CIRRHOSIS OF THE LIVER IN THE CHINESE.

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To judge by a paper recently published by C. A. Hedblom (CHINA MEDICAL JOURNAL, 1917, p. 271), it appears that cirrhosis of the liver is not an infrequent disease in China. He states that in 15,793 patients treated in the various hospitals in this country, diseases of the liver occurred 85 times, i.e., in 55% of all the cases. In 43% of these 85 hepatic cases, cirrhosis of the liver was diagnosed. This percentage is rather in excess of that found in European countries. As a matter of fact the percentage is still higher, for in Hedblom's paper we find 203 cases of diseases of the abdomen and peritoneum, and in 70% of these the clinical diagnosis was ascites. Now it seems to me very likely that a large number of the cases of ascites were in reality cases of true cirrhosis of the liver. We must therefore conclude that a relatively large number of all Chinese patients treated in foreign hospitals are suffering from cirrhosis of the liver.

ALCOHOLISM AND CIRRHOSIS OF LIVER.

Apart from the frequency of cirrhosis, we are also interested in the etiology of the disease in China. It is well known that addiction to alcohol was, some time ago, almost exclusively held responsible for the development of a cirrhosis. Recently our views regarding the causal relationship between alcohol and cirrhosis of the liver have materially changed. Certainly in drunkards cirrhosis of the liver is sometimes found but only in a strikingly small percentage of cases. On the other hand, true atrophic cirrhosis can be found in strict teetotalers; and more recent investigations show that various infectious diseases are able to cause cirrhosis. Even in cases of cirrhosis in drunkards, the drug
I. Front view of cranium, on admittance.

II. Back view, showing displacement of temporal bone and ear.

III. Left side of cranium
Ear appears blurred.

IV. Points of aspiration marked by x. Below ramus of jaw, a small tuberculous skin lesion.

INTRACRANIAL CYST. (Davenport.)
habit is often regarded not as the primary, but rather as a secondary or concomitant etiologic factor. If we remember how seldom, comparatively speaking, the Chinese drink alcoholic liquors to excess, it would be absurd to see in alcohol the cause of relatively so common a disease as cirrhosis of the liver. We must therefore search for other etiologic factors.

**PATHOLOGY OF CIRRHOSIS.**

Some time ago cirrhosis of the liver was described as a process of chronic inflammation. It was held that some nocuous agent would cause simultaneously a chronic inflammation, with round-cell infiltration and formation of connective tissue, and that this inflammation would result in destruction of the hepatic tissue. Nowadays, another view of the process is adopted. Cirrhosis is regarded as due to a destructive process in the liver. Primarily, a process of destruction of the tissue of the liver takes place which is followed by processes of regeneration and organization and this finally results in the formation of scar tissue (the so-called atrophic cirrhosis), whilst the preceding processes of necrosis and inflammation usually disappear. More recent studies have demonstrated how frequently in various infectious diseases necrotic foci are met with in the liver. We may well assume that such necrotic foci very often heal completely without leaving any traces; on the other hand, in many cases the destruction of liver tissue is so extensive, or occurs so rapidly, as to frustrate a complete and ideal healing. Such is probably the course in the cases of acute atrophy of the liver, and in some of the intoxications. In such cases, if the morbid process does not cause death, scar tissue is finally established, and anatomically, we have the picture of the nodular hyperplasia ("grossknotige Hyperplasie"). However, this does not differ essentially from atrophic cirrhosis in which there is also a combination of scar tissue and regenerated liver tissue. As far as we know, an acute and intensive destruction of liver parenchyma tends to result in some cases in the formation of an irregular nodular compensatory hyperplasia; whereas in other cases, probably where less concentrated poisons are acting at subsequent periods of time, the final result will be a finer nodular cirrhosis.

After these remarks I wish to report some cases of cirrhosis of the liver in Chinese. All these cases have been studied histologically.

**CIRRHOSIS FOLLOWING VARIOLA VERA.**

*History:* Female Chinese, aged 29 years, entered the hospital August 23, 1917. There was no history of previous sickness, except that she had had small-pox three
months before. A month later, the patient observed protrusion of the abdomen, and increasing loss of weight. The clinical examination showed, ascites, the periphery of the abdomen measuring one metre. Urine, without albumen and sugar. The abdomen was opened and many liters of ascitic fluid were withdrawn. Talma's operation was performed. Ten days afterwards the patient died with symptoms of progressive debility of the heart, and cachexia.

A post-mortem examination was made. Body, very emaciated. The abdominal cavity contained five liters of ascitic fluid. Rather extensive adhesions between the omentum and the anterior abdominal wall. No peritonitis. The liver showed the typical picture of Laënnec's atrophic cirrhosis. The volume of the liver was reduced to about one-half of normal size. The liver was hard to cut, and on the cut surface, reddish-grey and translucent, nodules projected from the liver tissue. No abnormalities in the bile ducts. The spleen was enlarged, very rich in blood and rather tough. There was pronounced brown atrophy of the myocardium, and the left pleural cavity was totally obliterated. At the bifurcation of the bronchi a few old tubercles and some fresh ones were found in the lymph-nodes. There was also evidence of chronic gastritis and slight atrophy of the pancreas. No intestinal parasites were found.

I think the case described must be taken as cirrhosis consequent upon infection with small-pox, as the patient had never been sick before except when she contracted small-pox, and we could not find any other probable cause of the cirrhosis, especially as there was no abuse of spirits.

From the histologic examination we must conclude that the cirrhosis of liver was of recent date. The morbid process in the liver had not yet come to an end, a conclusion which must be drawn from the presence of somewhat extensive foci of chronic inflammation, and from the vascular character of the connective tissue. Therefore the compression of the finer portal venules cannot have been of long duration. This is quite in accordance with the clinical history, that the ascites appeared only one month and a half ago. In this way the microscopical examination confirms our assumption as to the age of the morbid process, and most probable etiology of the disease. Histologic alterations in the liver in cases of small-pox were reported, some time ago, by Keisselitz and Mayer (Archiv für Schiff und Tropenhygiene, 1909, Beiheft 2), who found in the liver haemorrhagic foci of a dark red colour. These foci were not bigger than a pin's head, and rather numerous (sometimes 4 to 5 in the space of 1 sq. cm.). In microscopic sections many more such foci were found, containing invariably necrotic liver-parenchyma, red blood cells, and some neutrophile leucocytes.

We may well assume that in our case the virus of small-pox primarily caused such necrotic foci all over the liver, and that the reparatory processes of organization and regeneration have led to what now appears as "cirrhosis."

Cirrhosis of the Liver in the Chinese.
Typhoid fever and cirrhosis.

Typhoid fever is another infectious disease which not infrequently causes cirrhosis. Focal necroses of the liver (formerly wrongly called lymphomata) are extremely common in typhoid fever. It seems that, as a rule, such necroses disappear completely and the parts heal up, the more so as the necroses usually are of minute size. But in some cases, as Hubschmann has pointed out, there seems to be an undeniable relationship between typhoid fever and subsequent cirrhosis. I saw an instance of this in a Chinese, a man aged 40 years, at the post-mortem examination. There was an atrophic cirrhosis, and the clinical history furnished no other data except a previous attack of typhoid fever.

Tuberculosis and hepatic cirrhosis.

It is believed by many authors that tuberculosis may also be responsible for the establishment of cirrhosis of the liver. This view is based on the fact that not seldom cirrhosis of the liver and tuberculosis of the peritoneum are found together, and that sometimes in a cirrhotic liver miliary tubercles are encountered. In my opinion, this view lacks sufficient foundation. In such cases, the cirrhosis seems to me to be the older process and the tubercles in the peritoneum, or in the liver, are of later development, having been disseminated from an old (often latent) focus, as the cachexia developed. Therefore, there is no etiologic relationship between tuberculosis and the development of a cirrhosis.

Sometimes in a cirrhotic liver there are some nodules resembling tubercles, which are not true tubercles, but pseudo-tubercles around a foreign body. These pseudo-tubercles may closely resemble the true, the only difference being the absence of tubercle bacilli. I found such pseudo-tubercles in a few cases of cirrhosis of the liver. For instance, in a Chinese aged 20 years, I happened to find such pseudo-tubercles with giant cells in a probatory excision from the cirrhotic liver. In accordance with the clinical findings there were no tubercle bacilli. In this case, the pseudo-tubercles were formed around some foreign bodies, assumedly the ova of parasites, which either had disappeared, or were not met with in the sections examined.

Parasitic ova and cirrhosis.

This leads to the consideration of another kind of cirrhosis, viz., cirrhosis of the liver caused by the ova of Schistosomum japonicum. The action of such ova in the liver may be regarded as the typical action of
a foreign body. They cause first necrosis, then follows inflammation, the formation of pseudo-tubercles (often with giant cells), and organization; finally, all these processes lead to a cirrhosis, which is called, by some Japanese authors, embolic cirrhosis. Such an embolic cirrhosis may be sometimes distinguished, macroscopically, from an ordinary atrophic cirrhosis, but not always. I saw one case in the operation room, and another in the post-mortem room, in which it was absolutely impossible to differentiate the *Schistosomum* cirrhosis, from an ordinary atrophic cirrhosis.

This kind of cirrhosis, caused by infection with *Schistosomum japonicum*, is by no means infrequent in China, and I have the impression that a large percentage of the cases of cirrhosis in this country is caused in this way. It is possible to make the correct clinical diagnosis *in vivo* by an examination of the faeces. The ova of *Schistosomum japonicum* are quite characteristic and are not easily confounded with other ova. Besides, the examination of the blood may be of some value, as marked eosinophilia is held characteristic in cases of Schistosomiasis (Houghton). However, that this phenomenon is by no means regular, was taught to me by a case under my observation. In a Chinese girl, aged 15 years, with a very marked cirrhosis caused by *Schistosomum japonicum* (proved by the histologic findings of the ova in a probatory excision from the liver, and in the faeces), there was never an eosinophilia of the blood in repeated examinations. As infection with all sorts of worms is so common in China, and as many of them are known to cause more or less eosinophilia of the blood this finding is of a somewhat problematic value as regards the diagnosis of Schistosomiasis.

Another parasitic infection of the liver capable of producing cirrhosis, is infection with *Clonorchis sinensis* (*Distomum hepaticum*). This infection is also widespread in China. In cases of a gross infection it may come to a cirrhosis, or at least to clinical symptoms suggesting a cirrhosis. As the parasites live in the bile-ducts, the inflammatory process may spread eventually from the bile-ducts to the liver parenchyma proper. In the clinical picture, jaundice is more marked than in cases of ordinary atrophic cirrhosis. It would be very interesting to examine the livers in cases of infection with *C. sinensis* in the post-mortem room. We should learn how often this infection leads to cirrhosis, though probably it occurs only in cases of very severe infection; and we should also be able to decide the question as to the identity of the two species of *Clonorchis* commonly found.
There may be still other causes of the development of a cirrhosis. For instance, by some authors kala-azar is said to lead to cirrhosis, and the same is contended for some (certainly very rare) cases of Banti's disease. Malaria has also been suspected by some authors, especially among the French, as causing cirrhosis, the so-called "cirrhose paludéenne." But the pathologic change is not a true cirrhosis either anatomically or clinically, and it never exhibits the symptoms of a cirrhosis. It seems to me absurd to diagnose as cirrhotic any liver which has a thickened capsule, or which contains somewhat augmented connective tissue. Up to this date it has not been proved that malaria can cause a true cirrhosis of the liver. The alterations produced in the liver by malaria parasites are such as to make the development of a cirrhosis a priori very unlikely.

NEOPLASMS AND CIRRHOSIS OF LIVER.

Finally I wish to mention cases of neoplasm in a cirrhotic liver. We are as yet unable to state the real cause of a malignant growth. However, we may assume that the neoplastic process is indeed one of excessive regeneration, a process which happens, on a small scale, in nearly all cirrhotic livers. But the development from the minor hyperplasia to the formation of a true adenoma, and from an adenoma to an atypical adenoma or carcinoma of the liver, is only a matter of gradual transition. I saw two such tumors in cirrhotic livers in Chinese. One was an adenoma of the size of an apple, and the other a big primary carcinoma. In each case the liver was cirrhotic and there was a considerable amount of ascites. In the reports of similar cases it would be interesting to know if there were parasites in the biliary ducts, for it is admitted that an infection with Opisthorchis felineus (Distemum sibiricum), another trematode harboring in the biliary ducts, sometimes causes malignant growth in the liver, usually a carcinoma gelatinosum. I saw one such case in East Prussia. In the two instances of tumor in a cirrhotic liver mentioned above there were no parasites in the biliary system.

SUMMARY.

Cirrhosis of the liver seems to be a rather frequent disease in China. The etiology of the cirrhosis, in many cases, is unknown. Alcoholism plays no part, but various infections do so, like small-pox and typhoid fever. Many cases of cirrhosis are due to animal parasites, Schistosomum japonicum, Clonorchis sinensis, and probably others. Parasites may also cause the formation of a malignant growth in a cirrhotic liver.
Ulcer of Stomach and Duodenal Ulcer. The arrow on lesser curvature points to a gastric ulcer. The other arrow points to a diverticulum due to a perforating duodenal ulcer: the pocket is filled with barium, but the duodenum itself is empty. Indications confirmed at operation.
THE DIAGNOSIS OF CHRONIC DUODENAL AND GASTRIC ULCERS.*

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This subject has been selected not with the idea of contributing anything new to it or of exhaustively covering it, but with the hope of arousing more interest in these ulcers which I am persuaded are very common among the Chinese. In our mission hospital reports there are not many gastric or duodenal ulcers recorded but for a number of years I have believed that many cases were to be found in our clinics. Since I have been searching for them in our own clinic I find a large number of patients who give a typical syndrome and during the past few months I have definitely diagnosed more than twenty. This is one disease we cannot depend upon the patient himself to diagnose. If he has an ulcer of the leg we can accept his diagnosis. With gastric ulcer, however, we must most carefully and patiently elicit from him his history and symptoms which he is often reluctant to give with any degree of accuracy. It is quite common in our crowded clinics when a patient complains of digestive troubles to put down the diagnosis as "dyspepsia," give him a bottle of stock mixture and let him go. On the other hand, if we look for these ulcers by carefully investigating every case complaining of digestive troubles I am sure many will be found. This attitude of watching and investigating will also enable one to find many other abdominal surgical conditions which are now reported as rare among the Chinese.

CLINICAL DIAGNOSIS.

All these chronic ulcers will give a history of characteristic repeated attacks extending over a period of several years, and I believe there is no more important fact in the clinical diagnosis than this. These attacks are especially prone to recur every spring and autumn. Sometimes in the early course of the ulcer there will be only one attack a year, but usually there are two to four and they will become more and more severe, with a corresponding increase in the severity of the symptoms. The length of the attack will vary from a week or ten days to a month or more, depending much on the care and treatment received. After a number of years of these repeated attacks it will often happen that, following some exceptionally severe one, the symptoms do not disappear as formerly but the patient has

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continual trouble. This is especially true when the ulcer is located at or near the pylorus in which case there is an early tendency to obstruction and the contraction of the pylorus causes constant irritation. Such a patient is more fortunate than others from one point of view as he will the more readily accept surgical treatment.

SYMPTOMS.

Pain, tenderness, hyperacidity, belching, vomiting of food and blood are the most common and characteristic symptoms met with in these attacks.

Pain is perhaps the most important and constant symptom. It varies from a dull, aching, gnawing pain to the severe, sharp pain in a subacute perforating ulcer. The most characteristic thing about the pain is its relation to food. The pain in gastric ulcer comes on usually within an hour after eating and is accompanied with a sense of fullness. It will last from an hour to several hours and will be relieved by emptying the stomach whether physiologically or by vomiting. The pain in duodenal ulcer begins when the stomach is empty and is relieved by taking food. This is what Moynihan has called ‘‘hunger pain.’’ Pain in the middle of the night is quite characteristic of duodenal ulcer, and these patients when they once discover that eating relieves the pain will have food convenient to eat during the night. The location of the pain is usually in the epigastrium, often as high as the eusiform, rarely referred to the umbilicus, but often to the back or shoulder. The Chinese call it ‘‘sin li tong,” (心里痛), ‘‘koer chi tong” (气痛), “wei chi tong” (胃痛), etc. If a patient who uses any of these three common expressions is carefully examined the pain can be usually traced to the right side of the upper abdomen, and in a large percentage of such cases an ulcer of the stomach or duodenum will be its cause.

Tenderness is nearly always present during or near the attack and it can be elicited by careful examination; it always corresponds to the ulcerated spot, but not necessarily to the point where the patient seems to feel the pain. Its location varies with the position of the ulcer in the stomach and the position of the stomach in the individual. It is most frequently felt just above and to the right of the umbilicus, but it may be just below the umbilicus, high in the epigastrium, or even to the left of the median line; it is very often in such close proximity to the region of the gall-bladder that a big question mark must be placed against our diagnosis when the other symptoms are not entirely orthodox.
HYPERACIDITY is nearly always present, but it is also present in a great many other conditions. Its absence does more to disprove ulcer than its presence does to prove it. Hyperacidity with food remnants, or a six hour residue following a barium meal, is especially valuable. This hyperacidity is directly connected with belching and sour eructations which form almost as good a sign as stomach analysis. The therapeutic test for hyperacidity is easy and always worth while performing. A good dose of sodium bicarbonate, when it relieves the pain, sense of fullness, and sourness, is a sure sign of hyperacidity. The analysis of stomach contents is attended with so much trouble, inconvenience, uncertainty, and the information it gives is so limited that I am not carrying it out in my work. The other signs of hyperacidity are of almost equal value for diagnosis.

VOMITING occurs in some cases especially where there is a tendency to obstruction of the pylorus. This symptom is liable to occur at any time following the meal and, in cases of a marked degree of obstruction, the vomitus will often contain food that was taken the day before. Usually vomiting gives the patients comfort and they often learn to bring it on artificially. Vomiting is more frequent at the time of severe attacks in patients with old and large ulcers near the pylorus. When the trouble is continuous there will be times when it is far more severe and it is then that vomiting takes place.

The vomiting of blood is a most valuable sign if carefully differentiated from hemorrhage from the lungs. Hemorrhage occurs in from 20-30 per cent of cases of gastric ulcer. The appearance of occult blood in the stools is about as valuable as some of the other occult signs in the practice of medicine.

The gathering of all this information from a Chinese is not the easiest task we have in our routine work. It is rare that we find a patient who can, or will, describe his trouble accurately from the beginning. By persistent questioning, so as to make sure that they know what we are asking, we can usually arrive at an understanding of their trouble. It is often well to go over these cases more than once, or they should be examined by two different doctors. A very large percentage of ulcers will give the typical ulcer syndrome in which case we can be fairly certain of our diagnosis. The positive signs come with the X-ray examination conducted after the method used at the Mayo Clinic.

