public Congress. At any Public Congress on Nursing convened by the International Council of Nurses, those eligible to vote must be trained nurses who are members of Societies affiliated to the International Council of Nurses.

ARTICLE VIII.—Fees. The annual dues shall be 10s. a year per delegate for every Society which is affiliated to the International Council of Nurses which has the privilege of representation on the International Council.

ARTICLE IX.—Committee of Arrangements. The Executive Committee shall carry out all the arrangements for the triennial business meeting, but may depute to a Special Committee of Arrangements, in the country where the Congress is going to be held, the details of its organisation.

ARTICLE X.—Alteration of the Constitution. This Constitution may be altered, or amended, by a majority vote of the Council at any triennial meeting, printed notice thereof having been sent to each member of the Council at least three months prior to such meeting.

OFFICIAL ORGANS.


The American Journal of Nursing, 227, South Sixth Street, Philadelphia, Pa., U. S. A

Unterm Lazaruskruez, Nürnbergerstrasse 22, Berlin W. 50.

Nosokomos, Hereengracht 281, Amsterdam, Holland.

Tidskrift f. Sygeplege, Copenhagen, Denmark.

Epione, Surgical Hospital, Helsingfors, Finland.

The Canadian Nurse, Toronto, Canada.
Hospital Reports.

As has been stated before, hospital reports, as we receive them, are very much alike, and so far as the Medical Journal is concerned, of very little value. That by no means implies that the reports are of no value, because they all tell the story of achievement and great good accomplished for God's children in the name and by the inspiration of His Son, Our Lord and Savior. Many are written in an interesting style, but all without exception for the lay public on whom so much depends, so that any amount of clippings would only be the repetition of experiences which the average medical missionary knows only too well. The one message that is writ large in every report and which we trust will sink deep into the hearts of those in the homelands is:

"Send us more doctors and nurses."

From Foochow, the American Board Foochow Messenger reports the retirement of Dr. Kate C. Woodhull after twenty-five years service in the field, and a home paper, Battle Creek Missionary Messenger, brings us the first news we have seen of the death, in America, of Dr. Frances L. Draper of the Methodist Mission of Sien-yu, Fukien.

Dr. F. H. Judd of the C. I. M. Hospital at Jaochow, Kiangsi, reports that he has opened or is about to open a new hospital building, the construction of which was added to the usual wear and tear incident to medical life in China.

A new message comes from Shantung in the first annual report of St. Agatha's Hospital (S. P. G.) at Ping-yin, in charge of Drs. Frances Cunningham and Margaret Phillips, who are finding the usual crop of joys and sorrows in hospital administration quite up to their most sanguine expectations.

Drs. Andrew Graham and Crocket, of the Church of Scotland Mission, Ichang, report the loss by death from cholera of the matron of the hospital, Nurse Minnie Bere. Dr. Graham's report of the health conditions of Ichang will be found in another department of this number of the Journal.

Dr. Cole, of the C. M. S. Hospital in Ningpo, gratefully reports the addition of a new building to his hospital, containing an operating room, bath, and anaesthetizing rooms and a new ward. His work has been strengthened by a new colleague, Dr. A. Score Browne.
Intravenous Injection of Magnesia Sulphate in Bacteriemia.

By Raleigh R. Huggins, M.D., Pittsburgh, Pa.

For a long time the writer has been interested in the success of magnesia sulphate in the treatment of erysipelas and tetanus. Its use locally in infection has been attended by very gratifying results. In the opinion of the writer there is no better local application than a continuous bath in a solution of magnesia sulphate in the treatment of a rapid spreading lymphangitis, the result of a virulent infection. There has been no rational explanation offered as to how such good effects are obtained when this drug is applied locally. It has been suggested that it is by direct bactericidal action, but this has not been borne out by clinical experience. Others have claimed that osmosis plays an active part, but when we stop to consider that other salts which influence osmosis to a greater extent, do not exert the same beneficial action, then it would seem that this is also disproven.