X-RAY EXAMINATION.

The method of procedure is rather important and the examination is often as valuable for eliminating as for confirming the diagnosis
of ulcer. The patient should be given a dose of castor oil two or
three hours before he is to receive the barium meal. Six hours before
the examination is to be made, a visualizing meal of barium sulphate,
two ounces, is given in about six ounces of ordinary rice porridge,
and the patient allowed to have nothing more before the examination.
He is first examined with the fluoroscope and the location of the
meal noted, particularly observing whether it has all passed out of the
stomach. While watching the patient with the fluoroscope, he is
given two ounces more of barium in eight ounces of water, and its
entrance into the stomach is carefully observed. This mixture may
be flavored with anything to suit the taste, and the examination is
often facilitated by adding a little sodium bicarbonate to neutralise
the acidity of the stomach, so that the pylorus will the more readily
relax and give a better view of the duodenum. The entire outlines
of the stomach and duodenum are to be examined and the patient
should be turned on each side to view as much of the posterior and
anterior surfaces of the stomach as possible, remembering that it is
only a shadow that we are looking at. As the dose of barium mixture
does not nearly fill the stomach, we give three more ounces of barium
in twelve ounces of rice soup (粥 湯 tsok taung) and this usually fills
the stomach. I have found the rice soup to be even better than the
mixtures usually used in the States and far more convenient in our
hospitals. It is of just the right consistency and it is something to
which our patients are accustomed. A careful and final examination
is now made with the fluoroscope noting the shape and size of the
stomach, watching peristalsis to see that the waves are not interrupted
at any point, and noting their rapidity and depth. We should at this
time most carefully look for the niche of the ulcer or the pocket of the
perforating ulcer. By kneading the stomach much of the anterior and
posterior surfaces can be brought to the border of the shadow and we
can turn the patient to the left and the right. In most ulcers of any
size it will be possible to find them indicated on the screen. When the
ulcer is brought to the border of the shadow there will be a protrusion
of the barium shadow which is the barium in the crater of the
ulcer. In the perforating ulcer there will be a definite pouch or
diverticulum filled with barium which by pressure can sometimes be
emptied. The duodenum should also be observed with the greatest
care for irregularities in its borders and communicating pockets. It
should be viewed from as many angles as possible. If the duodenal
cap fills up perfectly we can be pretty safe in ruling out duodenal
ulcer. After this the patient should be put on the table and as many
plates made as the examiner thinks are necessary to establish or refute the diagnosis. It will often happen that an ulcer will not be indicated on the screen but will show on the plate. In the accompanying illustration I did not observe the gastric ulcer on the screen but saw only the duodenal pocket. Had my attention not been centered on the pocket I might have seen the niche. At the operation we found not only the gastric ulcer but also a second ulcer on the anterior surface of the duodenum. Duodenal ulcers are far more difficult to diagnose definitely by the X-ray than gastric ulcers. Making a series of five to twenty plates in all doubtful cases is now becoming a common and recognized procedure. If one normal duodenum can be demonstrated on a plate it rules out ulcer of that part. If the duodenum cannot be shown, or there is a constant irregularity we can depend upon it that its condition is pathological.

Dr. Carman, the chief of the X-ray department of the Mayo Clinic, who does a great deal of this work and who has contributed much toward the proper interpretation of the Roentgen findings in stomach examinations, thus briefly summarizes the signs of gastric and duodenal ulcers.

SIGNS OF GASTRIC ULCER.

1. Direct or Pathognomonic:
   a. The niche,—the crater of the ulcer which fills with barium.
   b. The accessory pocket or diverticulum of the perforating ulcer.

2. Indirect:
   a. The incisura,—an indentation in the gastric outline produced by a reflex spastic contraction of the circular fibers in the plane of the ulcer.
   b. Hour-glass stomach, usually of the B type.

3. Auxiliary:
   a. Local irregularity of gastric contour.
   b. Residue from six hour meal.
   c. Localized tender spot on stomach.
   d. Lessened mobility of stomach due to adhesions in perforation.
   e. Anti-peristalsis, in the obstructive type.
   f. Gastric hypotonus.
   g. Gastrospasm.
   h. Displacement of the stomach.
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SIGNS OF DUODENAL ULCER.

1. Direct:
   a. Deformity of the duodenal cap.
   b. Diverticulum or accessory pocket.

2. Indirect:
   a. Gastric hyper-peristalsis.
   b. Gastric retention from six hour meal. The combination of hyper-peristalsis with retention is significant of duodenal ulcer with obstruction.
   c. Hypermotility—early emptying of the stomach in the non-obstructive type.
   d. Gastric hypertonus in the non-obstructive type.
   e. Gastrospasm—spastic transient hour-glass incisura.
   f. Localized tenderness over the duodenum.

With a careful fluoroscopic examination and good plates, and keeping these signs in mind, a definite diagnosis can be made in some 80 per cent of cases. By a close co-operation of the clinical and X-ray departments at the Mayo Clinic they are now making a correct diagnosis in over 90 per cent of these cases.* No one method should be depended upon, but all evidence should be received, properly related, and given its due value in the final decision.

DIAGNOSIS AT OPERATION.

Sometimes it is impossible to arrive at a definite diagnosis and the symptoms seem to justify an exploratory incision so that by direct examination of the duodenum and stomach the presence or absence of ulcer can be determined. Even in those cases that have been definitely diagnosed it is important to confirm its presence, location, and condition before deciding by what operation it shall be relieved. The recognition at this time is of no small importance and all guess work should be discarded. An operation for the relief of a condition diagnosed beforehand as ulcer, and no ulcer is found at the time of operation, justifies a suit for malpractice. In case the ulcer is not on the anterior surface it may be best or necessary to expose the posterior surface for inspection. This can be done by several routes; from above, through the gastro-hepatic omentum; from below, by making a rent in the mesentery of the transverse colon; and by the route recently described by Sherwood-Dunn, the epiplo-enterocolic.†

* Eusterman: Gastric and Duodenal Ulcer. N. Y. State Journ. Med. xvii. 88.
Adhesions when present and on the anterior surface of the organ will be the first thing noticeable. They will vary according to how near the ulcer has perforated the wall. When it has perforated, the adhesions are liable to be very extensive and thick, while on the inside will be a pocket communicating with the stomach. Again, there may be simply a puckering of the peritoneum due to the scar tissue, and a thickening due to the nearness of the irritation. If there are no adhesions the scar is liable to show up at once; it will be more or less manifest according to the amount of contraction that has taken place. It will be covered with fine, irregular capillaries. Gently rub it with a piece of gauze and hemorrhage will take place under the peritoneum at once, a condition which Dr. C. H. Mayo, speaks of as a "red ink splotch." It will not occur in the normal viscera except on very rough handling.

Around the ulcer the wall of the stomach will be found indurated, thickened, and hard, for a distance varying with the size and condition of the ulcer. This thickening and stiffness is easily felt by grasping the part between the thumb and finger. By invaginating the stomach wall the crater of the ulcer can be felt in the center of this indurated area. When all these signs are present the identification of an ulcer is easy; but they are not always all present to a marked degree, and the position of the ulcer may make a great deal of difference as to the ease with which the diagnosis is made.

Some surgeons advocate as a final step to eliminate or recognize an ulcer the opening of the viscera in order to inspect the inner surface. In my opinion this is unnecessary. If the ulcer is not of sufficient size to be identified by the above signs, it is most likely not the cause of the symptoms for which it is thought necessary to open the abdomen.

**DIFFERENTIAL DIAGNOSIS.**

While ulcers, on the whole, are rather easy to diagnose, yet there is a number which do not conform to the typical ulcer syndrome in their clinical history or X-ray examination. It is in these cases with an irregular syndrome that the differential diagnosis is important. Ulcers of the stomach and duodenum must be differentiated from carcinoma of the stomach; gall-bladder diseases; appendicitis; kidney and ureteral stones; ulcerations, partial obstruction, tumors and carcinoma of the intestines, especially of the ascending and transverse colon.

1. **CARCINOMA OF THE STOMACH.** It is still a question whether carcinoma is primary in the stomach or always develops on an ulcer.
There is some evidence on both sides. We know it frequently develops on the border of an ulcer. I believe it is also true that a carcinoma of the stomach has not been found before there was an area of ulceration on the surface of its mucous membrane. We should not expect a mere nodule, a beginning carcinoma, to give any symptoms; but if it is primary, by this time it should have been accidentally discovered. We know that many ulcers fail to give symptoms sufficient to cause complaint on the part of the patient, and when a cancer is discovered later, we say he gave no history of previous ulcer. When the cancer is examined, however, we find a large ulcerated area and know that it must have been in existence long before it began to cause symptoms. In case of an ulcer, with a carcinoma beginning at its base or border, with all the means at our disposal it is impossible to differentiate it until it is removed and sections made for microscopical examination. Whenever possible all ulcers of the stomach should be removed and examined microscopically. Even then it is possible to overlook the very beginning of a carcinoma, for it would be a considerable task to examine all the area of induration under the microscope. There must also be a mid-point between the high acidity of the ulcer and low acidity of the cancer. Still, in these very early cases our only means of differentiation is the microscope. In the more advanced cases of carcinoma, there is low acidity with the presence of lactic acid, and the vomiting, when it occurs, is usually of the coffee-ground type. Further, by means of the X-ray, we can make the positive diagnosis of carcinoma by the filling defect and larger area of interrupted peristalsis. When the pylorus is not involved in carcinoma, there is hyper-peristalsis with rapid emptying of the stomach; in ulcer there is hyper-peristalsis with pylorospasm and slow emptying.

2. Diseases of the Gall-bladder. The various diseases of the gall-bladder are often confused with ulcers of the duodenum and stomach and furnish the largest number of errors. It is very important in all cases of operation either on the stomach or gall-bladder that the other organ be examined to see if it is pathological, for it is not at all impossible for both to be diseased. The whole evidence for ulcer as outlined above, and all the evidence in favor of gall-bladder as may be outlined, should be gathered and carefully considered and in the absence of convincing proof for either one the question of final diagnosis should be left till the time of operation. So long as either disease continues in its own straight and narrow path there is little chance for confusion, but we know that disease is as liable to stray from the path as is man. Pain in its relation to food, and the X-ray
findings, are the most important points of difference. The general
history and the frequency and length of attacks are a great help.
When we remember that the gall-bladder often lies in direct contact
with the duodenum it is not surprising that confusion is common.
The maintenance of an open mind until all the evidence is in will
greatly help to eliminate errors.

3. APPENDICITIS. This disease is perhaps one of the easiest of
all abdominal conditions to diagnose, so long as it remains somewhat
typical. However, many an appendix has been removed when the
real trouble was in the duodenum, stomach, gall-bladder, or kidney.
Here also we require all possible evidence before a decision is made;
especially do we want all details in connection with the attacks.
Appendicitis usually has a rise of temperature with the attack,
ulcer of the duodenum and stomach rarely. Vomiting and pain have
no food relation in appendicitis. The location of the pain, which so
often the patient has not noted carefully or intelligently, is of great
importance. In appendicitis the pain is usually reflected to the um-
bilicus; in ulcer of the stomach, rarely. In appendicitis, even between
the attacks, we can usually elicit tenderness in the right iliac region.
The attacks in appendicitis are really more severe and make the
patient more really sick, and between the attacks he will have the
symptoms of indigestion which accompany ulcer. Then, too, it is
not at all uncommon to have both diseases in the same patient. In all
cases each organ should be examined, if possible, and treated as
indicated.

4. Kidney and ureteral stones will occasionally give cause for
confusion, especially if one is careless or incomplete in his examin-
ations. The presence of blood or pus in the urine should call for the
absolute elimination of trouble in that region before the diagnosis of ulcer
of the duodenum or stomach is made in the absence of a positive sign.

5. We also need to differentiate between ulcerations, partial
obstruction, and carcinoma or other tumor of the intestines, especially
of the ascending and transverse colon. The clinical symptoms of any
of these may markedly resemble ulcer of the duodenum or stomach
and it is with the X-ray that we get the positive evidence by watching
the progress of the barium meal through the intestines, and by a
barium enema. In these cases we can often palpate a definite mass
which may be moveable, or its very location may rule out ulcer. It is
most important to keep the possibility of these conditions in mind while
gathering in the evidence.
SUMMARY.

1. Ulcers of the duodenum and stomach are believed to be common among the Chinese. The possibility of this condition in many cases of abdominal pain is worth more careful consideration than is usually given to it in our routine work.

2. The clinical diagnosis depends on the history of repeated characteristic attacks consisting of pain which has a relation to food, and which is epigastric in location and gnawing in character; tenderness over the site of the ulcer; hyperacidity; belching and sour eructations, and the vomiting of food and blood.

3. The X-ray gives positive diagnostic signs—the niche and the accessory pocket; and probable signs—residue, incisura, hour-glass contraction, hyper-peristalsis, anti-peristalsis, hypertonus, hypotonus, irregularity of contour, fixation, etc.

4. The ulcer at operation is identified by adhesions, scar, "red ink splotch" on the scar, indurated area and crater of the ulcer.

5. A differential diagnosis is to be made from carcinoma of the stomach; gall-bladder diseases; appendicitis; kidney and ureteral stones; ulcerations, partial obstruction, and carcinoma and other tumors of the intestines.

NOTE.—All excellent general review of the whole subject of gastric and duodenal ulcers is to be found in the International Abstract of Surgery, March, 1917.

INTRACRANIAL CYST.

C. J. DAVENPORT, F.R.C.S., L.R.C.P., Shanghai.

The patient, a boy aged 16, Chinese reckoning, was admitted into the Shantung Road Hospital on 22nd September, 1915. He was a thin, frail little fellow, the size of an average boy of 10 years old. On this frail body was poised an enormous head, tilted somewhat to the left side, and so heavy that it had to be supported with the hand if it inclined too much in any direction from the perpendicular.

History.—The enlargement of the head began subsequent to a blow, received from a piece of wood seven years previously, over the anterior part of the left temporal fossa. The blow caused no wound, but raised a hard lump. No other bad symptoms followed. The abnormal growth of the head originated from this spot, and was at first slow and steady. Latterly, it has been more rapid, and accompanied by attacks of pain and fever, when the head "felt as if it would burst."
After each attack the head was noticed to become larger in size. The right side of the head became involved three years ago.

Past and Family History. — Father died of ascites. Mother, strong and healthy. One brother alive and well; three other children died in infancy. No history of syphilis. Patient's birth was normal, and the head was normal till he received the blow nine years ago. He has not suffered from any pressure symptoms, has no paralysis, mental defect, or convulsions. Vision and hearing good. He eats and sleeps well, plays about and is cheerful, and only complains of being loaded by the weight of his immense head. The swelling has never been needled by a Chinese doctor.

Condition. — This is probably better shown by the photograph, than any words can describe. The swelling mostly affects the left and front portion of the head. It is irregular, rounded, "bossy," fluctuating in places, very firm and elastic in other places. Hard floating plates of bone are to be felt in its walls, which on deep pressure in some places, give the sense of rough eroded bone. The individual frontal, parietal, and temporal bones are widely separated one from the other. The left temporal bone is especially displaced, the left ear being on a level some two or three inches below the right ear, and looking almost directly downwards. Yet the hearing of the left ear is good. The swelling bulges forward in both orbits, the right eye-ball being entirely hidden, and the left displaced to the inner canthus, the conjunctivæ being everted and chronically inflamed. Fluctuation in the individual "bosses" very marked, but not to be got from the right side of the head to the left side. The bones of the occiput and of the right parietal and temporal regions appear practically normal.

Measurements. — Horizontal circumference, on a level of the supraorbital ridge, 31 ½ inches. Perpendicular circumference, on a level of the ears, 31 inches. Across the top of the head, from one ear to the other, 20 inches. Left "boss," from front to back 17 inches; from top to bottom 12 inches. Right "boss," 5 inches by 7 inches.

Treatment and subsequent History. — The patient remained with us for five months and was quite useful and cheerful in the ward. He was freed from a number of Ascaris lumbricoides and his general condition much improved, though when he left the hospital his cranial measurements were one to two inches larger in all directions.

Surgical treatment. — Under chloroform, we first aspirated the swelling at a point over the upper part of the right orbit. Only one or two drachms of very thick, sticky, gelatinous, yellow substance was
got away, but the puncture wound continued to leak for some days, and the "boss" on the right side was considerably reduced in size for a time. On December 20th, 1917, the left "boss" was aspirated under chloroform and about a pint of similar fluid drawn off, the cyst becoming quite flabby and soft, enabling one clearly to differentiate the edges of the various bones. The fluid drawn off was of rather deeper colour than on the former occasion. On January 8th, 1918, about 25 ounces were drawn off from the right "boss." Patient vomited and strained a good deal under chloroform and this caused a quantity of bright blood to come away with the last part of the fluid. The cyst wall felt very lax. On February 15th, the tumour was as large and prominent as ever. About this time the lad discovered the relief which oozing of the fluid gave him and he set to work to periodically strain it out through the puncture wound. His mother took him home on 24th March. His general condition was good, but the cranial measurements showed quite a marked increase, and the left "boss" had grown posteriorly, at which spot he felt some pain and fulness.

Under the microscope the fluid showed an amorphous structure, with here and there large, granular, nucleated, branched cells, like big nerve cells.

What was the nature of the cyst? One longed to get the whole head as a pathological specimen for a home museum, but maternal love was more precious and we were glad to send the little chap back somewhat stronger physically than when he came. I suggest that the blow caused intracranial haemorrhage. The clot organized and grew, took on degenerate action, and finally mucoid degeneration. The case, I think, is unique, as I am unable to find any literature referring to any similar case. I have heard nothing of the lad since he returned to his home some hundreds of miles away.

BRONCHOMONOLIASIS IN CHINA.

MABEL PANTIN, L. M. S. S. A. (London), Soochow.

During the early days of my practice in a tea-growing district high up among the mountains of Fukien, I was puzzled continually by cases of blood-spitting that had not the clinical features of tuberculosis. Since attending a course at the London School of Tropical Medicine, I have made a fuller investigation of these cases and find a very large number are due to invasion of the bronchial mucous membrane by a mould, a species of monilia. Castellani and Chalmers, in their "Manual of Tropical Medicine," describe this disease as bronchomonoliasis (syn.,
Bronchomonoliasis in China.

broncho-oidiosis; broncho-endomycosis; broncho-blastomycosis), and state that it occurs in India and elsewhere in the East. According to them the "tea-factory cough," extremely common in Ceylon, is probably also a form of monoliasis. But I do not think that bronchomonoliasis is generally regarded as being common in China.