The most striking and general effect in the intravenous injections of magnesia sulphate is the production of anesthesia. It differs from all other anesthetics in that the stage of irritability or excitement is lacking, the state of anesthesia coming on quietly, without any sign of an irritating influence. In the doses given, 1 c. c. of a 25 per cent. solution, death was not produced, but oftentimes it would be followed by embarrassed respiration and light anesthesia.

The effect of intravenous injection of magnesia sulphate upon the alimentary canal was of considerable interest. It is generally considered by those who are interested in the special study of physiological action of drugs that the saline purgatives produce their effect in several ways: first by preventing the absorption of fluid from the alimentary canal, thereby retaining liquid in the tube; second, if given in proper concentration they cause a pouring out of fluid into the intestine, thereby adding to the amount that has been swallowed; third, it is supposed that they stimulate peristalsis and so hurry the contents of the bowel towards the rectum.

These views have recently been placed in doubt as to their correctness by investigations carried out by MacCullum, who confirms the earlier studies of Aubert to the effect that these purgatives act directly upon the intestinal wall if they are given intravenously. On the other hand Meltzer and Aner have denied the accuracy of these observations and assert that the intravenous injection of sulphate of sodium, fails to produce purgation but rather tends to constipation. Some of the difference of results may be due to the character of the animal which was employed for experiment. It is well known that dogs are not purged with eleterium, which is one of the most active watery purges when given to human beings that we have.

*Read at the 23rd Annual Meeting of the American Association of Obstetricians and Gynecologists held at Syracuse September 20, 21, 1910.
Sulphate of magnesia has a marked purgative effect when injected into the peritoneal cavity. During this study, a number of intravenous injections of magnesia sulphate were administered to human beings. It was determined that magnesia sulphate could be given intravenously without any apparent harm to the patient.

It was decided that 30 grains of magnesia sulphate in 8 ounces of normal saline can be safely administered to the average individual. It must be given slowly into the vein at a temperature of 105° to 108°, the time occupied in allowing this quantity to run into the vein being twenty minutes. If allowed to flow into the vein rapidly, respiration becomes embarrassed and the patient complains of a sensation of heat all over the body. It has been given in this manner fifty times, either by the writer or by his assistants, and the results in many instances has been extremely gratifying. It has been given at intervals of twenty-four hours for several days.

It was during these experiments that it was determined to try its use in a patient suffering from puerperal infection. A number of cases which were beginning a typical course, similar to others who had died in spite of all treatment, have been treated by intravenous injection of magnesia sulphate with apparent benefit. Its use has been limited almost entirely to the treatment of puerperal infection, and the number of cases treated are too few to draw definite conclusions from. All the patients treated were extremely ill. Cultures from the uterus showed streptococci.

So far as I know they are the first cases in which magnesia salts have been administered intravenously in the treatment of disease. We should remember that magnesia salts are toxic and when administered into the blood stream it must be done with great care and with a full knowledge of its danger. Later studies may demonstrate their inefficacy, also that the danger of administration is too great to justify the risk.

In conclusion, I may say that a great advance will have been made if the natural aids which are called upon to overcome infection after it has occurred can by some means be placed on the alert, so that they stand well organized and ready to give battle to an anticipated invasion of bacteria.

If this is possible, infection which might otherwise be most virulent in its progression can be overpowered and checked in its onset before a rapid multiplication of the germs and diffusion of their toxins occur.

It is well to remember that the study of these important phenomena is still in its infancy and that much remains unproven. There is great opportunity in this field not only for the pathologist but for the clinician as well, because to him is given the opportunity to make careful observations at the bedside, which demonstrate the practical value of certain conclusions in spite of theoretical deductions to the contrary, which sometimes emanate from the laboratory.
Hoyun, July 24th, 1911.