On moving lately to temporary work in the province of Kansu where tea is not cultivated, I was interested to find the same disease in existence there, and for the first time I was consulted by a foreign resident for blood-spitting which was clearly due to bronchomonoliasis. Now that I know the disease occurs not only in the tea-sorting districts of the Fukien highlands but also the lowlands of Kansu, and that it affects not only Chinese but foreigners also, it appears to me to be of such general interest as to justify calling attention to it.

The symptoms are cough, blood-spitting, and after a time emaciation and weakness. I have seen the hæmoptysis vary in quantity and color from just a mouthful of slightly blood-stained serum in the early morning to a tea-cupful of bright red serum (this last in the case of a young woman). In the majority of cases that came to me for treatment the symptoms were cough and expectoration without hæmoptysis. The patients were mostly elderly or middle-aged women. The sputum was exceedingly abundant, dirty-looking, brownish in color, and foetid. I soon learnt to know by inspection alone what disease I had to deal with, even without the microscopic test. The treatment recommended is potassium iodide in doses of ten to twenty grains. I have found that elderly and middle-aged patients bear the drug well, but younger patients suffer considerable depression. Improvement is almost immediate; the hæmoptysis lessens, the mucus is coughed up, and the lung appears to be cleared of the monilia by the liquefaction and discharge of the mucus.

Diagnosis.—The diagnosis of moniliasis is based on finding the fungus in the sputum. Commonly in fresh preparations of the expectoration, spore-like, roundish or oval cells between 4 μ-6 μ are seen, often presenting a double contour, alone or more rarely with some mycelial articles. The fungus in gram positive.

Rarer moulds I have occasionally found in sputum; notably one of a brilliant orange-color as already reported in the China Medical Journal. It was found in a ringworm on the patient's chest, and later in two axillary abscesses of nipple-like form which were connected with the ringworm by a track of lymphatic inflammation. Eventually, the lungs were affected, probably by accident as there was an exceedingly acute attack of bronchitis. Then followed acute synovitis of the
right elbow joint which, however, did not suppurate. The sputum in this case was of a brilliant orange color and contained powdery sporangia and an abundant mycelium.

The common form of mould mentioned above appears sometimes to prepare the way for the invasion of the lungs by tubercle bacilli, but I have never found the mould present in a case of established tuberculosis. Bronchomononoliasis often gives physical signs very like those of early tuberculosis, especially at the apices and between the shoulder blades.

I am anxious to know whether this disease is general throughout China or whether it is limited, more or less, to the tea districts.

A CASE OF FATAL POISONING BY NOVARENOBENZOL.

WALTER E. LIBBY, M.D., Wuhu.

Novarsenobenzol is similar to neosalvarsan both in its reaction and in the method of its administration. The reaction, of course, depends upon the individual and the amount used. It has been said, and I myself have thought, that novarsenobenzol was less toxic than neosalvarsan, but in the light of our recent experience this opinion seems untenable. The method of administration differs only in that novarsenobenzol can be administered at eight-day intervals, while we were accustomed to wait at least two weeks before giving a succeeding dose of neosalvarsan. The method used by us is the same we used in the administration of neosalvarsan;—the drug is dissolved in freshly distilled, sterile water and injected with a 20 mils syringe. The initial dose is 0.3 to 0.45 gm. and the succeeding doses depend upon the reaction to the first. Following the injection every patient spends the night in the hospital.

During the last two months, in administering novarsenobenzol to four women we have had marked reactions in two cases, and one death. The reactions consisted of headache, chills and fever, nausea and vomiting which persisted from 36 to 72 hours. Because of these reactions the succeeding doses were not increased. Other than these symptoms, no ill effects were noted.

The fatal case was that of a woman, thirty years of age, whose husband had recently received three injections with beneficial results. She complained of pain in the lower limbs, especially the right; the right
eye showed what apparently was a syphilitic keratitis, and there was a general adenopathy. Because of the severe reactions in the preceding cases only 0.3 gm. was given and no reaction followed. The patient returned eight days later and a second dose of 0.6 gm. was given. The reaction began almost immediately with headache, chills and fever, nausea and vomiting which persisted throughout the night. The next morning the patient returned home, even though the symptoms were still present. About three days later a servant came to the hospital saying that the patient was in bed and seemed to be worse. Instructions were given that if she did not improve the next day she was to be brought to the hospital. The following Sunday, in the afternoon, eight days after the administration of the second dose, I was called to the house and found the patient in an unconscious condition and having convulsions. They told me the trouble started immediately after the second dose and that she grew progressively worse after returning home. She was brought to the hospital at once. Examination showed that the pupils were equal and reacted to light and accommodation; the breathing was stertorous and the breath gave an uremic odor. Temperature 101.5 °F. (axilla); pulse, 100; respiration, 28. There were petechial hemorrhages over the entire body, varying in size from \( \frac{1}{4} \) to 3 inches in diameter. A catheterized specimen of urine showed albumen and granular casts. Subsequent catheterizations every ten to twelve hours showed the same picture; the amount of urine was from 2 to 3 ounces. A diagnosis of uraemia from arsenical poisoning was made and eliminative treatment begun. A venesection of 400 mils was performed, and about 700 mils of normal salt solution injected. In about 24 hours the convulsions had ceased, the patient became semi-conscious and was able to take small amounts of food. She remained in this condition for about three days, but gradually the heart failed and in spite of vigorous stimulation she died.

The question naturally arises as to the cause of death. At first one might think death attributable to an error in the technique; or, more especially, to the sterile water, as accidents from this cause have been reported in the use of salvarsan. But we have been using the same technique and similar water in our administrations of novarsenobenzol to men. Moreover, if this were true it seems likely that the symptoms would have been different and death would have followed more quickly. But the trouble began from the second dose and gradually progressed until death resulted thirteen days later. In view of these facts, together with the symptom complex, I believe death resulted from the accumulative effect of arsenic.
Observations:
1. Novarsenobenzol is not less toxic than other forms of salvarsan and hence care is needed in its administration.
2. Women are more susceptible to its toxic effect than men.
3. Because of its toxicity the interval of eight days is too short, and it seems best to follow the method of giving neosalvarsan, at an interval of two weeks or more.

THE HEIGHT, WEIGHT, AND CHEST MEASUREMENTS OF HEALTHY CHINESE.*

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PART II.

PIGNET'S FACTOR.—For a long time men have endeavoured to relate the three measurements, height, weight, and chest circumference, in such a way as to give a clear indication of the physique of the individual concerned. It is unnecessary to describe here the different methods that have been employed for estimating a man's physique by measurements,—such as those of Vierordt, Bechuer-Lenuhoff, and others; it is better to concentrate attention upon Pignet's factor which has been frequently used by medical officers dealing with troops during the past ten years, and appeared (before the great war drove all less important subjects from our thoughts) to be taking a permanent place in the practice of those whose business it is to determine the physical fitness of their fellow-men.

Pignet's factor is obtained by deducting the circumference of the chest in centimeters (after full expiration) plus the weight in kilograms from the height in centimeters. In a heavy man with a large chest the factor may be a negative quantity (i.e., the height may be less than the chest circumference and the weight added together), but this is not frequent, and in England the factors most usually met with are those between 21 and 30. A table has been prepared showing the Pignet factor amongst grown men of different races. It is obvious from this that the "normal" factor must be different for different races; the average for the Russian recruits must be a much smaller number than the German factor, which again must be much smaller...
Measurements of Healthy Chinese.

than the Chinese. In preparing the table and diagram I have taken the liberty of departing somewhat from the nomenclature which Pignet applied to the different classes, but I may say that his description of the

### TABLE SHOWING THE SIZE OF PIGNET'S FACTOR IN ADULTS OF DIFFERENT RACES

<table>
<thead>
<tr>
<th></th>
<th>UNDER 10</th>
<th>11 to 20</th>
<th>21 to 30</th>
<th>31 to 35</th>
<th>OVER 35</th>
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<tbody>
<tr>
<td></td>
<td>VERY STRONG</td>
<td>STRONG</td>
<td>MEDIUM</td>
<td>WEAK</td>
<td>VERY WEAK</td>
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<tr>
<td>6. RUSSIAN RECRUITS</td>
<td>40%</td>
<td>48%</td>
<td>11%</td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td>7. GERMAN RECRUITS</td>
<td>5%</td>
<td>28%</td>
<td>45%</td>
<td>14%</td>
<td>8%</td>
</tr>
<tr>
<td>8. INDIAN ARMY</td>
<td>3%</td>
<td>25%</td>
<td>43%</td>
<td>16%</td>
<td>12%</td>
</tr>
<tr>
<td>9. BRITISH RECRUITS</td>
<td>1%</td>
<td>10%</td>
<td>45%</td>
<td>24%</td>
<td>19%</td>
</tr>
<tr>
<td>CHINESE CIVILIANS</td>
<td>2%</td>
<td>4%</td>
<td>17%</td>
<td>15%</td>
<td>62%</td>
</tr>
</tbody>
</table>

#### DIAGRAM BASED ON THE ABOVE TABLE

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class "over 35" as "useless for military purposes," is a term which cannot be suitably applied either to 20% of those enlisted as recruits in the British army or to 60% of grown Chinese men. It would be almost as absurd for a Chinese military leader to expect all his soldiers to attain to the Russian standard of physique, as it was for the frog in the fable to try to assume the dimensions of the bull that had frightened its progeny.
Pignet's factor will repay careful study in any part of the world, but it would be unreasonable to apply to Chinese the classification which Pignet based on this factor and found appropriate for Europeans. But if we disregard this classification and, pending the elaboration of a new classification adapted to the Chinese, confine our attention to the factor itself, we find that two important uses can be made of it.

Having established a "normal" for our own part of China, we can easily see whether any individual does or does not come up to this normal standard. Whether he be a candidate for life insurance, or an applicant for admission to an educational institution or appointment to mission service, we shall do well to look carefully at those persons having factors larger than the "normal." An example taken from the data in the table will show what is meant. Of those Russian recruits having factors between 26 and 30, 40% were dismissed from the service in a short time for disability and a large proportion of the remainder were "constantly sick," while of those with a factor over 30, 90% had to be dismissed for disability, and of the remainder one-half were eventually invalided from the service for tuberculosis or general debility. This shows how a large factor may portend ill-health.

Another important use that can be made of the factor is to determine the effect of a course of training upon those who have submitted themselves to it; comparisons between the effects of different courses of training upon similar raw material would quickly show which was the better course. When the factors of the British recruits shown in the diagram were again calculated two or three months after their enlistment, it was found that as a result of the training they had undergone there was an increase of 50% in the number of the "strong" and "very strong" classes, with a corresponding diminution in the numbers in the weak classes.

In the case of schoolboys, however, it must be borne in mind that quite apart from any system of physical culture the factor will be found to be better, i.e., smaller, amongst older boys.

The findings contained in this Report represent the results of two years' work for the Association, which will not have been done in vain if, on the one hand, it helps doctors in the South of China to a fuller understanding of the normal physique of their patients and of the schoolboys and girls committed to their care; or, on the other hand, if it stimulates other doctors to discover the "normal" figures for the Chinese amongst whom they work.
### Measurements of Healthy Chinese

#### Table Showing Average Measurements Obtained in Young People and Adults in Different Parts of China

<table>
<thead>
<tr>
<th>Age</th>
<th>11</th>
<th>12</th>
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<tr>
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<td>...</td>
<td>101</td>
<td>103</td>
<td>111</td>
<td>128</td>
<td>153</td>
<td>161</td>
<td>195</td>
<td>70</td>
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<td>&quot; (Research Comm.)...</td>
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<td>54</td>
<td>76</td>
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<td>8</td>
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<td>12</td>
<td>26</td>
<td>51</td>
<td>116</td>
<td>119</td>
<td>116</td>
<td>122</td>
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<td>19</td>
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<td>44</td>
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<td>Tung, and Fu...</td>
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<td>32</td>
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<td>37</td>
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<tr>
<td><strong>Adults.</strong></td>
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<td>NO. OF CASES IN EACH CATEGORY.</td>
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<td><strong>WEIGHT IN KILOGRAMMES.</strong></td>
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<td>60.8</td>
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<td>68.6</td>
<td>70.6</td>
<td>72.6</td>
<td>72.8</td>
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</tbody>
</table>

**N.B.** "Males, Peking (Dr. Shoemaker)" represents cases reported by him in the Announcement of the Department of Physical Education in the Tsinghua College.

"Males, Peking (Research Committee)" those of the above cases which were reported by Dr. Shoemaker to the Research Committee in fuller detail.

"Males, Che., Fu., Tung" represents the male cases reported by Members of the Association from the provinces of Chekiang, Central China, Fukien, and Kwangtung (Southern China).

"Females, Ho., Ku., Che., Tung, Fu" represents the female cases reported by Members of the Association from the provinces of Honan, Kiangsu, Chekiang, Northern and Central China, Kwangtung, and Fukien (Southern China).
<table>
<thead>
<tr>
<th>Age</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>Adult</th>
</tr>
</thead>
</table>

**WEIGHT IN GRAMS FOR EACH CENTIMETRE OF HEIGHT.**

- **Males. Peking (Res. Comm.) and Females, Ku., Ho., Che.**
  - 214 230 255 252 248 283 296 313 315 329
- **Males. Che., Fu., Tung, and Females, Tung and Fu.**
  - 199 201 225 217 260 263 272 291 293 313

**PIGMENT'S FACTOR.**

- **Males. Peking (Res. Comm.)**
  - 50 48 48 49 47 43 42 40 38 ...
- **Males. Fu., Che., Tung**
  - 51 49 46 49 47 47 43 43 42 36
- **Females. Ku., Ho., Che., Tung, and Fu.**
  - 46 44 42 41 38 33 32 34 33

**HEIGHT IN FEET AND INCHES.**

- **Males. Peking (Shoemaker)**
  - 4'6" 4'9" 4'11" 5'1 5'2 5'3 5'3 5'4 5'4 5'5
- **Males. Fu. and Tung**
  - 4'5" 4'5" 4'9 4'8 5'0 5'1 5'2 5'4 5'4 5'4
- **Females. Ku., Ho., Che., Tung, and Fu.**
  - 4'3" 4'5" 4'7" 4'7" 4'10" 4'10 4'10 4'11" 4'11" 4'11"

**CIRCUMFERENCE OF CHEST IN INCHES.**

- **Chest in Repose**
  - **Males. Peking (Shoemaker)**
    - 24 24 25 27 27 28 28 29 30 30 31 31
  - **After Full Expiration**
    - **Males. Peking (Res. Comm.)**
      - 23 24 25 26 27 28 28 29 29 29 28 28
    - **Males. Che., Fu., Tung, and Females, Tung, and Fu.**
      - 23 24 25 25 26 27 28 28 28 28 28 29

**NO. OF OZS. WEIGHT FOR EACH INCH OF HEIGHT.**

- **Males. Peking (Res. Comm.) and Females, Ho., Ku., Che.**
  - 19.1 20.5 22.5 23.5 24.1 25.3 26.4 28 28.1 29.4
- **Males. Che., Fu., Tung, and Females, Tung, and Fu.**
  - 16.9 17.9 20.1 19.4 23.2 23.5 24.3 26 26.2 26
**Measurements of Healthy Chinese.**

**PIGNEX'S FACTOR.**

i.e., Height in Centimetres—(Weight in Kilo, and Chest Circ. in Cms.)

**Males Only.**

<table>
<thead>
<tr>
<th>Pignet's Factor</th>
<th>Adult 19 and 18</th>
<th>17 and 16</th>
<th>15 and 14</th>
<th>13, 12, 11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 10</td>
<td>12</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Between 11 and 15</td>
<td>7</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>16, 20</td>
<td>14</td>
<td>1</td>
<td>1</td>
<td>...</td>
</tr>
<tr>
<td>21, 25</td>
<td>24</td>
<td>2</td>
<td>1</td>
<td>...</td>
</tr>
<tr>
<td>26, 30</td>
<td>64</td>
<td>8</td>
<td>13</td>
<td>...</td>
</tr>
<tr>
<td>31, 35</td>
<td>81</td>
<td>25</td>
<td>22</td>
<td>3</td>
</tr>
<tr>
<td>36, 40</td>
<td>97</td>
<td>29</td>
<td>53</td>
<td>14</td>
</tr>
<tr>
<td>41, 45</td>
<td>108</td>
<td>41</td>
<td>70</td>
<td>47</td>
</tr>
<tr>
<td>46, 50</td>
<td>72</td>
<td>47</td>
<td>66</td>
<td>72</td>
</tr>
<tr>
<td>51, 55</td>
<td>29</td>
<td>24</td>
<td>49</td>
<td>55</td>
</tr>
<tr>
<td>56, 60</td>
<td>16</td>
<td>9</td>
<td>23</td>
<td>21</td>
</tr>
<tr>
<td>61, 65</td>
<td>6</td>
<td>1</td>
<td>5</td>
<td>4</td>
</tr>
</tbody>
</table>

Total Number of Cases: 530

**TABLE SHOWING DISTRIBUTION OF CASES ACCORDING TO THE WEIGHT FOR HEIGHT INDEX.** (i.e., The Weight divided by the Height)

<table>
<thead>
<tr>
<th>Oz. per Inch of</th>
<th>Grammes per Cm.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>North South</td>
</tr>
<tr>
<td>Less than 15 oz.</td>
<td>Less than 167</td>
</tr>
<tr>
<td>15 oz.</td>
<td>167 grammes</td>
</tr>
<tr>
<td>16 oz.</td>
<td>178</td>
</tr>
<tr>
<td>17 oz.</td>
<td>189</td>
</tr>
<tr>
<td>18 oz.</td>
<td>200</td>
</tr>
<tr>
<td>19 oz.</td>
<td>211</td>
</tr>
<tr>
<td>20 oz.</td>
<td>222</td>
</tr>
<tr>
<td>21 oz.</td>
<td>233</td>
</tr>
<tr>
<td>22 oz.</td>
<td>244</td>
</tr>
<tr>
<td>23 oz.</td>
<td>256</td>
</tr>
<tr>
<td>24 oz.</td>
<td>269</td>
</tr>
<tr>
<td>25 oz.</td>
<td>278</td>
</tr>
<tr>
<td>26 oz.</td>
<td>289</td>
</tr>
<tr>
<td>27 oz.</td>
<td>301</td>
</tr>
<tr>
<td>28 oz.</td>
<td>312</td>
</tr>
<tr>
<td>29 oz.</td>
<td>323</td>
</tr>
<tr>
<td>30 oz.</td>
<td>334</td>
</tr>
<tr>
<td>31 oz.</td>
<td>346</td>
</tr>
<tr>
<td>32 oz.</td>
<td>357</td>
</tr>
<tr>
<td>33 oz.</td>
<td>368</td>
</tr>
<tr>
<td>34 oz.</td>
<td>379</td>
</tr>
<tr>
<td>35 oz.</td>
<td>391</td>
</tr>
<tr>
<td>36 oz.</td>
<td>402</td>
</tr>
<tr>
<td>37 oz.</td>
<td>413</td>
</tr>
<tr>
<td>38 oz.</td>
<td>425</td>
</tr>
<tr>
<td>39 oz.</td>
<td>436</td>
</tr>
<tr>
<td>Over 39 oz.</td>
<td>Over 436 gms.</td>
</tr>
</tbody>
</table>

Total Number of Cases: 1,559

_N.B._ In the above Table "North" includes cases (male and female) from Peking, Chekiang, Kiangsu, and Honan.