God has moved my heart through many incidents to build an asylum for lepers among the Hakka people. Now I wish to get information about history and extension of leprosy in China, as well as about leprosies already founded. I should therefore be very obliged to all who would give me an answer to the following questions:

1. What year were the asylums founded? What mission gave the means for building them? By what means are they sustained?
2. How much have the patients to pay?
3. What sort of work is done by the patients?
4. How many patients are there in the asylum?

Dr. H. Vortisch.

Hoyun, via Canton, Waichow.

Fracture of Right Tibia.

Chungchow, July 14th, 1911.

To the Editor of "The China Medical Journal."

Enclosed please find a picture of a case of our boy, Kung Lao-wu; didn't know how old he was; would say twelve. Worked at coal mines. In second month was playing and fell, causing compound fracture of right tibia. Could not find that fibula was involved. In ninth month was carried in with condition as seen in picture. Four inches of tibia perfectly black and protruding, very foul smelling pus escaping from under a large vegetable leaf, parts all sloughing away. Parts were thoroughly washed with carbolic solution and the third day, after slight manipulation, the bone was lifted out. Total length 7 inches. The lower three inches were caseous and the extremity easily separated from apparent good lower end. Under thorough irrigation, alternate dressings with iodoform and balsam Peru, and castor oil, patient made rapid improvement and in seven weeks was able to walk alone. In two months locomotion was quite free. The apparent result was that the tibia and fibula grew together, causing a big solid bone where the tibia was absent. Patient retained good motion of ankle joint, got fat and quite well, only an ugly scar remaining. Is this the probable result in such cases when the one bone is missing?

WALLACE CRAWFORD.

Dear Sir: Perhaps I might be allowed a word in reply to Dr. Roys' letter in the July issue of the Journal on this subject.

Dr. Roys refers very flatteringly to my "experience," but it is just because I speak as a general surgeon, getting only a few stones every year, that I so strongly recommend lateral lithotomy. I am indeed happy in the backing of our most experienced lithotomist, Dr. Swan, but my own point is that lateral lithotomy is a specially easy and safe operation for men with little experience. I don't think that Dr. Roys is quite fair in his quotation from Dr. Freyer of a reduction in mortality from 18 per cent. to 3 per cent. by the use of litholapaxy. If Dr. Roys can continue the quotation and show that Freyer had a mortality of 18 per cent. on lateral lithotomies on stones of 2½
Correspondence.

oz. and under which was reduced to 3 per cent. by litholapaxy, then of course he is quite justified, while I am left marveling at Freyer’s mortality list. If not, I don’t see that it has any relation to my argument re Lateral lithotomy, the mortality for which should in my humble opinion certainly not reach 3 per cent. in cases on which this operation should be performed.

I note with great surprise Dr. Roys’ quotation of Dr. Judd on the ease and safety of litholapaxy. May I reply to Dr. Roys with a quotation from his own authority. Freyer (Burghard’s System of Operative Surgery 1909, Vol. 3,) says in regard to litholapaxy.

“I have assumed that the surgeon is one with considerable experience in this branch of surgery. A very pertinent and practical question, however, is this : Assuming the stone to be an uncomplicated one of moderate size, what is the operation that is likely to give the most favourable results in the hands of a general surgeon who only occasionally encounters a case of vesical calculus? Unhesitatingly I say a cutting operation of some kind.”

I remain,

Yours very sincerely,

JAMES L. MAXWELL.

WUCHANG, China.

DEAR MR. EDITOR: There is a statement in the article on “Inquests in China,” concerning the death and burial of little children, which requires correction, and the correction may be the more necessary if others also are not quite clear on the subject. In a dialogue on Ancestral Worship and Geomancy, written by a Chinese scholar, in answer to the question: “How are young children treated in burial?” the answer is given: “In this the pernicious effects of geomancy are seen. When young children die they are supposed to be under the curse of Heaven, and are called unlucky; and before daylight in the morning they are given to coolies, who, receiving only thirty or forty cents, carry them out and bury them at random in some shallow grave in the waste land near the city, treating them with no more respect than if they were mere animals.” (The Cross and the Dragon, p. 144.)