"South" includes cases (male and female) from Kwangtung and Fukien.
### TABLE SHOWING DISTRIBUTION OF CASES ACCORDING TO THEIR HEIGHT.

<table>
<thead>
<tr>
<th>Height in Inches</th>
<th>Height in Centimetres</th>
<th>No. of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 ft. 7 ins.</td>
<td>139.7 cm.</td>
<td>1</td>
</tr>
<tr>
<td>4 ft. 8 ins.</td>
<td>142.2 cm.</td>
<td>2</td>
</tr>
<tr>
<td>4 ft. 9 ins.</td>
<td>144.8 cm.</td>
<td>1</td>
</tr>
<tr>
<td>4 ft. 10 ins.</td>
<td>147.3 cm.</td>
<td>8</td>
</tr>
<tr>
<td>4 ft. 11 ins.</td>
<td>149.9 cm.</td>
<td>17</td>
</tr>
<tr>
<td>5 ft.</td>
<td>152.4 cm.</td>
<td>63</td>
</tr>
<tr>
<td>5 ft. 1 in.</td>
<td>154.9 cm.</td>
<td>96</td>
</tr>
<tr>
<td>5 ft. 2 ins.</td>
<td>157.5 cm.</td>
<td>137</td>
</tr>
<tr>
<td>5 ft. 3 ins.</td>
<td>160 cm.</td>
<td>239</td>
</tr>
<tr>
<td>5 ft. 4 ins.</td>
<td>162.6 cm.</td>
<td>292</td>
</tr>
<tr>
<td>5 ft. 5 ins.</td>
<td>165.1 cm.</td>
<td>288</td>
</tr>
<tr>
<td>5 ft. 6 ins.</td>
<td>167.6 cm.</td>
<td>232</td>
</tr>
<tr>
<td>5 ft. 7 ins.</td>
<td>170.2 cm.</td>
<td>176</td>
</tr>
<tr>
<td>5 ft. 8 ins.</td>
<td>172.7 cm.</td>
<td>109</td>
</tr>
<tr>
<td>5 ft. 9 ins.</td>
<td>175.3 cm.</td>
<td>54</td>
</tr>
<tr>
<td>5 ft. 10 ins.</td>
<td>177.8 cm.</td>
<td>20</td>
</tr>
<tr>
<td>5 ft. 11 ins.</td>
<td>180.3 cm.</td>
<td>4</td>
</tr>
<tr>
<td>6 ft.</td>
<td>182.9 cm.</td>
<td>2</td>
</tr>
<tr>
<td>Over 6 ft.</td>
<td>Over 182.9 cm.</td>
<td>3</td>
</tr>
</tbody>
</table>

1,744 Adult Males.

### REFERENCES.

2. See also China Medical Journal, November, 1912.
5. Der Militärartzt, August 21st, 1908.
7. Der Militärartzt, November 22nd, 1911.

### A CHINESE GIANT.

**William W. Cadbury, M.D., Canton.**

The average height of the Cantonese is undoubtedly less than that of Chinese in other localities. The report of a giant from the district of San Ooi in the province of Kwangtung will therefore be of interest.

The patient, L. I. O., Dispensary Number 18-521, male, came to the out-patient department of the Canton Hospital in February of this year. His age was 27 years, and he showed symptoms of beriberi, which disappeared after a few weeks of treatment.

The patient reported that his father and mother were unusually tall people but neither was as tall as himself. The patient was a merchant of average intelligence and showed no evidence of disease.
CHINESE GIANT, CANTON.
Height, 6 feet 7½ inches. Height of other Chinese, 5 feet 8 inches. (Cadbury.)
A NEW METHOD OF DRAINAGE IN SUPRAPUBIC OPERATION ON THE BLADDER.

C. Heman Barlow, M.D., Shaohingfu, Che.

Usually after the suprapubic operation a urethral drainage should be put in and the wound closed. Occasionally, owing to some other trouble, the wound cannot be closed, so a drainage should be put into the wound and a long rubber tube should be attached to carry the urine to a vessel under the bed. In some cases this is not successful as the urine will not flow into the tube but comes out through the wound. If this occurs two difficulties may arise: (1) The dressings, the bedding, and the bed are wet through all the time even though they are changed every two hours, making the patient uncomfortable and apt to get bed-sores; (2) the wound itself becomes infiltrated all the time with urine and, being thus saturated, easily provokes infection which sometimes extends to the peritoneum, producing peritonitis.

Dr. Bryant gives 11.3% as the number of deaths after the suprapubic operation, most of the patients dying from peritonitis due to infection from the urine.

We have had recently a case of stone in the bladder in which it was seen that the wound could not be closed because the mucous membrane of the bladder was very soft and friable, and the muscles of the bladder were hardly distinguishable. Neither the mucous membrane nor the muscles would hold the sutures so we determined to leave the wound open, insert the usual drainage and put the patient to bed.
After several hours the patient felt much pain in the wound and was very uncomfortable. On examination I found that the wound, the bed, and the bedding, were all wet with urine. The nurse said everything had been changed twice already. I took off the dressings and found the wound infiltrated with urine which was also leaking out from the wound around the drainage tube. Then there occurred to me a method whereby the drainage might be improved and the patient made more comfortable.

I put a small catheter into the large drainage tube, attached a small hand syringe to the catheter and drew out the urine every two minutes. Thus the urine is drawn from the most dependent part of the bladder and is never allowed to collect enough to overflow. This made the patient feel much more comfortable and kept the wound dry.

A nurse was put on duty to keep withdrawing the urine every two minutes. Next day, on dressing the patient, the bedding and dressings were all dry and the wound was clean and free from urine. We washed the bladder once a day. The wound healed up more rapidly than any we have had before. Having had such good success from this method of drainage we thought it worth while to pass it on to others to try.

CASE OF ECTOPIA VESICÆ.

E. R. WHEELER, M.B., Tsinanfu.

A Chinese boy, aged 14, was admitted to the Tsinanfu hospital suffering from ectopia vesicae with complete epispadias. The pubic bones were ill developed and did not meet in the middle line, the testicles were small and situated just outside the superficial inguinal ring, and the scrotum was rudimentary. Intra-abdominal pressure caused the mucous membrane-covered posterior wall of what should be the bladder to bulge considerably so that the openings of the ureters, which were situated towards the lower margin of this surface, could not be seen unless the protuberance was pushed back. This "raw" surface was about the size of a dollar. The penis also was ill developed; it was in the form of a flattened band directed upwards so that the dorsal surface, which was covered by the spread-out mucous membrane of the urethra, was in contact with the bulge formed by the posterior wall of the bladder. The patient was thin and ill-nourished and suffering from the usual inconvenience caused by such a condition.
Case of Ectopia Vesicae.

As there was no urethra, nor any sign of a constrictor muscle, it was thought useless to attempt an operation which aimed at making a new anterior bladder wall. The method chosen was the one described in the sixth edition of "Jacobson's Operations of Surgery," Vol. II, page 381. In this case no previous operation had been performed.

April 23rd, 1918. The patient having been anaesthetised the ureters were first catheterised with two No. 3 soft catheters and each of them was secured by a single catgut stitch. Next, an incision was made round the mucous-covered surface and deepened until the posterior bladder wall was free except for the two ureters which were left in situ. The position of the anterior wall of the rectum was then determined by means of the finger of an assistant passed in through the anus and pressed forward into the wound. A vertical incision was then made into the anterior rectal wall and the posterior wall of the bladder turned completely over so that its upper margin became the lower margin, and the deep surface with the two ureters attached became superficial. The two catheters were passed through the incision in the anterior rectal wall and brought out through the anus. The inverted "bladder" was then stitched into the opening in the anterior rectal wall by two layers of catgut sutures thus forming a small pouch in the anterior rectal wall into which the ureters opened. At this operation no attempt was made to repair the anterior abdominal wall.

Urine drained away by means of these two catheters for two days; at the end of this time they both came out and for some days after this a rubber drainage tube was kept in the anal canal to prevent urine accumulating in the rectum and so causing pressure on the wound in its anterior wall. The further history of the case was as follows:

April 26th. Small action of the bowels, everything satisfactory.

April 29th. Fecal fistula developed in the wound, caused no doubt by the giving way of some of the catgut suture uniting the "bladder" to the rectum.

May 14th. Fecal fistula much smaller. An attempt was made under an anaesthetic to repair the abdominal wall. The mucous membrane was removed from the dorsal surface of the penis which was turned up and sewn into the gap in the abdominal wall thus covering in the superficial surface of the "bladder" and the ureters.

May 19th. A little urine was found to be escaping from the side of the wound.
June 14th. As this urinary sinus, although small, still remained patent, the sides of it were cauterised under an anaesthetic.

Unfortunately, the patient was taken out of the hospital by his father a few days after this as he had to return to Shansi; a letter was given him to doctors in charge of mission hospitals but nothing since has been heard of him. Although there was still a small urinary fistula when he left the hospital, his condition and general comfort was much improved.

BRONCHO-SPIROCHÆTOSIS WITH REPORT OF CASE.*

Claude M. Lee, M.D., Wusih.

Broncho-spirochætosis is an acute, sub-acute, or chronic infectious disease, caused by the entrance and proliferation of a group—possibly several varieties—of spirochætes. It is characterized clinically by the symptoms of bronchitis, and pathologically by the presence of enormous numbers of spirochætes in the sputum.

The disease was first described by Castellani1 in 1906. Numerous cases have been reported from Ceylon, India, the Philippines, the West Indies, and from Switzerland. So far as is known, this is the first time a case has been reported from Chiua.

The diagnosis is based on microscopical examination of the sputum. As spirochætes can often be found in the mouth and pharynx without causing any obvious symptoms, special precaution should be taken to prevent sputum from the lungs receiving organisms from this source by directing the patient to gargle mouth and throat with sterile water before taking smears for examination. Four groups of organisms are described. (1) A very thick organism with irregular coils which stains blue with Giemsa. (2) Organisms resembling S. refringens with a few coils or waves and pointed extremities. (3) Thin delicate spirochætes with numerous small uniform coils and tapering ends. This is the organism most commonly seen. (4) Extremely thin delicate organisms with few irregular coils.

Castellani, in his latest communication2, recognizes three types of this disorder: the acute, with fever, cough, rheumatoid pains, and scanty mucopurulent expectoration; the chronic, often insidious and slow in onset, with cough, occasionally hemoptysis, a normal or hectic temperature, and a few râles or actual consolidation simulating tuber-

* A paper read before the Shanghai Branch of the C. M. M. A., January, 1918.
culosis; and the intermediate group of subacute cases. The case which is reported to-day is of the chronic variety, which may follow the acute form or may come on gradually. There is a chronic cough, slight, worse in the morning. The discharge is of a mucopurulent character.

Many attacks of hemoptysis were said by the patient to have occurred, but when a specimen was brought to us, it seemed to be rather a bloody discoloration of the sputum and not pure blood. However, attacks of genuine hemoptysis do occur. Most of the cases bear a close resemblance to pulmonary tuberculosis and are usually so diagnosed. Fever is usually present, of the hectic variety. In some cases the rise of temperature takes place in the morning instead of the afternoon. This was noted at one period in our case; during the rest of the time there was an afternoon rise. The course of the disease is prolonged. One case is reported which ran from 1904 to 1913, at which time it was said to be practically cured.

Galli-Valerio reports seven cases from his practice at Lausanne. He found that treatment was effective if it was energetic enough to arrest the disease before it passed into the chronic form. The microscope showed the spirochaetes. All his cases had been diagnosed as tuberculous; they showed high fever, and in all there was profuse expectoration of a whitish or yellowish sputum. Percussion was practically negative and auscultation revealed merely disseminated râles. Headache and pain in the limbs, reduction of hemoglobin and red blood corpuscles and leucocytosis, were noted.

The chronic form showed a hectic fever, deceptively like that of tuberculosis, so that with the cough, spitting, and hemoptysis the picture was almost complete.


History.—Two years ago patient had hemoptysis twice in one month during an attack of irregular fever which lasted for three months.
Married seven years. Two full term pregnancies. Four miscarriages, all at 4th mouth. Never had sore throat. No eruptions. No scars in throat.

Present Illness.—Patient had been having afternoon fever for three or four months, but was better until she nursed a case of scarlet fever for eight weeks. Then had a recurrence. She now complains of afternoon fever, hemoptysis, no menstrual period for forty days, great prostration and insomnia. Uses opium fairly regularly in small amounts.

Naturally, a case of this kind presents its most interesting aspect when we come to the question of diagnosis. The four miscarriages noted above at once bring us to the question of lues. We have no Wasserman report. As far as clinical signs go the case is not one of syphilis. There were no enlarged glands. No scars in the throat. The hair was in good condition. There was no tibial tenderness. An examination of one child was negative for signs of congenital syphilis; and we may add that this child showed no active signs of tubercular infection. A Moro test was negative. Of course the mother might have been infected with syphilis after the birth of this child.

There was no evidence of lung fluke infection.

Tuberculosis is excluded by the examination of about a dozen different specimens of sputum for the tubercle bacillus. It is usual to find this organism, if it is to be found at all, during periods of hemoptysis. The slides were uniformly negative.

The administration of .5 gm. of Tuberculin, B. E. subcutaneously, gave no focal reaction and caused no rise of temperature. There was, however, a slight local reaction at the site of injection. According to our experience with tuberculin this may be disregarded if the other two signs are negative.

The history and sputum examination indicate spirochaete bronchitis.

Prophylactic precautions at once suggest themselves. The sputum should be disinfected as in tuberculosis. Personally, we should not care to be bitten by a patient with this disease as hemorrhagic jaundice is an unpleasant form of diversion and the spirochetes might get so mixed as to render it doubtful to which family they belonged. Certain cases of spirochetal infection may show tremendous numbers of the organisms in the blood, urine, and feces. I do not know whether this is true in bronchial spirochaetosis, or not.

Active treatment may be summed up in one sentence. "Rest and arsenic." Of late, Castellani has been using in certain cases tartar emetic, or a combined arsenic and tartar emetic treatment.
The patient was under our care for eleven days in hospital, and for two weeks longer as an out-patient. She improved conspicuously with rest, and sodium cacodylate by mouth. She declined hypodermic medication. Improvement was manifested by a cessation of fever, the return of her monthly periods, and the disappearance of râles from the lungs. Treatment was stopped by the patient after about a month. In December there was a recrudescence of the trouble.

A careful examination of the slide now presented reveals organisms belonging to groups two and three of the varieties noted above. We observed a few epithelial and pus cells that seemed to contain spirochætes, but these may be simply spirochætes lying above or below the cells. Clumps of organisms are distributed over the smear after the fashion of tubercle bacilli, though not so closely associated. One field may show hundreds of organisms, another only tens. The specimen shows also the presence of streptotrichal organisms. These disappeared with the reduction of the number of spirochætes in the smears, suggesting the possibility of a symbiotic relation between the two.

Spirochaetal infections are found with increasing frequency in tropical and semi-tropical countries. Pulmonary and bronchial diseases among the Chinese rank only after intestinal parasites in the havoc which they cause. It may be that many cases which are diagnosed as pulmonary tuberculosis are chronic spirochæte bronchitis, or pulmonary tuberculosis may be complicated by spirochætal infection. In reporting from Uganda several cases of pneumonia of short duration and presenting some unusual features, G. B. Taylor4 thinks that the large numbers of spirochætes found in the sputum in these cases may have contributed to the causation of the disease; he also suggests that as stomatitis, pharyngitis, and respiratory diseases are very common among the natives of Uganda, it is possible that these conditions may be often due to spirochætes, or, perhaps more probably, the lowered resistance and suitable nidus thus provided may allow parasites usually harmless to increase in numbers and virulence to such an extent that they become of pathological importance. In any event, patients will be benefited by getting rid of the flagellates.

We have examined a series of cases with tubercle bacilli positive, and another series in which none were found. In neither series was spirochætal infection found to be common.

REFERENCES.
THE SCOPE OF MEDICAL MISSIONARY WORK.

NATHANIEL BERCOVITZ, B.S., M.D., Kachek, Hainan.

China is accepting Western civilization. Within the last decade the prejudices of former centuries have broken down. Intercourse with other nations has brought about enlightenment. Everywhere, and in all departments of her national life, China is earnestly and with enthusiasm seeking to adopt those things which she now knows will benefit and advance her.

Probably nowhere has this change effected such a revolution in ideas and customs as in the medical field. True it is that the change has scarcely begun. Its visible manifestations are almost negligible when the entire vast field is considered. But the will to do is present, and in time the results will be apparent.

Western medicine has always been more or less in favor in China as the brilliance of medical or surgical cures, as a rule, has been convincing. Until quite recently, however, these cures were looked upon as part of the machinations of the "foreign devil," quite suitable, no doubt, in certain cases, but not to be compared to the witchery and superstition connected with the native practitioners. And until quite recently the work of the medical missionary was of a pioneering nature. The people had to be reached and their confidence won. Gradually, and through years of patient labor, an atmosphere of receptiveness had to be created. During that time the conditions in which medical work had to be done were most discouraging. Not only were buildings and equipment incomplete, and colleagues and assistants too few to do careful medical work, but every whim and superstition of the patient had to be carefully considered and respected, lest he hurriedly depart and thus an opportunity for healing and extending the sphere of missionary influence be lost.

Within the past few years these pioneer efforts have resulted in a change of mind in China. The increasing number of hospitals, and of Chinese men and women educated in Western medicine is evidence of this fact. And this change of mind has naturally wrought a change in the scope of medical missions.

In considering the present scope of medical missions a number of factors must be dealt with. In the first place it must be remembered that medical science is much more exact and exacting than it was twenty-five years ago, owing to the advent of asepsis, and to the ever increasing
possibilities in diagnosis and treatment which are opened up by the laboratory and the whole field of immunology. This means a closer study of cases. And the obvious result is that the number of cases which can be under the care of one physician is greatly reduced. For it is imperative that the standard of the physician should keep pace with the advance in medical science.

How then shall the problem of handling the ever increasing number of patients be met? There are two possibilities. The number of foreign physicians can be increased to meet the demand. Or Chinese men and women trained in accepted medical schools can be used.

A certain increase in the number of foreign physicians will be necessary for some years to come. The number, however, necessary to man the mission hospitals so that the generally accepted standard of not more than thirty-five beds in charge of one doctor be maintained would be very great.

It seems natural to believe that Chinese doctors, graduates of accepted medical schools, can be more and more used, as is the case now in many hospitals in China. In other words, there should be a closer relationship between the Chinese and foreign physicians, with a gradual shifting of responsibility to the Chinese. Such a step is to be desired from every point of view. Given a sound medical training, and the Chinese, with their knowledge of the language and customs of their own people, will be very efficient. The position of the foreign physician would be eventually that of consultant, with special care of particular cases.

If this scheme should be adopted it means an increase in the number of duly qualified, graduate Chinese physicians. It is believed that the existing medical colleges will take care of this problem. But it also means that a number of physicians will have to withdraw from general mission hospital practice to the specialized work of the classroom, if the Chinese are to receive the training necessary to qualify them to take over work in hospitals. In many cases this will mean temporary hardship to the station or hospital. But the change should be considered in the light of the future output of Chinese physicians. For the future of medicine in China must be in the hands of her own physicians.

In the next place, the relation of the physician to the public, and in connection with problems of public health and sanitation must be considered. Everywhere this phase of medical work is assuming an important position. The trend is towards conservation through prophylaxis. Up to this time the work of the medical missionary
along this line has been preparatory in nature. By precept and example the Chinese have learned of superior methods of hygiene.

The Chinese, however, have been so unsanitary in their mode of living, in the construction of their houses, in the disposal of sewage, and in so many other ways, that to change their present condition will mean a revolution of ideas, customs, and life. Such a revolution will be stupendous. It is obvious that it cannot come suddenly. But the Chinese mind is changing rapidly, so rapidly that problems of public health are claiming the attention of the Chinese themselves. Hence the present time is one of opportunity.

All this means that the scope of the medical missionary's activities has been enlarged. Instead of being confined to the practice of the hospital, he can lead in health projects for large districts. The sum total of the good done by such work will equal the work of many men; and thus the medical missionary will multiply himself and his usefulness by the correction of sanitary abuses, and the great work of preventive medicine.

Of course it is assumed that he will be the leader, the director of such work. Details could be attended to by a staff of Chinese assistants. But the planning and carrying out of the great work of sanitation, in the mode of living, in the construction of houses, in the prevention of the spread of tuberculosis, malaria, and hookworm, in the hygiene of infancy, etc., constitutes a field of effort for which the great opportunity has arrived.

The relation of the physician to his fellow missionaries must now be considered. It is admitted that the care of the health of the missionaries should be of first consideration. This consideration, however, must be reciprocal; the lay missionaries should always recognize the fact that they are to be kept in health by the physician, who is the Missionary Board's representative for that purpose. This fact is very often overlooked, and missionaries sometimes neglect to consult a doctor until their disease is well established. And quite often the advice of the physician is not regarded, especially in seemingly trivial matters, though they may be very important, relative to the mode of life on the field. It should be the rule that the medical missionary should have absolute authority on medical matters in a mission.

On the other hand, the physicians of the station should render the best medical and surgical service to the missionaries, and it should be no less than the best obtainable in the home lands. The Boards and the missionaries should demand of their physicians such service as will insure the best physical condition of the missionaries on the field.
It may be well to go into this matter in detail as many problems of policy are involved. It is a notable fact that each mission has at some time or other, and at times quite frequently, to send away missionaries for medical or surgical treatment to large centers, if not to their own country; and the missionary Boards are asked to foot the bills, which in many cases are very large. The reason for this is that the physicians on the field are not competent, or do not deem themselves so, to deal with the case; or else the equipment on the field is such that to carry out the proper medical or surgical treatment is utterly impossible. Of course when it comes to the point of jeopardizing the life of the patient there is no alternative.

Such a system is obviously at fault at the present time, and denotes a weakness somewhere in the medical organization of the mission. The missionaries should have proper medical service on the field for the sake of the mission work, which becomes disorganized and retarded by the confusion and time lost by those cases which have to seek medical aid elsewhere. Such a condition might reflect upon the nature of the medical service given to the Chinese. At any rate, the medical service on the field should be adequate for all exigencies.

How can this situation be met? It has already been noted that to a considerable extent the progress of medical science has limited the field of the missionary physician. Specialization has become more and more a necessity. The following plan, therefore, on the lines of the group system which has been so successful in America, is suggested as a solution of the problem. Let the physicians of each mission, or the physicians of several missions within a limited area and including several stations, organize and each select that branch of medicine or surgery in which he can qualify as a specialist. Each physician would then so fit himself by study and practice that patients among the missionaries, and even some of the Chinese cases, requiring treatment in that particular specialty could be referred to that particular physician.

Next, one hospital within the mission, or within the missions uniting for the purpose, should be selected and so equipped that every kind of medical or surgical work can be done there. When the occasions arise, missionaries can go there to the wards reserved for them, and the specialist in each particular ailment can be called from his hospital to take charge of the cases which come within his specialty.

This arrangement, of course, would only be applicable to urgent cases which ordinarily would be sent long distances and at great ex-
pense to obtain the services of a specialist. Ordinary cases should continue to be treated in their respective stations, it being understood that the physicians would remain in their local stations, and that this arrangement would include a limited area for each group. But a specialist should always be within reach, ensuring that every case or emergency will be properly handled.

The advantages of such a system are many. The physician himself would be a better all-round man because the specialty would demand that he keep up with medical progress by reading and study. The whole work of the mission would be benefited because of a strong central hospital in the field. Medical science would profit by the results of study and research which are the sequence of specializing. The missionaries would be in competent hands in the field. The expense of hospital service in a distant locality would be obviated. And the only time a patient would have to leave the field because of illness would be when a change of climate was indicated.

There still remains for consideration the relation of the medical missionary to the evangelistic work of the mission. At the outset it is taken for granted that no physician will masquerade as a missionary without a very real desire to bring a knowledge of the saving Gospel of Jesus Christ to the Chinese. Hence in the discussion of this question it is only necessary to consider the methods by which the work of the medical man will best aid in the evangelization of the people with whom he comes in contact.

In general it may be said that the exacting work of the physician calls for such close attention to the medical work that a great expenditure of time in evangelistic work becomes an impossibility. And while the hospital exists for the purpose of demonstrating practical Christianity, and as an evangelizing center, it is neither necessary nor practical that the physician in charge neglect the medical work in order to keep up the evangelistic tone of the hospital. Such a condition was at times called for in the early days; and it is not intended now that the medical missionary shall ever become merely a physician.

But it is obvious that the medical missionary can not properly do both medical and evangelistic work. It must be one or the other; and as his training has not been for the ministry it seems logical that the oversight of the evangelistic work of the hospital should be under one duly qualified for this work who can do it thoroughly. In other words, there should be close co-operation between the medical and evangelistic forces of the mission.

This involves more than appears at first glance.
To begin with, there are three distinct phases to the medico-evangelistic work of a station or mission. There is first of all the seed scattered in the waiting room of the dispensary. Then there is the word preached by the bedside of the patient. In the third place, there is the follow-up work in the homes and villages to which the patients return. To do the evangelistic work of the hospital properly, all three phases must receive careful attention. The third phase of the work, although the most important and productive of the greatest results, is the one sometimes neglected because of lack of co-ordination between the evangelistic and medical work of the mission. It is obvious that the physician cannot do that work, but it falls naturally within the sphere of action of the evangelist.

This third phase is important because the good impression made upon the patient by his stay in the hospital is an opening wedge into what might otherwise be a closed door; it constitutes a wonderful opportunity to clinch the work begun in the hospital, and bring the patient to Christ. Such opportunities exist in countless numbers in China; if rightly used they could bring many into the fold.

And yet it has been largely neglected. Here and there attempts are being made to deal with the matter. But it seems that the only effective way will be to have the evangelistic force of the mission in close touch with the work of the hospital, especially with the follow-up work.

A very good method is the card index system, by which a record of the patient including name, sex, age, occupation, length of stay in the hospital, physical condition on leaving the hospital, i.e., cured, improved, or no change, and a brief note as to the general religious attitude of the patient while in the hospital, would be turned over to the evangelistic force of the station, and in turn used by the Chinese pastors and assistants in their work.

The value of medical missions has been very great in the opening up of work here and there in the different provinces. But such a system as proposed here would place the evangelistic work of every hospital on a very efficient basis, and multiply the usefulness of its various departments many times.

One more point in regard to the evangelistic work should be mentioned. With the enlarging of the scope of the work of the medical missionary so as to include public health and sanitation, all effort along that line should be medico-evangelistic in nature. Chinese pastors or assistants should accompany the physician on tours, and co-operate with him, and thus emphasize the close relationship between Christianity and public health, sanitation, and civilization.
Experience gained in the munition factories of Great Britain proves that a weekly day of rest enables those who toil mainly with their hands to do more and better work than if compelled to continue without this intermission. The annual summer holiday may be found equally indispensable, especially for those who are subject to incessant strain, both mental and physical. Among these is the missionary physician. Working among an alien people many of whom are not over friendly, perhaps in some out of the way station where other foreigners are very few, with numerous sick people under his charge to whose necessities day and night he must be responsive, with little to lighten his cares and responsibilities and often compelled to undertake work beyond the scope of the practitioner at home, surely he needs almost more than other men an annual change in order to recuperate and give new zest to his life and work. In reply to a request that certain statistical forms of medical missionary work—which we owe to the earnestness, goodwill, and ingenuity of the China Continuation Committee and which are really necessary if there is to be a full and accurate comprehension of the amount of work done in our hospitals, dispensaries, and medical schools—should be promptly filled in and returned, one missionary physician replied: "I am returning revised blank filled in the best I can at present. My records are far from what I wish and intend them to be, but over a year ago I was left with the entire work of the Station—five churches, a large boarding school, and the medical
work being entirely on my shoulders. In addition I am oversee­
ing the building of an $8,000 church building, a residence for foreign nurses, and another for Chinese doctors and nurses. I am also on the Reference Committee, Medical and Property and Fin­ance Committees of the Mission, and so am about 'all in,' as far as time goes. My foreign nurse is in her second year of language study and thus cannot take up work until next fall. I have to let some things go, and up-to-date records are unfortunately one of these."

Surely there are very few who would begrudge to such a worker—and many others can tell the same tale—a few weeks’ holiday in the summer if he can manage to obtain them. At any rate, we hope that as many as possible of our missionary physicians will get this rest and that it will be thoroughly enjoyed.

None but those who have undertaken similar investiga­
tions can properly appreciate the time and labor ex­
pended in obtaining the data which form the basis of the Report prepared by Dr. G. Duncan Whyte, on the Height, Weight, and Chest Measurements of Healthy Chinese, which was read at the last Conference of the China Medical Mis­
sionary Association. Besides its anthropological value the report is of importance to missionary physicians in China as it shows, among other things, that the dosology of powerful medicines should be brought into accord with the average body weight of the Chinese, and it also illustrates the working of a formula by which a rapid and fairly accurate judgment can be made of the real strength of a man’s physique.

But the subject is also of general interest. Why is it that the people of North China are three inches taller, on the average, than the Chinese of the central and southern provinces, although the conditions of life, apart from the climate, are very much the same? To ascribe this difference wholly to climate is not very convincing, as some tribes and races of northern latitudes are very short, and some in more southern latitudes are very tall. Further, the average height of Chinese women in all parts of the country is barely five feet, which is 3½ inches less than that of English women. Is the difference altogether due to the more secluded life of Chinese women, the binding of their feet, and other peculiar manners and customs?
This raises the larger question whether a people, by taking thought, can add a cubit to its average stature. According to popular report in the East, the Japanese by more liberal dieting, exercise, etc., are making strenuous efforts in this direction. Are such efforts altogether useless? If the Chinese were freed from malaria and other common debilitating diseases, would they become a still taller people?

As with the organism as a whole, stature depends on the three factors of heredity, function, and environment. Heredity is the most important. As a rule, and subject to the law of filial regression, tall parents have tall children, short parents have short children, and the children of short parents can no more be raised above their hereditary standard by good food, exercise, and suitable environment, than the bantam chick can become by liberal feeding other than a bantam fowl. Every one of the European monarchs ought to be "every inch a king," even without the aid of robes of state and gorgeous uniforms, if growth depended very much on nurture.

Function, which itself is subject to heredity, seems to be next in importance. The degree of activity of the endocrine glands, particularly the hypophysis, and of their co-ordination with each other, have a great influence on the continuance and extent of growth. Hypersecretion of the hypophysis leads to gigantism and acromegaly; its subnormal activity possibly to dwarfism. There is evidence that the onset of puberty checks growth. Were the average rate of the growth of females between the age of eight to fourteen years maintained to the age of twenty-five years, the average woman would be nearly seven feet tall.

What influence, then, have food, exercise, climate, and other environmental factors upon growth? Overfeeding and other stimulating measures may enable the individual to reach precociously the average stature of his stock and even to go somewhat beyond it; but the gain, except it be a discontinuous variation, is not necessarily permanent. On the other hand, inadequacies in either the quantity or quality of the food, poor surroundings as in the slums of our great cities, disease and other adverse influences may suppress growth; but even after long periods of suppressed growth during infancy and adolescence, its resumption may occur if the
dietary and other external conditions are rendered favorable and adequate. In conclusion it may be said that the only way to raise the average stature of a people permanently is by close observance of the laws of heredity in the arrangement of marriages; but the real average height of a people cannot be correctly ascertained until the conditions of public health are such as to favor the physical development of every individual up to the highest possible standard.

In this number of the Journal Dr. Cadbury records the case with photograph of a Chinese, 6 feet 7 ½ inches in height, and there is also inserted the photograph of a Chinese, 7 feet 8 inches high who was recently on exhibition in various places of amusement in Shanghai. In 1865 a Chinese giant, named Chang Woo Ku, visited London; he was then 7 feet 8 inches high. On visiting London a second time in 1880 it was reported that he had gained several more inches and was 8 feet 2 inches high. But there have been still taller men of other nationalities. In 1905 a Russian named Machnow, aged 23, was exhibited in London who was 9 feet 3 inches high and weighed 360 lbs. Winkelmaier (1865-1887) an Austrian, was 8 feet 9 inches; a skeleton in a museum in Dublin measures 8 feet 6 inches, so that in the flesh the man (Patrick Cotler?) was 8 feet 8 inches; Patrick O'Brien (1761-1806) may have been 8 feet 7 inches; Charles Byrne (1761-1783) was 8 feet 4 inches; a Scotchman in the service of Frederick William I of Prussia, who had a regiment of giants, was 8 feet 3 inches. Elizabeth Lyska, a Russian, at the age of twelve had already reached a height of 6 feet 8 inches.

In the Bible, King Saul is said to have been head and shoulders taller than any of his countrymen; his mental malady suggests that his great height was due to disease. Og, the king of Bashan, was also a giant, but the only estimate we have of his height is the length of his bed. Perhaps Goliath is the most widely known of the giants of antiquity, if we exclude fabular monsters. The Bible states that his height was six cubits and a span. As a cubit varies from 18 to 22 inches, according to this measurement he must have been somewhere between 9 feet 9 inches and 12 feet. The latter measurement is hardly within the bounds of probability as no individual can deviate from the mean of the general population beyond a certain degree, and a height of 12
feet would imply that all the Philistines were giants, measured by ordinary standards. But the Septuagint and Josephus state that the height of Goliath was 4 cubits and a span (9 inches), which makes it somewhere between 6 feet 9 inches and 8 feet 1 inch, a far more probable estimate. And his strength appears to have been proportionate to his size. He wore a coat of mail which weighed 157 lbs; his spear was like a weaver's beam, and its blade alone weighed 18 lbs. He had also a helmet and greaves of brass, "as large as you would naturally suppose might cover the limbs of so vast a body." He must have been the victor in many conflicts before he gained the position of champion of his people. But all giants seem to come to an untimely end either by disease or violence, and Goliath was no exception. The story of his defeat by David has always been, certainly to boys, one of the most interesting incidents recorded in the Old Testament.

In this connection perhaps it may not be out of place to observe that giants have been held to be personifications of the powers of nature, of barbarism in conflict with a more civilized régime, of heathen powers in conflict with Christianity. Goliath may well be regarded as the personification of that military spirit which worships its own strength and nothing else, is arrogant and tyrannous, and treats with disdain all considerations of justice, truth, and mercy. As with other giants of evil, the nation which incarnates this spirit, sooner or later, is doomed.

REPORT ON EPIDEMIC OF PNEUMONIC PLAGUE IN TSINANFU, 1918.

CHARLES K. ROYS, M.D., Tsinanfu.

The first known focus of infection of pneumonic plague in Tsinan was at a go-down of the Tientsin-Pukow Railway. A railway policeman had returned from the south (probably from somewhere near Pukow) on the ninth of February, 1918, and had brought the disease with him. He slept in a room with three other policemen, two of whom, Wang and Tu, soon became sick, and were sent away to their homes; the third had no symptoms. Of the sick men, Wang went to a village just north of the T. P. Ry. station, where he died on the 15th of February, after infecting his wife and probably one other person. He wife died on the 26th. The policeman Tu went to his home in
a poor and crowded district in the north-eastern part of the town. Here he died on the 18th of February, after infecting four people in the crowded courtyard where he lived. His brother and sister-in-law died on the 24th, and were the first cases to be reported to foreign medical men. Bacteriological specimens were taken from these cases for examination, and the diagnosis of plague was made, which was later confirmed by Dr. Iendo, the Japanese bacteriologist detailed to Tsinan for this epidemic.

Fortunately, only two new foci can be traced to these cases in the city. One of these was a barber who had been called in to dress the hair of the dead policeman Tu. He returned to his home in Hsin Chuang, near the large military camp west of the city, where he infected his son, his daughter, and his wife, and died on February 24th. Meanwhile, some 5,000 copies of a poster on Plague Prevention had been put up all over the city through the help of the local agents of the Standard Oil Company and of the British-American Tobacco Company. The police of the city were making a cursory house-to-house inspection which, while not particularly efficient, was at least better than active opposition. The helpful attitude of the local officials was, beyond doubt, due to constant pressure by the British and Japanese Consular officials, and to the presence of Gen. Chiang and Dr. Kitashima, representatives of the Neiwupu (内務部), who arrived in Tsinan on March first.