In connection with the omission of prayers and other religious ceremonies, it seemed justifiable to infer from this and similar statements, that such children are supposed to have perished forever. This conclusion is erroneous. According to good authority, the reason why no prayers are said for a dead child and no funeral rites performed, is not because it is supposed to have completely passed out of existence, but that dying in infancy, it is held to be without sin, the Chinese not laying much stress apparently on original sin. Consequently, it does not have to pass through the halls of purgatory, but its soul returns almost immediately to this world as the soul of a new-born child. The body is buried quickly, so that the interval between the death and the soul’s return shall be as short as possible.

Somehow this theory of the sinlessness of children does not quite fit in with the belief that the child is under the curse of Heaven, nor with the carelessness of the burial. Nor does it seem to cover the case of children for whom no funeral rites are performed, who have passed beyond infancy, and so must have given evidence in their brief career of not being wholly without sin, even from the liberal Chinese point of view. Nor is this belief in the speedy return of the departed children quite consistent with the practice, still said
to be common, of promptly terminating at birth the life of illegitimate and other undesired children, whose return to this world must surely be a menace, sooner or later, to those who sent them out of it. Still, tracts against infanticide issued by the Chinese officials mention "terrifying instances of punishments inflicted by unseen powers and baby souls on parents and midwives guilty of child murder." (De Groot.) Consistency of thought and practice in such matters is, perhaps, hardly to be expected.

Yours truly,

E. M. MERRINS.

YUNGCHOWFU.

Dear Mr. Editor: Our all too seldom arriving Journal is a treat to which we all look forward for our instruction: would that it might appear twelve times in the year.

But there is one direction in which one feels that it gives us less than full satisfaction—there is no regular section devoted to the hospital. We are all of us hospital superintendents, and most of us matrons and house surgeons as well, not to mention those of us who have blossomed into architects and acting contractors into the bargain. In addition to it all, the necessarily rigid economy of our finances allows us no margins either for experiments or mistakes, and moreover most of us, for years at a time, rusticate within the narrow boundaries of our own little parish, browsing upon the few spare facts of hospital management that we may have carried with us from the institutions of the West, wherein to desire was immediately to have. Our inborn ingenuity suggests some local adaptations, and we settle down, as best we may, to a practical routine which is scarcely less than always cramped by the means at our disposal.

In the older hospitals, long and well-established, with efficient staffs and most of the necessities of life, the privations of the humble do not press so hardly. Dare one suggest that our revered elders, the Editors of the Journal, from their academic eminence have forgotten the days of small things, and are unmindful of the place of the youthful, toiling still in the school of experience!

One is still a junior amongst his brethren, but has been greatly struck in his wanderings by three things: (1) the immense wealth of ingenuity scattered about in hospitals (Who does not remember Dr. Wilson's "Use of Native Drugs"?), (2) the extraordinarily localised condition of some of the best contrivances, (3) the way in which some hospitals are crippled, or permanently disadvantaged, for want of some simple expedient, or improvement in organization.

One has only to mention the matter of kitchen organisation and finance; drug dispensing difficulties; surgery economies; daily dressings in the ward; questions of bedding; laundry troubles; laboratory devices, and the ever-present difficulties of sanitation, to call up in every mind a tale of troubles that would gladly be consulted upon.

There is a little household book called "Tried Favourites"—a little unpretentious book of daily household use, but full of the genius of common sense. It assumes no academic seat, yet in my experience, when once "Mrs. Kirk" has entered a household, the ladies scarcely ever have her out of hand or mind, and vast "Mrs. Beeton" remains upon the shelf.

Some such column of "Tried Favourites" in hospital adminis-
Correspondence.

A concentration would be a boon to us of the younger generation. Might one venture to suggest to our Olympians, amidst the clouds of heavy customs reports, and advanced bacteriology, that to us struggling housekeepers in Provincial Hospitals a hint on the disposal of a typhoid stool may be almost as instructive as a treatise on the opsonic index!

I am, very humbly, yours,
Geo. Hadden.

Ningpo, July 29th, 1911.

To the Editor of "The China Medical Journal."

Dear Sir: As the subject of Beriberi is always of interest to a section of your readers, an unusual symptom which occurred in a recent fatal case in my practice should be reported: one reason leading me to do so is that neither in Manson's "Tropical Diseases," nor in Allbutt's "System of Medicine," nor in the recently published "Diseases of China" by Jeffreys and Maxwell, is there mention of glycosuria in association with beriberi.

I was asked to go and see a Chinese boy of 16, who was reported to be "swelling visibly." On arrival at the school, I found him in a crowded dormitory, not built for that purpose. He was generally òdematous, had a feeling of oppression in the chest, and threw himself from side to side. His knee jerks were present. He was said to have been playing tennis a week before, and without doubt had been able to sit for his terminal examinations twenty-four hours before I saw him. Beyond a certain amount of feelings of debility for some weeks, he chiefly complained of feeling "stuffed up" in chest and abdomen for the last six days.

As he was unable to sit up in a Chinese sedan chair, he was brought to the hospital on a stretcher as a possible case of beriberi.

On admission his temperature was 100 Fahr., respiration rate 40, pulse 118. His knee jerks were both present though he could not stand. Calf tenderness was present on the left side, he was generally òdematous, very dyspnèic, markedly perspiring, and throwing himself from one side of the bed to the other in great distress, especially complaining of tightness across the chest. Except for some dulness at bases behind, lungs seemed normal.

Heart galloping rhythm, doubtful murmur in pulmonary area, deep cardiac dulness in vertical nipple line. Liver and spleen seemed normal on palpation and percussion.

Urine examined on two occasions, acid reaction, specific gravity 1.040, no albumen, quantity of sugar. He was given a dose of mist. aper. alba. and pulv. opii ½ gr., tinct. digitalis in min. Ten doses were ordered, every two hours, the next morning. Amyl nitrite capsules were at hand in case of necessity arising. Less than twenty-four hours after admission he had two attacks of acute cardiac distress with dyspnoea and dusky lips, and though inhalation of amyl nitrite greatly relieved him in the first, the second, half an hour later, proved fatal. Diagnosis made of acute beriberi with glycosuria. It was practically certain that the cause of death was beriberi toxins acting upon the heart muscle (possibly through nerves), for the next day three more cases were admitted, in varying degrees of severity; one from the bed adjacent. In each of these cases the urine was found to be normal, though the sp. gr. of one was...
1,040. His past history included a stay of over a month in hospital some eight months previously, with one of the undiagnosed fevers of the tropics, lasting thirty-five days, terminating by lysis, unaffected by treatment. At this time his urine contained albumen in quantity, disappearing with convalescence, but no sugar. In this part of China this clinical type of disease is called seven day fever, because in nearly all cases some multiple of seven days again sees the temperature on the normal line: as a matter of fact one is not anxious as to the prognosis of such cases. His temperature then varied from 103-105 Fahr., more or less continuously.

His blood agglutination reacted negatively on the twelfth day of fever, both to B. Typhosus 1-20 and M. Melitensis 1-100. His blood was never found to contain malarial parasites, and on three occasions when counts were made,

The red cells were 3,750,000; 3,784,000 and 3,515,000.
The white cells were 4,000; 4,000 and 4,667.
The haemoglobin percentage 75; 75 and 60.

These notes on the subject of beriberi, possibly pointing to specific action of the toxins on the medulla, possibly an infective pancreatitis, are sent in the hope that every additional fact may help towards its elucidation.

Yours, etc.
ARTHUR F. COLE.

LANCHOWFU, July 31st, 1911.

To the Editor of
"THE CHINA MEDICAL JOURNAL."