On March 2nd, the four cases at Hsin Chuang were reported. The bodies had all been hastily buried, but some were exhumed the next day and specimens were taken for microscopic examination by Dr. Cochran of the Department of Bacteriology in the Medical School of the Shantung Christian University, who had been acting as advisor to the Neiwupu (內務部) in the Kalgan region, and also in the Anhwei outbreak of February. The specimens secured were diagnosed plague, and the diagnosis was confirmed in the Laboratory of the Medical School by Dr. Kitashima himself. All contacts of the Hsin Chuang group were taken to the Isolation Hospital, situated in a large compound occupied by the Chinese Red Cross Hospital, which the Chinese very kindly vacated for this purpose. The hospital had been put under the charge of Dr. Gillison, of the Tsinanfu Medical School, and in it the final case in this group developed. This patient died on March 6th.

The second focus traceable to the policeman Tu was caused by a man who lived in the same courtyard, and who ran away early, being frightened by the deaths about him. He took refuge with a friend in a neighboring street, where he died on March 1st, after infecting
his friend and three others. This focus was reported on the 9th of March by members of the Inspection Corps drawn from the students of the Medical School. The dead bodies were removed and buried by the police, and all the contacts were taken to the Isolation Hospital in the South suburb. The final case to develop in this group died in the Isolation Hospital on March 15th. This brought the total number of deaths up to 16.

The Shantung Railway (Japanese) suspended all east-bound passenger traffic west of Changtien, its nearest division point, from the 26th of February, 1918. After several days' delay, the Tientsin-Pukow Railway agreed not to sell tickets at any station between Tehchow and Taianfu. This, of course, put no restrictions on the military passengers, most of whom travel on passeés. The soldiers came and went freely from Hsin Chuang as usual, even after a cordon had been ordered thrown around the place. General Chiang and his party went north on March 11th, 1918, and railway traffic was resumed as usual about the fifteenth of the same month.

THE WORK OF THE JOINT COUNCIL ON PUBLIC HEALTH EDUCATION.

One of the important features of medical missionary work is the educational influence of the hospital and dispensary. Besides breaking down prejudices and gaining the good will of the people a lot of valuable information in regard to hygiene and sanitation is gradually permeating the public mind through the efforts of medical missionaries. This in its effect is destined to become no small factor in saving life and lessening disease and sorrow among the people. To further this phase of the work Dr. S. M. Woo, Secretary of the Joint Council on Public Health Education, is preparing a series of six health bulletins to be issued every other month. These will be furnished to hospitals and dispensaries, or other distributing agencies, at a price that will barely cover the cost. The subjects treated are:—

Mode of Infection and Prevention.
Tuberculosis.
How to Avoid Common Colds.
Care of the Baby.
Cholera and Dysentery.
Home Sanitation.

Circular letters are being sent out to all mission hospitals and it is hoped these will meet with a hearty response.

R. C. B.
NOTES ON CHINESE MEDICINE.


The following notes jotted down in the course of reading Chinese medical literature may serve as hints to other readers or to those who intend to write on Chinese medical history, a subject hitherto untouched by any foreign writer. No attempt has been made at a proper classification as such would be impossible, and it is intended to add more notes from time to time. Meanwhile it is proposed to group together the data already on hand so as to facilitate reference.

ORIGIN OF SYPHILIS IN CHINA.

The question of the origin of syphilis in China, has been the theme of a good deal of discussion. According to Dabry¹ the ancient Chinese were acquainted with this disease, evidence being found in the collection of medical writings made by Huang Ti in B.C. 2376. Recently, however, the veracity of this statement has been questioned by the Japanese, especially Okamura, who maintains that syphilis was unheard of in China and Japan till the middle of the sixteenth century².

One writer, on the “Diagnosis of Syphilis,” traces it to 1505 when it was first introduced into Canton by Portuguese from India. Later, foreign traders carried it over to Japan by way of Nagasaki³. Another Japanese work, the Moon and Sea Record⁴, describes an epidemic of syphilis that was prevalent in Japan in 1512, and called it “Tang” sore (唐疮) and “Loo Choo” sore (琉球疮) as this disease was believed to come from these two places. The Miao Fah Temple Diary⁵ also gives a similar description.

Most Chinese authorities⁶ agree with the statement that syphilis did not exist in China before the Ming dynasty. In the Supplement to Medical Miscellany, U Pien writes⁷—“In 1505 the people suffered from foul sores. The disease originated in Canton and as the natives of Kiangsu did not know it they named it ‘Canton sore.’ From its resemblance to strawberry it was also called ‘strawberry sore.’ If a weak person takes calomel for treatment it is poisonous to him, resulting in ulcerating nose and feet. It then becomes a chronic disease.” Li Shih-chen⁸ of the Ming dynasty, author of A System of Materia Medica, said that in ancient times there was no syphilis. It was

¹ The Japanese called the Chinese the “men of Tang” as it was during this dynasty that the two countries first had intercourse.

² Loo Choo is a chain of islands between Formosa and Japan.
only in 1506-1521 that this disease was prevalent and people took mercury as a cure.

Dabry must be mistaken for no such evidence as he claims is found in the book to which he refers. As the Chinese worship the ancients and whenever possible quote the classics, it is singular that no writer has ever described syphilis as being mentioned in the ancient classics. It seems that syphilis as understood by these writers meant only the syphilitic eruptions. Apparently they did not know the connection between chancres and syphilides, for the former were mentioned as early as the 7th century A.D. under the names of “tu tsing” sore (瘀斑疮) and “yin shih” sore (陰蝕疮). This statement has been disputed by some authorities who declare that these sores were not chancres. Nevertheless, the passages quoted below prove that they were.

In the Essence of Surgery it is said: "Sores of the private parts may be roughly divided into three kinds: 'sī h yīn' sore (濕陰瘡), 'tu tsing' sore (瘀痹疮), and 'yīn shīh' sore (陰蝕瘡). The last is also named chancre. . . . The 'yīn shīh' sore is due to weakness of the kidneys, sluggishness of the respiration and circulation, and heat accumulating in the genitals. Or it may be due to uncleanness after sexual intercourse. If neglected it will get worse. The sore is very painful; there may be painful micturition like that of gonorrhoea, and the testicles may be inflamed. After ten days the sore is foul with pus and blood, and the flesh is eaten away. There may be continuous bleeding. It then becomes a chancre." This book was written about 1335.

Chang Ts'ez-ho (1194) in the book, The Literati's Care of Parents, writes: "If a chancre remain uncured for a long time it is popularly called a 'sāo kān' (膿腫)." Again in the Surgical Methods appears this quotation: "A 'tu tsing' sore or chancre is a sore on the private parts." One commentator, on the authority of a single passage in the Golden Chamber (2nd century), is of the opinion that the 'tsin yīn' sore (浸淫瘡) is syphilis. But this surmise is founded on scanty and uncertain evidence.

A very illuminating description, however, is found in The Thousand Gold Remedies, a work published in the 7th century. It runs: "A 'tu tsing' sore is a sore on the prepuce just behind the corona in men, and on the labia in women. It is depressed, painful, and looks like a chancre. A chancre is not painful." Undoubtedly this is a soft chancre. But the significant point is that the author compares it with a chancre which shows that this disease was known at that time.
As to whether the various sores enumerated above are true chancres or not, the original texts are too brief to enable us to form any definite conclusion. This, however, is immaterial to the question at issue, for two important points have been distinctly brought out, namely, chancres were definitely known to these writers, and most of them lived before 1505, the date set down for the introduction of syphilis into China.

Evidently the ancient physicians did not know the connection between constitutional syphilis and chancre. They confused the former with leprosy, hence the absence of any reference to it. It remained for writers of the Ming dynasty to distinguish syphilis, but thinking it to be a new disease they gave it the name of "yang mei" (楊梅). Later writers fully recognized the relationship of these different symptoms, and in one interesting monograph written in 1631 the various manifestations and the hereditary transmission of syphilis are mentioned in great detail.

The use of mercury in the treatment of syphilis is said to be very old, but when it was first employed is not known. If we regard the "tu tsing" sore mentioned above as a true chancre, then the 7th century gives the earliest record of its use, calomel being prescribed for the cure of this disease. Fumigation was the most frequent method of administering mercury in days of yore. After being mixed with black lead, olibanum, myrrh, arsenic, it was wrapped in paper and burnt.

As in Europe, mercury has had its ups and downs. At one time it was considered to be indispensable; at others, it was looked on not only as useless but as being the cause of secondary and tertiary syphilis. It was extensively used in the Ming dynasty but soon fell into utter disrepute on account of its unpleasant effects. Doctors unanimously condemned it and advocated the root of China smilax as an antidote for mercury poisoning as well as a cure for syphilis. And even to this day mercury is hated and detested by the general public as being the cause of unheard-of woes, though doctors generally prescribe it in secret under various disguises.

A glance at the following list of synonyms for syphilis may throw more light on this question. There are some fifteen names for the eruptions and about six terms for the more prominent symptoms.

1. 楊梅瘡 yang mei chwang, “strawberry sore.”
2. 深東瘡 kwang tung chwang, “Canton sore.”
3. 天聾瘡 tien pao chwang, “heavenly vesicles sore.”
4. 喬子瘡 kwo tsz chwang, “fruit sore.”
5. 棉花瘡 min hua chwang, “cotton sore.”
6. 砂仁瘡 sha jen chwang, “nutmeg sore.”
Genital chancres are known by at least five different synonyms. Eight varieties are described according to their appearance, or to the situation in which they are found.

1. **下唇**  hia kan, "lower sore."
2. **疮**  kan chwang, "open sore."
3. **舌炎**  tu tsing chwang, "jealousy sore."
4. **阴道炎**  yin shih chwang, "eaten away sore."
5. **附生**  ten tsing chwang, "fighting semen sore."
6. **蜡烛**  lau chuit yu, "candlestick chancre."
7. **袖口**  siu kiu kan, "turned up sleeve chancre."
8. **脙**  sao kan, (on the body of the penis).
9. **菌**  chu kau, "eaten away chancre."
10. **脚**  chi sao kan, (when complicated with orchitis).
11. **腫**  chi tun kan, (on the glans and swollen).
12. **腫**  sao kan, "itchy chancre."
13. **蟹**  suen kau kan, "spiral grooved chancre."

Buboes are sometimes given a special name depending on the side in which they are found.

1. **魚口**  yu kiu, "fish mouth"
2. **橫痃**  hung yuen tsu, "transverse groin cancer"
3. **癘**  pien tuh, "genital poison"
4. **痃**  chwang tsu, "cancerous sore"
5. **痃**  hung yuen, "transverse swelling."
6. **癘**  pien yung, "genital cancer."
7. **血瘤**  huei shan, "bloody tumour."
8. **外瘤**  wai shan, "external tumour."
9. **腫瘤**  yung tsu, "brave cancer."

**ORIGIN OF GONORRHEA.**

Unlike syphilis, gonorrhoea was known and accurately described from the earliest times. Many references to it are found in the Na King or Principles of Medicine and Surgery, a work attributed to Huang Ti, B.C. 2736. The synonyms for it are "lung" (癬), an an-
Notes on Chinese Medicine.

cient name, "lin choh" (淋濁), commonly used by writers, "poh yin" (白淫), white discharge, and "poh choh" (白濁), white and turbid. The last name is mostly employed by the laymen.

Its sexual origin was fully recognized. As syphilis was not distinguished by the ancients, the "unicist doctrine" of Europe, as the teaching concerning the identity of syphilis and gonorrhoea was called, was therefore unknown. But in the sixteenth century the same mistake was made and this error is not corrected even to this day.

Such is a brief epitome of the history of syphilis and other venereal diseases in China, and it is reasonable to conclude: (1) That syphilis was present in China prior to the year 1505, though the connection between the various manifestations of the disease were not fully known; (2) that it was very prevalent in the Ming dynasty, accurate descriptions being given by all the medical writers of this period.

References.

3. 斬毒録 Diagnosis of Syphilis. Quoted in "Treatment of Syphilis," p. 3.
4. 月海錄 Moon and Sea Record.
5. 妙法寺記 Miao Fah Temple Diary.
6. 花柳病療法 Treatment of Syphilis, p. 3.
10. 齒門直騐 The Literati’s Care of Parents, vol. 4, p. 8.
12. 金鏡要畧淺諭 Commentary on the Golden Chamber, vol. 8, p. 22.
15. 統醫大全 System of Surgery, vol. 24, chapter on chancre; vol. 34, chapter on syphilis.
16. 黃帝內經 Principles of Medicine and Surgery, chapter on Impotence.

History of Syphilis in Europe.—The end result of recent investigations is to the effect that from the twelfth century on, medieval physicians were richly supplied with mercurial recipes against an anomalous group of skin affections, which, from their very names—scabies grossa, variola grossa, grosse vérole, scabies mala, bête Blatteru, mal franzoso—were most likely syphilitic. Garrison, History of Medicine, p. 175.
Gonorrhea, complicated by Hematuria and a symmetrical hyperkeratotic Exanthem. 5 photographs and 1 drawing. Pp. 6-27. S. Hanawa. A sailor with a history of several gonorrheal infections was affected during the last one with a pronounced hematuria, infection of the joints, and a peculiar skin lesion which was characteristically polymorphous, showing a papulo-crusted lesion on the hands and feet, rupia-like eruption on elbows and knees, hyperkeratosis of the palms and backs of the hands, and a pustular infection of the nail beds. Gonococci were not found in the skin lesions but were abundant in the urethral discharge, the improvement in the latter being synchronous with diminution of the lesions of the skin. The author advances the hypothesis that the condition was a systemic poisoning due to the gonococcus because the spots where saline infusion or hypodermics were injected were soon the seat of similar lesions, as though the skin was in an irritable condition and the least mechanical injury was capable of initiating these lesions.


Tanvarsan, Efficiency of. Pp. 50-4. H. Nakano, H. Yokoyama, and S. Sasamoto. Injections of 1 gm. of a 1:500 sol. of this substance per 10 gm. of weight of mouse was usually fatal, but half this dose was sufficient to clear the spirochetes of relapsing fever from the blood. In rabbits a dose of 0.01 gm. of the 1:500 sol. of tanvarsan per kg. of body weight, was not productive of any visible injury. Clinically, in doses of 0.007 gm. per 1 kg. of body weight, tanvarsan was found valuable in all stages of syphilis, acting as quickly as other similar preparations and is not more prone to produce albuminuria.

Neo-tanvarsan, Clinical experience with, 54-67. S. Akutsu, H. Orikasa, Y. Terachi. The results from the administration of Neo-tanvarsan were generally favorable and the cases definitely improved. In all phases of syphilis the benefit was marked and the Wasserman reaction affected. The after effects were not severe but treatment was not carried on long enough to warrant positive statements as to the real cure of the disease.
previous articles he had confused two species of encysted worms found in crabs, and acknowledges that Yokogawa, whose article appeared in the previous number of this journal, was the one to point out the error. These two species, and apparently only these two, are found in the crab; at least the author was unable to discover any others in his thorough search through the bodies of a large number of crabs. The former error, therefore, consisted in regarding the two species as one, and in not identifying the true one; but this does not wholly invalidate the experiments because one form, as pointed out by Yokogawa, is not so pathogenic for animals and does not produce the same sort of lesions as described in abstracted papers, Nos. 1, 2, and 93. At any rate some of the true forms must have been present also, for mention was made of the spine at the anterior end of these worms, a structure absent in the corresponding stage of the "false encysted form." Ten new cuts are used to illustrate the same stages as shown in drawings Nos. 10-18 inclusive in the plate accompanying abstract No. 93, but there is very little essential difference in the two series.


A preliminary report on this extended study was mentioned in Abstract No. 70 and the full report is here reviewed. Epidemics of dengue in Formosa are not recorded accurately in the history of the country, but there is good reason to believe that the disease has been there many times. In 1872 and 1889 it was surely present, and the Chinese doctors recognized it under the name "Ban Awa." In 1902-3 there was another small epidemic but no other of any consequence until the widespread epidemic of May, 1915, which lasted until October and affected fully half of the 3,000,000 inhabitants.

This last epidemic began in a port in the southern part of Formosa which has direct trade connections with the South Sea Islands. In January of that year a few suspicious cases were noticed among the natives of that port. Soon the disease was discovered in a low-class lodging house near the coast and, little by little, it spread through the main part of the town. In May it seemed to become suddenly more virulent and began to spread rapidly over the entire island. It followed the railroads and steamship lines. Its progress was on several occasions directly traced to passengers on a boat, a railroad conductor, itinerant tea merchant, etc. In this way even the small islands were affected and very few parts escaped. The Japanese population was far more heavily affected than were the natives, although the latter are not nearly so sanitary in their habits nor did they protect themselves with mosquito nets. The towns were more affected than the country places, and the denser portions suffered more than those more sparsely populated.

From the standpoint of epidemiology there are several observations to be recorded. 1. The epidemic seems to have a definite seasonal relation. During the cold months of winter and early spring it was quiescent, then suddenly took on new virulence in May and raged until the autumn when cool weather set in. 2. Personal contact was important. The denser centers of population were affected the most heavily, and routes of communication were the lines along which it spread. 3. Low lands and sea-coast towns were more affected than those on higher ground. One city, built partly on a hill and partly in a low valley, was affected only in the valley. Poorly ventilated districts, houses, or rooms, predisposed their inhabitants to the infection. 4. Mosquitoes. The worst of the epidemic coincided with the time of maximum development of mosquitoes, but the portion of the population that was better protected by nets against them was not unaffected. Other blood-sucking or biting insects, as fleas, bed bugs, etc., were not numerous enough in the Japanese houses to be considered as taking any part in the transmission of the disease.

Clinical manifestations. The disease was typical in all respects, the chief comments on the cases being of confirmatory nature.
One incident was noted tending to show the period of incubation under natural conditions. A prisoner was taken from the jail, where there were no cases of dengue, to the court where he remained a half day. So far as known he came into close contact with no one who had the disease, but the third day after his return to prison he came down with this fever.

A prodromal stage covering from 1 to 3 days was noted in about one-third of the cases seen.

In the primary eruptive stage fully two-thirds of the patients had symptoms similar to heavy colds, and about one-eighth of them had chills. In addition to the usual flush about the face there was a decided "sun-burn" appearance of the hands on the ulnar side, more or less limited above and below by the dorsal and the palm. The sudden disappearance of these eruptions in this stage was quite noticeable in a large number of cases. Epistaxis was a common sequel to the severe headaches and was often a source of relief. A mild bronchial catarrh was not uncommon. Sweating, with the development of a disagreeable odor, was often noticeable.

Second febrile period. The rise in fever was usually much more gradual than in the first period, taking 24 hours or more to attain the maximum. Thirst was often very annoying and hard to satisfy.

Convalescence. During this period the pulse rate was very low, perhaps 44-48. The "joint" pains were found to be due to trouble in the muscles near the joints; but not in a single case was an arthritis or synovitis found. The knee was painful in 69% of the cases, elbow in 13%, shoulder 11%, wrist 8% and the whole body was painful in 30%.