DEAR SIR: I happen to be the only medical man in the whole of this Province of Kansu, which is slightly greater in area than the British Isles. My nearest medical colleagues (in the Province of Shensi) are eighteen days' journey away. I am accordingly denied the privileges of Medical Associations, and of other such useful opportunities for conference as are enjoyed by the members of our profession in other parts of China, more liberally supplied with medical missionaries. I therefore all the more value the JOURNAL, and always heartily welcome its arrival in this distant and isolated (though most busy and important) region. The last number to reach me was the May number, and besides the usual quota of most interesting and instructive articles I read with profound interest and much profit Dr. Huntley's excellent paper on the "Missionary Side of our Work." I for one, while recognising that the JOURNAL deals primarily with the medical side of our work, would greatly value more such articles as this, designed to stimulate our zeal for, and help us forward in, the missionary side of our work, which is, after all, of such very great importance.

It has been on my heart more than ever recently that we medical missionaries must take pains to keep this side of our work before us, and avoid the serious error of neglecting it in a manner detrimental to the eternal interests of those whose spiritual welfare is the primary object of our work in this land of China.

Before going further, and to avoid any misunderstanding of what is laid on my heart to express in this communication, I would like to make clear that I regard it as a fundamental principle that the medical side of our work should be as thoroughly, conscientiously, and efficiently performed as possible. The Chinese are worthy of the very best that can be done for them, and any lower standard than this for
the medical work will inevitably impair the value of the more strictly missionary side of the work. Spiritual work performed at the expense of thoroughness in the medical work will not result in abiding blessing to others: it may even hinder it. On the other hand, any medical work which is thoroughly and conscientiously performed, even at the cost of considerable time, does in a remarkable manner open the way for success in the missionary side of the work.

Now I feel constrained to write and say how urgent it is that we should be missionaries in deed and in truth, as well as doctors. Surely there is a great danger of under-rating the value and importance of the spiritual work. It is as spiritual men with a great spiritual purpose, the eternal welfare of souls, that we are here in China. The terms of our Lord's parting commission to His disciples were not merely philanthropic but essentially spiritual, "make disciples, teaching them to observe all things whatsoever I have commanded you." Nor were our Lord's methods, which are exemplary for us, purely philanthropic in their aim. We have a striking illustration of this in the case of the paralytic, to whom our Lord said "Son, thy sins are forgiven thee" before He healed the sufferer's diseased body. The act of mercy which He then performed was not only in order to establish His Divine claims, but to prove that because He was Divine He had power on earth to forgive sins, and thus deal with the sick man's deepest need, that which concerned his soul. Our Lord's mission, though certainly philanthropic in the highest sense, was yet by no means merely philanthropic. He came to seek and to save the lost by giving Himself upon the Cross of Calvary a ransom for many, and thus exhibiting not only the greatness of God's love, but also the enormity of that sin which necessitated such a sacrifice ere God could righteously justify, as well as pardon, the sinner, and secure his soul's eternal welfare.

And so I believe that if we are truly to follow in the footsteps of our Lord we must not be philanthropic merely, relying upon the popularity and success of our medical work per se to win men. It will win their approval and esteem, and be extremely popular with all classes. All men like to be loved, and they can accept without difficulty a Gospel which embraces nothing more than that God loves man. But we must be prepared to place such importance on the spiritual side of the work as, in one sense, to "not know anything save Jesus Christ and Him crucified" among those for whose eternal welfare we live and labour. This side of our work will be far less popular than the other, for men do not like to face their sin and consequently their heart's deep need of the Saviour who died for them on the cross of shame. But our experience in this respect will only be what our divine Master Himself encountered. Multitudes gladly sought Him only for the bread which perisheth, and when He, in faithfulness to His mission, exposed the true inwardness of their hearts and urged the claims of what was eternal as opposed to what was only transitory and passing, the result was that His popularity rapidly declined, and many even of His own disciples "went back, and walked no more with Him." "What shall it profit a man if he gain the whole world and lose his own soul?" and what shall it profit us if we succeed in healing men's diseases, but fail to procure for their souls that eternal salvation which alone will give our
work its true value? These are some of the considerations which for some time have been on my mind, and which have led me to heartily welcome Dr. Huntley's paper reproduced in your columns, and to venture to express some of my own heart's deepest feelings on this most important subject.

May I, in order to be not simply theoretical but also practical, suggest a few methods which I have found useful in my own work with a view to giving prominence to the missionary side of the work.

First.—We should aim at being as thorough and systematic in the missionary side of our work as in the medical. Unless we are systematic in the medical work we can do nothing. Every detail requires careful arrangement. There is a tendency sometimes for us to be careful and systematic in our medical work, but to leave the missionary work to be done almost anyhow, or fitted in anywhere, or even relegated to others altogether. Surely we should not be less systematic and thorough in our plans and arrangements for the missionary work than for the medical work.

Secondly.—Let us remember that in promoting the benefits that accrue from a civilisation superior to one which already exists in this Empire, we are not merely contending with ignorance and superstition and all the other attendant evils of this ancient civilisation, but we are verily engaged in a spiritual conflict with spiritual forces of evil. "We wrestle not against flesh and blood, but against principalities, against powers, against the rulers of the darkness of this world, against spiritual wickedness in high places." Wherefore it behooves us to take unto ourselves spiritual armour in order to engage successfully in this conflict. The weapons of our warfare are not carnal, they are spiritual. Let me mention three whose importance has been on my heart for some time. First, Prayer; Second, The Word of God; Third, The Holy Ghost, without whom prayer and the word cannot be truly effectual. I believe that we must recognise these as powerful means for effecting mighty results; means which we have to reckon with and put to practical account just as definitely and really as we arm ourselves with our pharmacopoeia and our array of surgical instruments and other of the powerful means at our disposal for effecting results in our medical work. Do we give time and place to prayer as we should? Do we give time to the study of the Word of God? and to teaching it as our Master commanded His disciples, saying, "Teaching them to observe all things whatsoever I have commanded you." We cannot entirely relegate this work to our clerical or lay brethren, however valuable their cooperation and assistance may be. We must fulfil our individual responsibility, and do we give the Divine Spirit that place in our life and work which is not only His due, but without which our work cannot effect results of eternal value, nor be truly approved in the sight of God?

Now how can we make use of these mighty spiritual means which are at our disposal for effecting spiritual results? A few things that have helped me have been the following:—

(A.) IN THE MATTER OF PRAYER.

1. Take a regular time first thing in the morning for private prayer. It may happen very occasionally that this time will, for the moment, be interfered with by a medical emergency to which we must devote our attention, but that will not be often, and short of anything urgent we must secure this time free from interruption.

2. Take time for prayer with the medical assistants and other helpers. My own native helpers are all Christians. We meet together on Wednesday evenings for a weekly prayer meeting, and each morning before we commence seeing out patients.

3. Pray for each individual patient as he or she comes into the consulting room, or as one approaches each bed in the wards. It does not take longer to say "Oh, Lord, bless this patient and save his soul," than to put the first question as to what he complains of and receive his answer. I have found that to pray thus for a patient is a real help against that irritation which arises so easily when patients are unreasonable or provoking. One can hardly be angry with a man one has just been sincerely praying for, and it will immensely help the work if we can be patient and maintain under all circumstances, however trying, a calm and Christ-like exterior.

4. Personally I have found it practically necessary to fix a time in the afternoon to get away from all the surround-
Correspondence.

ings of the work, and the attendant strain and pressure and interruption in order to devote myself to prayer. This I find I can do most collectively in a quiet country walk (the country happens to be easily accessible from our hospital). It is at the same time a distraction to the mind and a refreshment to the body, and, however heavy the pressure of work upon one may be, this is the kind of thing for which one can almost always make time if only one realises the relative importance of things.

(B.) WITH REGARD TO THE USE OF THE WORD OF GOD.