Headache was a prominent symptom in 93% of the cases; 89% had pains in the loins, and 27% suffered from pain in the eye-balls. The pains in the joints were not generally of such a severe character as to lead the patients to describe them as "bone breaking."

The secondary eruption in at least 38% of the cases was not so large as often described, the lesions being the size of millet seeds. Ocular complications were limited to one case of neuritis and one of optic atrophy. Hemorrhages were not uncommon and occurred from the nose, bronchus, larynx, urinary passages, and cerebral vessels. In women, menstruation was often induced about the second day of the fever, and premature delivery was observed, especially in those near term. Painful adenopathy was seen in several cases, but splenic enlargement was rare. The urine was usually concentrated during the periods of extreme sweating, and albuminuria was encountered in 15% of the cases but always without the presence of casts. The Diazo reaction was present in 44% of one series and in 18% of another; a third observer considered it to be more frequent in the severer cases than in the mild ones.

No blood parasite was discovered and the white cells were greatly decreased in number.

In the differential counts the small lymphocytes were more abundant, but at the appearance of the eruption the larger ones became more numerous. The average white cell count in some cases is here tabulated.

<table>
<thead>
<tr>
<th>Day of Disease</th>
<th>Experimental Infection</th>
<th>Natural Infection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4600</td>
<td>3500</td>
</tr>
<tr>
<td>2</td>
<td>2400</td>
<td>1812</td>
</tr>
<tr>
<td>3</td>
<td>3714</td>
<td>1262</td>
</tr>
<tr>
<td>4</td>
<td>2575</td>
<td>2681</td>
</tr>
<tr>
<td>5</td>
<td>3680</td>
<td>3312</td>
</tr>
<tr>
<td>6</td>
<td>4500</td>
<td>4975</td>
</tr>
<tr>
<td>7</td>
<td>6300</td>
<td>6000</td>
</tr>
</tbody>
</table>

Only one death was reported in the whole of the series of cases of more than 6000, and there is some doubt as to the real cause of this death as the patient had suffered with a valvular lesion of the heart previous to this fever.

Corneal softening is regarded by the author as due to undue dryness of the cornea from exposure and not due primarily to the action of bacteria.


*Pathogenesis.* Small amounts of the defibrinated blood of patients sick with dengue were injected into various animals, such as the dog, white rat, rabbit, long-tailed Formosan monkey, and the guinea-pig. All proved negative except the last.

*Guinea-pig Experiments.* Several guinea-pigs were injected both subcutaneously and intraperitoneally with defibrinated blood and most of them died after from 7-36 days, showing loss of appetite for 2-3 days before death, and great exhaustion. Most of the organs were negative at autopsy, but the pancreas of many animals was swollen and congested, and histologically the cells were swollen and dull. The gastric mucosa of several was catarrhal, and contained hemorrhages or small ulcers, this process sometimes extending a little way into the small intestine. This set of experiments was tried three times with uniform results.

Blood taken from the hearts of guinea-pigs that had been injected as above 15 days before, and injected into other guinea-pigs, caused their death in 5-19 days when introduced into the peritoneal cavity or under the skin, but only after 28-34 days when injected intravenously. A third transfer was negative in every case. A similar experiment, but using blood from a guinea-pig injected 29 days previously, was negative.

*Experiments on Man.* The volunteers for this purpose were closely confined in well ventilated rooms in the hospital and kept under mosquito-nets at night, all mosquitoes that appeared being diligently watched for and killed. Some persons were found to be naturally immune, hence negative experiments are not necessarily conclusive. The artificial infections were exactly similar to the natural ones in every way.

Kojima and Akagi had previously reported that they had taken 5 mils of blood from a 3-day patient, had kept it in the ice box for 24 hours and then failed to get infection when it was injected into a human subject. They concluded that the low temperature had killed the virus. Another specimen had been centrifuged and 5 mils of this were injected into another person, also with a negative result. This they attributed to the supposed localization of the virus in the red cells. These results were repeated by the authors of the paper under review and opposite results obtained.

1. Five mils of blood from a 3-day patient were incubated for 10 minutes, centrifuged, and 1.2 mils of the clear serum injected. Infection occurred in 5 days and 22 hours.

2. Specimens of blood removed on days between the 2nd and 6th were positive in the injection experiments. There was no test made on the 1st or 7th, but one man injected with 8-day blood was negative not only to this but to one other experiment, thus suggesting natural immunity.

3. The minimum amount of blood which was found to be infective was 0.00005 mil.

4. The length of the incubation period was somewhat greater than found by Ashburn and Craig, owing perhaps to the fact that these injections were sub-
cutaneous whereas they had used the intravenous method. The following table sums up the results:

<table>
<thead>
<tr>
<th>Blood</th>
<th>Quantity</th>
<th>Appearance of Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3-day blood</td>
<td>1 mil.</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td>.05</td>
</tr>
<tr>
<td>4.</td>
<td>4-day (serum)</td>
<td>1.2</td>
</tr>
<tr>
<td>5.</td>
<td>5-day</td>
<td>1.</td>
</tr>
<tr>
<td>6.</td>
<td>6-day</td>
<td>1.2</td>
</tr>
<tr>
<td>8.</td>
<td>5-day</td>
<td>.00005</td>
</tr>
<tr>
<td>9.</td>
<td>6-day (filtered)</td>
<td>....</td>
</tr>
</tbody>
</table>

Note. Nos. 5, 6, and 8 are from the same person and there is a general similarity in the length of time taken to produce symptoms, the slight exception being in the case which was injected with an extremely minute quantity. This finding is in accord with that of Kojiwa and Akagi.

Extra-corporeal Viability of the Virus.
1. Blood of patient, diluted with 3-4 vol. of saline, kept at room temperature for 5 hours and injected into man; both cases positive.
2. Same, kept at ice-box temperature for 5 days; negative, but man was later found to be negative in other experiments and hence considered naturally immune.
3. One and half mils blood from 2-day patient, injected into guinea-pig. In 5 days sample drawn from artery of guinea-pig, defibriuated and injected into man. No symptoms in usual time but later man contracted the fever, perhaps from outside sources.
4. Filterability. (Kojima and Akagi had 1 case positive out of 3 and decided against the filterability of the virus); authors of present article had one case positive in 4, but other 3 were later found to be naturally immune. Blood mixed 1 in 2 with saline, filtered under pressure of 750 mm. Hg, through filter candle tested before and after against micrococci of less than 1 micron in diameter, the slightly blood-tinged filtrate and the residue left in filter, both gave positive results.

Microscopic Examination. Repeated examinations with various stains under the microscope were negative. The formed elements of the blood gave no evidence of parasites or bacteria and the cultures were sterile. Dark field illumination revealed a few refractile dots that were considered to be merely hemoconia.

Mosquito Transmission. Kojima and Akagi had reported in the negative after experimenting with Mansonia uniformis and Desvoidea obturans on 10 patients and obtaining only one positive result. The present authors used Slegomyia scutellaris, which bites chiefly in the evening, Culex fatigans, C. impellens, Desvoidea obturans (which is seldom found in villages), and Mansonia uniformis which is also rare near the habitations of man. Slegomyia scutellaris was applied to the person in test tubes, while the other mosquitoes were confined in a linen bag which enclosed the person's leg, the progress of the biting being watched by an electric light. Interval feeding consisted of banana moistened with sugar-water which was hung in the cages or placed in the grass at the bottom.

To determine whether the mosquito is a mechanical carrier or whether within its body the organisms undergo some change which requires the lapse of a certain length of time, several Slegomyia were allowed to bite a patient as soon as they would after taking the blood of a fever patient. One such person contracted the disease 13 days after, but the interval is too long and she might have contracted
the fever from her contact with patients in the interval. The several experiments performed are here tabulated.

<table>
<thead>
<tr>
<th>No.</th>
<th>Mosquito.</th>
<th>Days Interval</th>
<th>No. of Mosquitoes</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Stegomyia scutellaris,</td>
<td>3</td>
<td>1</td>
<td>o</td>
</tr>
<tr>
<td>2.</td>
<td>&quot;</td>
<td>2, 3, 4,</td>
<td>5</td>
<td>pos.</td>
</tr>
<tr>
<td>3.</td>
<td>Culex fatigans,</td>
<td>3</td>
<td>1 plus</td>
<td>o</td>
</tr>
<tr>
<td>4.</td>
<td>&quot;</td>
<td>3, 4</td>
<td>5 plus</td>
<td>o</td>
</tr>
<tr>
<td>5.</td>
<td>&quot;</td>
<td>1, 2, 3, 4,</td>
<td>many</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Deswidea obturbans,</td>
<td>4</td>
<td>5 plus</td>
<td>pos.</td>
</tr>
<tr>
<td>7.</td>
<td>Mansonia uniformis,</td>
<td>2, 3, 4, 5,</td>
<td>?</td>
<td>o</td>
</tr>
</tbody>
</table>

The conditions surrounding Experiment No. 6 were the most satisfactory from the authors' standpoint, but all are open to the objection that the volunteers were not under observation in confinement for a sufficient time before the experiment began. The mosquito theory, as far as mechanical transmission is concerned, is thus strengthened but not absolutely proven.

Emulsions of the salivary glands and digestive tracts of the mosquitoes were not conclusive in the results produced, as the experiments were performed at the end of the epidemic when susceptible people were hard to find, and when only Stegomyia and Culex were obtainable.

**Natural Immunity.** Eight of the experimental cases proved negative under circumstances where there was reason to believe they should have been positive, as they asserted they had never had the disease before, a statement which is hard to prove absolutely. However, one of the volunteers had the fever 2½ years before, and once before that, and yet he was one of the positive cases. Reports from the various examiners covered 2,294 cases. Of these 1.18% were reinfections, a few being recurrences in this epidemic, some within a year, others covering periods up to 10 years. Efforts were made to reinfect 4 cases that had recovered from the fever, with blood that had given positive results in the above experiments, but with no successful results.

<table>
<thead>
<tr>
<th>No.</th>
<th>Manier of transmission</th>
<th>Date of Examination</th>
<th>Free interval</th>
<th>Amount of blood used.</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Artificial</td>
<td>Oct. 4, Oct. 14,</td>
<td>10</td>
<td>1.2</td>
<td>o</td>
</tr>
<tr>
<td>2.</td>
<td>Natural</td>
<td>Oct. 7, Nov. 12,</td>
<td>36</td>
<td>1.5</td>
<td>o</td>
</tr>
<tr>
<td>3.</td>
<td>&quot;</td>
<td>Sept. 2, Nov. 12,</td>
<td>71</td>
<td>1.5</td>
<td>o</td>
</tr>
<tr>
<td>4.</td>
<td>&quot;</td>
<td>Aug. 15, Nov. 15,</td>
<td>89</td>
<td>1.5</td>
<td>o</td>
</tr>
</tbody>
</table>

Some of the observers felt that the Japanese were more heavily affected than the natives but the unconscious selection of cases among those who would seek the services of the Japanese doctors may have given a false impression.
of softened areas or tissues that may strip off, like mucosa, etc., in which case embedding with paraffin is better. The author finds it unnecessary to go to the extra trouble of following a more elaborate technique.


The eggs are described, figured and photographed as having a double-walled shell, much thinner than the shell of Trichocephalus, elliptical in shape, smooth surface, without projections and containing a nucleus. On both ends are clear thick caps with similar contour and size in most cases. The eggs measured 0.034—0.41 mm. × 0.07—0.085 mm, being considerably larger than Trichocephalus eggs found in the same specimen. The caps were watch-glass shape and measured 0.0035 mm. in thickness and 0.018—0.022 mm. in length.

Some of the eggs found in the feces were unsegmented while others were hatched, and there were all stages between. The larvae in the shell were quite active, of the figure of eight or oval-shaped, and often twisted in 3 levels. Those just hatched measured 0.0075 mm. × 0.485 mm. and were therefore larger than the corresponding stage of Trichocephalus, hook-worm, round worm, oxyuris or strongyloides.

The structure of the larva is simple, consisting of a short thick mouth, a tubular oesophagus and the rest of the body filled with a globular material. There was no genital rudiment or intestine discernible. The anterior end was somewhat narrowed and the posterior extremity was very blunt, thus differing from Trichocephalus and Strongyloides.

The patient passed from observation for a short time before the adult form was secured, and before she returned had taken naphthalene (?). The eggs had meanwhile disappeared and did not return while under later observation. The only interesting point in her history is the fact that 10 years ago she ate some pork which was followed by an attack of urticaria. Ever since she has been subject to urticaria with or without this obvious cause.
Japanese Medical Literature.

Iji Shinbun
(Medical News)
No. 979. August 10, 1917.


In a former paper (Abstract No. 233), Hayashi reported the finding of certain bodies in the lymph structures of patients sick with this disease but stated he had been unable to cultivate them. In April last, Miyashima reported to the Kitasato Research Department that he had found small, round, or elliptical bodies in the larva and adult Trombidium, that they could be stained by gentian violet and cultivated in ascites-agar, but were invisible to the naked eye on this medium. When injected into monkeys they produced the typical disease and could be recovered from the tissues of that animal, but being unable to find the same organism in the bodies of patients he had not reported his findings. Hayashi was unable to agree to the correctness of the statements in regard to staining and culture, and Miyashima had prepared emulsion from the bodies of 360 red bugs and obtained negative results when these were injected into animals. (Unfortunately, inasmuch as leucocytosis is one of the most reliable indices of infection, this observation was not checked by a count of the leucocytes of the experimental animals.)

Two years ago, the authors reported in the Tokyo Igakukai Zasshi that they had found an organism in the bodies of patients and monkeys that had died with this infection, but based their claims solely upon morphological grounds. From quotations given of that original description the details agree quite closely with those reproduced in Abstract No. 233.

CULTIVATION EXPERIMENTS.—The infectious material employed was the blood of a monkey, the 14th subculture from a patient (1 of these subcultures had been from monkeys and 3 from wild rats. The monkey was sick at the time as was evident from the fever curve and the blood was obtained under conditions that precluded outside contamination.

The medium used was Loeffler's blood serum, and the culture held at 37° C. for 1-2 weeks. At this time very small circular colonies were observed that were firmly adherent to the substratum. In subculture the size and general appearance were practically the same until at the end of 2 months the saprophytic habit had become more fixed and the growth was less inhibited. The colonies were now distinct, pin-head size, round, but the edge was irregular, and yellowish in color. The water of condensation, at first clear, became more and more cloudy until it offered the better conditions for growth. There was no liquefaction of the serum, and no acid or odor produced.

In subcultures other media were employed but with less success. Dextrose, horse serum-agar, dextrose-serum-broth, ascitic-agar, dextrose-agar, common agar and gelatin were experimentally employed.

The organisms obtained in this manner were round or elliptic, 0.7-1. micron in diameter, with occasional variation above and below. They were arranged in pairs, groups, or chains.

The bodies did not stain uniformly with most stains but there was discernible a dark spot and a light area surrounding it. The youngest and the oldest individuals were not so clearly defined but in the growing condition this phenomenon was marked. With Giemsa the central spot was clearly defined, purplish in color and the lighter portion was bluish. With fuchsin, gentian-violet, hematoxylin and Bismarck brown the difference was rather one of intensity than of shade. Deeply stained preparations partly decorolized displayed this color difference most clearly. With Gram the darker portion during the period of growth
was positive but at all times the lighter portion was questionable. Decolorization of most or all of the body was observed regularly in old individuals, and even at best a slight counter-staining was possible.

No capsule was demonstrated, but the existence of some sort of a protective covering was evident from the occasional slight staining with the primary stains. No spores or refractile bodies were seen, and there was no motility. Segmentation was the usual method of reproduction.

Exposure to a temperature of 55° C. for one hour was fatal and the organisms were killed at 60° C. in 15 minutes, and at 70° C. in 5 minutes. They were very resistant toward alkalies and were not dissolved by 10% sodium taurocholate. They were not filterable through a Berkefeld candle.

**Organisms from bodies of patients and monkeys (as previously reported).**

These forms were found in the lymph glands and spleen, less frequently in the circulating blood, and were stained reddish purple with Giemsa. The body was generally oval or elliptical, with definite limiting membrane, sometimes pear-shaped or rod like. They measured 3.5 microns by 1 micron but most were under these figures rather than over. The darker body was eccentric, or at the tip of the pear-shaped bodies. The protoplasm was unequally stained, and sometimes the connection between it and the dark body was difficult to make out. Occasionally an annular shaped one was seen that resembled a malaria parasite. In no case was it seen inside a red corpuscle.

![Fig. I. Grouping and irregular staining of organisms.](image1)

![Fig. II. Same. More magnified. Small organisms with little or no protoplasm visible.](image2)

The endothelial cells of the lymph glands involved were generally hyperplastic and contained many granules, even the lymphocytes having some of these bodies within their protoplasm. Under these conditions the identification of the parasites was not easy and confusion with phagocyted granules was difficult to guard against. However, the cultivation of these bodies artificially has given the authors confidence in believing that they really found the true cause before.

**Injection of culture into monkeys.—** Small doses of the culture were injected into monkeys and the typical temperature curve and other findings noted. Two animals were not taken as acutely ill as the others, but even in them there was reason to believe that an abortive attack had occurred. Apparently the passage through the bodies of monkeys raised the virulence; the cultivation lowered it somewhat, but not enough to prevent infection in most of the cases.

Complement fixation tests were applied and a definite result obtained. A saline suspension of the organisms was used as antigen and the hemolytic series involved the use of goat corpuscles. The monkey was found to have a considerable amount of natural hemolysis, but this did not interfere in the higher dilutions of serum. The blood of monkeys recovered from a culture-induced infection was as
powerful in complement fixation as was that of a monkey infected by the injection of patient's blood. Controls of normal serum were negative in surprisingly low dilutions. Agglutinins were absent even in dilutions as low as 1-20.

**Gunidan Zasshi**

*(Journal of the Military Surgeons of Japan)*

No. 69. *June 10, 1917.*

(392) **Thermic fever, studies on the Pathogenesis of.** Pp. 251-276. S. Koizumi. 2 photographs. (Partly abstracted under No. 184.)

According to the common division of the pathological effects of heat there is either heat-stroke or sun-stroke. The form most common in Japan is heat-stroke, owing to the fact that the climate there is temperate. The sun's rays are powerful, but sun-stroke in the strict sense is not frequent.

Rabbits in which thermic fever was artificially produced were often found to have 7 times the normal amount of ammonia in the urine. In coma or convulsions the amount rose at times to 11-12 times the usual ammonia content, the ura was decreased, and acetone and diacetic acid were excreted, but the total nitrogen remained constant and there was no evidence of abnormal protein metabolism.