1. In our work here I try to make a point of giving a brief Gospel address myself to the patients and their friends on each of the men's out-patient days (my wife gives a similar address to the women on their days). A native evangelist is in charge all morning, but nothing, I am sure, can take the place of an address from the doctor himself, to which the patients listen as they would to no one else, especially if they have been already seen, and a word of sympathy and assurance has been spoken to them individually in the consulting room.

2. We have daily native prayers with Scripture exposition, attended by the whole hospital staff and patients and servants. I take my turn in conducting this meeting for a week at a time with my (at present) two medical and one evangelistic helpers.

3. Twice a week I conduct a Bible Class, which is attended by each of our helpers, medical and evangelistic. These classes aim at a comprehensive study of the Word of God. Just now we are studying the Epistles. A definite scheme is laid down for each Epistle as a whole, and then for each individual chapter. Papers of questions are set weekly and then corrected and gone over in class. I then give the class complete notes written in a book kept for the purpose. These notes are copied out by the class in detail and committed to memory. Such a class as this involves a great deal of labour and takes considerable time. But if one can find time to hold medical classes, and to give clinical instruction in the out-patient department and at the patients' bedsides, surely one ought to be able to find, or make, time for such instruction in the Word of God as this. Moreover one finds it is well worth the time and labour it involves. The class has proved to be a real means of grace and blessing. It gives our helpers definiteness of aim in their Bible study, and equips them to be more efficient in their preaching and in whatever share they take of the missionary side of the work. Any time spent by the foreign missionary in equipping native Christians for more efficient spiritual work is really worth far more in the long run than time spent in direct evangelistic work among the heathen who understand the foreigners' language and mode of expression far less readily than they understand their own countrymen, and are accordingly, to a corresponding extent, less likely to benefit from the foreigner.

So much for a few practical suggestions on Prayer and the Word of God which have been useful in the work here.

(c.) As for the third item, I mentioned just now as one of the most potent.—shall I not say the most potent, weapon in our spiritual equipment, THE HOLY SPIRIT, I will only say this: let us not get exaggerated and fantastic ideas about the Holy Spirit, but let us be sane and scriptural and obey the command to "Be filled with the Spirit," Dr. Huntley, in his paper to which I referred above, says that our work "is all missionary if the doctor is filled with the Holy Ghost." May we one and all be so filled with the Spirit that all our work shall be done under His control, that we shall "pray always, with all prayer and supplication in the Spirit," and utilise the Word of God as the Sword of the Spirit, and thus accomplish mighty results of eternal blessing to the needy souls around us. "The weapons of our warfare are not carnal," but spiritual, "mighty through God to the pulling down of strongholds."

Apologising for having intruded at such length on your valuable space, I remain, Dear Sir,

Your humble servant,

ALBERT P. LAYCOCK.
Personal Record.

BIRTH.
At Tungchow, Chihli, June 27th, to Dr. and Mrs. J. H. Ingram, A. B. C. F. M., a daughter (Katherine).

ARRIVALS.
August 18th, Dr. F. A. Keller, C. I. M., Changsha, from America.

DEPARTURES.
August 25th, Dr. and Mrs. G. W. Lowry and children, M. E. M., of Peking, from America.

August 21st, Dr. Mary E. Newell, Woman's Union Mission, for America.

WANT DEPARTMENT.

[It is hoped this new departure will approve itself to the Association. Subscribers are invited to send short notices of personal, missionary and professional "wants," free of charge. Such notices will be kept in for a reasonable time or until withdrawn.—Editor.]

A dispensary assistant; a trained or partially trained man, Kiangsu or Chekiang preferred; bright, active, willing to learn; some knowledge of pharmacy and dispensary work in general, necessary. Any one knowing of such a man desiring a position kindly write to the Editor of the CHINA MEDICAL JOURNAL, stating salary expected.

F. Porter Smith's "Contributions toward Materia Medica". Any one having a copy he would care to sell, kindly advise (stating price), M. A. Brillinger, Phar. B., Pharmacist, CHUNGKING, China.