Exercise in the high temperature producing the fever started a vicious circle. The acidosis resulting from the accumulation of metabolic products in unusual amounts reduced the combining power of the hemoglobin for oxygen, thus reducing the available supply of oxygen in the circulation and this in turn interfered with the elimination of the metabolic products.

(393) **Metabolism, Studies in, on Four Korean Soldiers.** Pp. 303-312. S. Otani.

Four men were selected from a squad of Korean soldiers because of their general good health and submitted to various tests for the study of their metabolism.

*Body weights on different dates.*

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Kim Yiun Hak</td>
<td>5.35 ft.</td>
<td>53.625 kg.</td>
<td>53.250</td>
<td>53.437</td>
<td>53.625</td>
</tr>
<tr>
<td>Chung Il Yung</td>
<td>5.45</td>
<td>63.975</td>
<td>63.187</td>
<td>63.375</td>
<td>63.750</td>
</tr>
<tr>
<td>Yi Tai Hang</td>
<td>5.38</td>
<td>52.425</td>
<td>52.500</td>
<td>52.125</td>
<td>52.875</td>
</tr>
<tr>
<td>Sang Yun</td>
<td>5.49</td>
<td>59.438</td>
<td>59.250</td>
<td>59.855</td>
<td>60.165</td>
</tr>
</tbody>
</table>

The weather during this period was propitious and the men were made to do only light work in the form of drill for a half-hour each day.

The food given was mainly rice with one-fourth portion of red beans, the daily ration of which being figured roughly at 2 ’hop’ per meal (1 ‘hop’ is about 90 gms.), three meals a day. The method of cooking was in general that practised by the Japanese (to which these men had become accustomed) except that the powdered red pepper was added, thus catering more to the Korean taste. The following menu of side dishes was prepared in the quantities indicated, divided into 5 portions of which each partook of one and the 5th was used for testing. The men were compelled to eat all of the food given except in the case of the salted radish, in regard to which their tastes differed greatly.

<table>
<thead>
<tr>
<th>Date</th>
<th>Morning.</th>
<th>Noon.</th>
<th>Night.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Beef, 28</td>
<td>Red pepper, 2</td>
<td>Egg, 28</td>
</tr>
<tr>
<td></td>
<td>Salted radish, 160</td>
<td>Salted radish, 160</td>
<td>Sesame oil, 1.5</td>
</tr>
<tr>
<td></td>
<td>Red pepper, 16</td>
<td>Vegetables, 120</td>
<td>Salted radish, 160</td>
</tr>
<tr>
<td></td>
<td>Soy, 16</td>
<td>Soy, 8</td>
<td>Red pepper, 8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Soy, 8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Vinegar, 1</td>
</tr>
</tbody>
</table>
May 24.

Vegetables, 120 gm.

Sea bream (Pagrus cardinalis), 120 gm.

Leaves of Composit.

(Pleridium aquilinum), 95 gm.

Soy, 8

Red pepper, 4

Salted radish, 160

May 25.

Vegetables, 280 gm.

Sea bream, 120 gm.

Vegetables, 120 gm.

Beef, 28 gm.

Salted radish, 160 gm.

Bean paste, 60 gm.

Salted radish, 160 gm.

Red pepper, 4

May 26.

Vegetables, 120 gm.

Sea bream, 120 gm.

Vegetables, 120 gm.

Beef, 28 gm.

Salted radish, 160 gm.

Bean paste, 60 gm.

Salted radish, 160 gm.

Red pepper, 4

The portion of rice and the side dishes for one man, as outlined above, were put together in a vessel and evaporated to dryness over a water bath.

The nitrogen, albumen, fat, and carbohydrates were determined in the customary ways, the latter by hydrolysis of the cellulose with 5% HCl and a quantitative Fehling's test for the sugar produced. The factor 0.9 was used for determining the equivalent carbohydrate. Colored substances, such as the powdered feces, were treated to precipitate out the albumen and then determined with the use of phosphotungstic acid.

The tabulation of the tests made on the 4 men is as follows:—

1. Kim Yun Hak.

<table>
<thead>
<tr>
<th>Wet substance</th>
<th>Dry.</th>
<th>N.</th>
<th>Albumen</th>
<th>Fat.</th>
<th>Carbohydrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stable food, 2013.7 gm.</td>
<td>661.4 gm.</td>
<td>9.7 gm.</td>
<td>60.8 gm.</td>
<td>4.21 gm.</td>
<td>546.6 gm.</td>
</tr>
<tr>
<td>Side dishes, 1272.5 gm.</td>
<td>130.7 gm.</td>
<td>7.02 gm.</td>
<td>44.06 gm.</td>
<td>16.67 gm.</td>
<td>21.93 gm.</td>
</tr>
<tr>
<td>Salted radish, 21.6 gm.</td>
<td>37.7 gm.</td>
<td>0.43 gm.</td>
<td>2.74 gm.</td>
<td>0.27 gm.</td>
<td>6.5 gm.</td>
</tr>
</tbody>
</table>

2. Chung II Yung.

<table>
<thead>
<tr>
<th>Wet substance</th>
<th>Dry.</th>
<th>N.</th>
<th>Albumen</th>
<th>Fat.</th>
<th>Carbohydrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stable food, 2033.7 gm.</td>
<td>671.7 gm.</td>
<td>9.79 gm.</td>
<td>61.4 gm.</td>
<td>4.29 gm.</td>
<td>545.26 gm.</td>
</tr>
<tr>
<td>Side dishes, 1272.5 gm.</td>
<td>130.7 gm.</td>
<td>7.02 gm.</td>
<td>44.06 gm.</td>
<td>16.67 gm.</td>
<td>21.93 gm.</td>
</tr>
<tr>
<td>Salted radish, 4.38 gm.</td>
<td>7.02 gm.</td>
<td>44.06 gm.</td>
<td>16.67 gm.</td>
<td>21.93 gm.</td>
<td></td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Wet substance</th>
<th>Dry.</th>
<th>N.</th>
<th>Albumen</th>
<th>Fat.</th>
<th>Carbohydrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stable food, 2055.2 gm.</td>
<td>681.2 gm.</td>
<td>10.01 gm.</td>
<td>62.56 gm.</td>
<td>4.26 gm.</td>
<td>555.52 gm.</td>
</tr>
<tr>
<td>Side dishes, 1272.5 gm.</td>
<td>130.7 gm.</td>
<td>7.02 gm.</td>
<td>44.06 gm.</td>
<td>16.67 gm.</td>
<td>21.93 gm.</td>
</tr>
<tr>
<td>Salted radish, 186.5 gm.</td>
<td>31.6 gm.</td>
<td>0.37 gm.</td>
<td>2.35 gm.</td>
<td>0.17 gm.</td>
<td>5.67 gm.</td>
</tr>
</tbody>
</table>

4. Sang Yun.

<table>
<thead>
<tr>
<th>Wet substance</th>
<th>Dry.</th>
<th>N.</th>
<th>Albumen</th>
<th>Fat.</th>
<th>Carbohydrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stable food, 2127.7 gm.</td>
<td>704.8 gm.</td>
<td>10.37 gm.</td>
<td>64.85 gm.</td>
<td>4.48 gm.</td>
<td>573.52 gm.</td>
</tr>
<tr>
<td>Side dishes, 1272.5 gm.</td>
<td>130.7 gm.</td>
<td>7.02 gm.</td>
<td>44.06 gm.</td>
<td>16.67 gm.</td>
<td>21.93 gm.</td>
</tr>
<tr>
<td>Salted radish, 186.5 gm.</td>
<td>31.6 gm.</td>
<td>0.41 gm.</td>
<td>2.78 gm.</td>
<td>0.18 gm.</td>
<td>5.69 gm.</td>
</tr>
</tbody>
</table>

The amount of fluid taken by the men was

<table>
<thead>
<tr>
<th>Amount</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>160 cc.</td>
<td>1100 cc.</td>
<td>900 cc.</td>
<td>1000 cc.</td>
<td></td>
</tr>
<tr>
<td>2000 cc.</td>
<td>1700 cc.</td>
<td>1000 cc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2100 cc.</td>
<td>1200 cc.</td>
<td>900 cc.</td>
<td>1000 cc.</td>
<td></td>
</tr>
<tr>
<td>1600 cc.</td>
<td>1400 cc.</td>
<td>1700 cc.</td>
<td>1500 cc.</td>
<td></td>
</tr>
</tbody>
</table>
The urine and feces excretion during this time was

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 1660 cc.</td>
<td>1.025</td>
<td>11.66</td>
<td>474 gm.</td>
<td>4.98</td>
<td>3.63 gm.</td>
<td>5.3 gm.</td>
</tr>
<tr>
<td>2. 1657</td>
<td>1.021</td>
<td>11.85</td>
<td>280</td>
<td>4.3</td>
<td>4.2</td>
<td>2.05</td>
</tr>
<tr>
<td>3. 1922.5</td>
<td>1.027</td>
<td>12.99</td>
<td>435</td>
<td>3.95</td>
<td>3.5</td>
<td>1.6</td>
</tr>
<tr>
<td>4. 1912</td>
<td>1.0227</td>
<td>12.51</td>
<td>349.7</td>
<td>4.6</td>
<td>4.5</td>
<td>2.6</td>
</tr>
</tbody>
</table>

The absorption balance sheet for each is

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Amount eaten, 529.8 gm.</td>
<td>17.15 gm.</td>
<td>21.15 gm.</td>
<td>575.1 gm.</td>
</tr>
<tr>
<td>... in feces, 12.67</td>
<td>4.98</td>
<td>3.64</td>
<td>2.3</td>
</tr>
<tr>
<td>... absorbed, 261.</td>
<td>12.18</td>
<td>17.51</td>
<td>572.8</td>
</tr>
<tr>
<td>... unabsorbed, 5.28%</td>
<td>29.1%</td>
<td>17.3%</td>
<td>0.41%</td>
</tr>
<tr>
<td>2. Amount eaten, 804.4 gm.</td>
<td>20.94 gm.</td>
<td>20.94 gm.</td>
<td>567.16 gm.</td>
</tr>
<tr>
<td>... in feces, 744.7</td>
<td>12.19</td>
<td>16.66</td>
<td>565.14</td>
</tr>
<tr>
<td>... absorbed, 67.6</td>
<td>25.7%</td>
<td>23.5%</td>
<td>0.34%</td>
</tr>
<tr>
<td>... unabsorbed, 7.42%</td>
<td>25.7%</td>
<td>23.5%</td>
<td>0.34%</td>
</tr>
<tr>
<td>3. Amount eaten, 843.2 gm.</td>
<td>17.4 gm.</td>
<td>21.18 gm.</td>
<td>573.52 gm.</td>
</tr>
<tr>
<td>... in feces, 12.5</td>
<td>3.95</td>
<td>3.71</td>
<td>1.95</td>
</tr>
<tr>
<td>... absorbed, 795.7</td>
<td>13.45</td>
<td>17.59</td>
<td>571.17</td>
</tr>
<tr>
<td>... unabsorbed, 5.51%</td>
<td>17.7%</td>
<td>17.7%</td>
<td>0.33%</td>
</tr>
<tr>
<td>4. Amount eaten, 867.1 gm.</td>
<td>17.3 gm.</td>
<td>21.33 gm.</td>
<td>601.14 gm.</td>
</tr>
<tr>
<td>... in feces, 75.7</td>
<td>4.58</td>
<td>4.52</td>
<td>2.66</td>
</tr>
<tr>
<td>... absorbed, 780.4</td>
<td>13.12</td>
<td>19.37</td>
<td>598.48</td>
</tr>
<tr>
<td>... unabsorbed, 9.05%</td>
<td>25.2%</td>
<td>21.2%</td>
<td>0.44%</td>
</tr>
</tbody>
</table>

A comparison of these unabsorbed substances in the feces of the Korean soldiers (average) with some others gives

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Japanese soldiers, 5.71</td>
<td>22.88</td>
<td>29.</td>
<td>0.72</td>
</tr>
<tr>
<td>laborers, 4.66</td>
<td>20.80</td>
<td>24.2</td>
<td>0.43</td>
</tr>
<tr>
<td>farmers, 2.48</td>
<td>17.5%</td>
<td>19.55</td>
<td>0.19</td>
</tr>
<tr>
<td>Korean soldiers, av. 7.56</td>
<td>25.9</td>
<td>19.9</td>
<td>0.38</td>
</tr>
</tbody>
</table>

The nitrogen balance sheet for the 1 gives

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 17.15</td>
<td>11.66</td>
<td>4.93</td>
</tr>
<tr>
<td>2. 16.91</td>
<td>11.85</td>
<td>4.3</td>
</tr>
<tr>
<td>3. 17.4</td>
<td>13.99</td>
<td>3.95</td>
</tr>
<tr>
<td>4. 17.8</td>
<td>12.51</td>
<td>4.62</td>
</tr>
</tbody>
</table>

Table of caloric values for food consumed,

<table>
<thead>
<tr>
<th>Body weight.</th>
<th>Calories.</th>
<th>Calories per Kg. weight.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 53.625 kg.</td>
<td>2956.6 cal.</td>
<td>56.86 cal.</td>
</tr>
<tr>
<td>2. 63.975</td>
<td>3925.19</td>
<td>45.15</td>
</tr>
<tr>
<td>3. 52.425</td>
<td>3053.41</td>
<td>57.56</td>
</tr>
<tr>
<td>4. 39.438</td>
<td>3123.08</td>
<td>52.50</td>
</tr>
</tbody>
</table>

Comparison of the Korean soldiers' meals in caloric value with Japanese of various occupations.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Japanese soldiers, 103.56</td>
<td>16.80</td>
<td>629.50</td>
<td>3162</td>
</tr>
<tr>
<td>... farmers, 101.88</td>
<td>24.24</td>
<td>597.76</td>
<td>3892</td>
</tr>
<tr>
<td>... laborers, 101.55</td>
<td>9.05</td>
<td>567.53</td>
<td>2829</td>
</tr>
<tr>
<td>Korean soldiers, 107.99</td>
<td>27.00</td>
<td>570.6</td>
<td>2864</td>
</tr>
</tbody>
</table>

A comparison of the meals of the Korean soldiers with those of Japanese soldiers gives somewhat smaller values, but the diet is far superior to that of the Japanese laborer and about the same as that of the average farmer. The great amount of dry weight and especially the protein that is lost from the Korean diet is worthy of note. The author mentions particularly that this meal is supposed to correspond to the average obtainable by the middle class and that he proposes in the future to give some figures based upon the examination of the dietary of the lower class.
Hospital Reports.

[As the China Continuation Committee has now undertaken the collection, arrangement, and publication of the statistics of medical work in China and has prepared special forms for this purpose which may be easily obtained, hereafter in our reviews of hospital reports statistical tables will be omitted and reference will only be made to matters of general interest. It would be rendering very useful public service if each physician would send in for publication, as part of his hospital report, a statement of the public health, epidemics, etc., of the district in which he works, until such time as the Chinese Government establishes a Public Health Service.]

Friends' Mission Hospital, Suining, Szechwan. Report for the Year 1917.

Physician in charge, William L. Hall, M.D.

The year has been exceptionally busy owing to the large number of wounded soldiers who were cared for, the hospital and several other of the compound buildings being taxed to the uttermost to accommodate them. Interesting questions relating to medical and evangelistic work are considered, as will be seen by the paragraphs in "Hospital Notes." This hospital and other small hospitals in the interior are doing an indispensable work of the greatest value and deserve every encouragement, at any rate until the time comes when far larger hospitals, each with a full staff and perfect equipment, are ready to take their place.

Annual Report of the Church of Scotland Medical Mission (Rankine Memorial Hospital), I-chang, Central China, for the Year 1917.

Staff:—Dr. and Mrs. Andrew Graham; Dr. and Mrs. C. T. Borthwick; Nurses, Annie Read and C. C. Colley.

The Report commences with an interesting history of the hospital since its foundation and this is followed by a description of the various branches of the work, medical and evangelistic. The medical and surgical cases are well analysed and tabulated, and the figures indicate that steady progress is being made in all departments. The report is well compiled and the illustrations are good and numerous. The friends and supporters of the hospital must be very pleased with this record of widespread Christian beneficence in a distant field.
The Seventy-first Annual Report of the Chinese Hospital, Shantung Road, Shanghai, for the Year 1917.

Medical Officers:—C. J. Davenport, F.R.C.S. (Engl.), (Medical Superintendent); A. C. Price, M.B., Ch.B. (Edinb.), (Absent on Service); W. L. New, M.A., B.C. (Camb.), M.R.C.S. (Engl.), L.R.C.P. (Lond.), (Resident Surgeon); H. Couper Patrick, M.B., C.M. (Glas.), (Visiting Surgeon); N. Hay Bolton, M.D., F.R.C.S. (Ed.), (Visiting Surgeon); A. G. Parrott, M.R.C.S. (Engl.), L.R.C.P. (Lond.), (Visiting Physician); W. B. Billinghurst, M.A.M.B. (Oxf.), (Visiting Ophthalmic Surgeon).

Matrons:—Mrs. J. A. C. Smith (Men's Wards); Miss Clark (Women's Wards, Absent); Miss P. R. Acis Sharpe, (Acting Matron, Women's Wards).

Consulting Medical Officer:—R. J. Marshall, M.D., C.M. (Glasgow).

Consulting Dental Surgeon:—F. A. Robinson, D.D.S.

Business Manager:—Mr. J. Amor Heal.

The Report contains the account of the Annual Meeting, presided over by Mr. E. C. Pearce, Chairman of the Shanghai Municipal Council. In his speech Mr. Pearce presented in a very interesting manner the history of the hospital which began with the medical work of Dr. Lockhart in Shanghai in the year 1843. Land was bought in what is now the centre of the city for Mex. $45 a mou. To those who know what present prices are, there must be many a sigh over lost missionary opportunities. Mrs. Lockhart was the first foreign lady to come to Shanghai; her memory is perpetuated by St. Catherine's Bridge. Those were stirring days, when the Chinese were extremely turbulent and foreign merchants indulged in Gargantuan repasts.

As may be judged by the size of the staff, the hospital does an enormous amount of work, the total number of patients attended to during the year 1917 being over 85,000. The casualties numbered 1,461, including 470 vehicular accidents. A strong effort is being made to induce the rich Chinese of Shanghai to support the hospital more liberally. The expenses for the year amount to about Tls. 35,000.


Staff:—Dugald Christie, C.M.G., F.R.C.P., F.R.C.S. (Ed.), Principal; S. A. Ellerbek, M.B. Ch.B. (Ed.), Vice-Principal and Dean; W. A. Young, M.B. C.M., D.P.H.; R. Howard Mole, B.A.,

LECTURERS:—Ethel Starmer, M.D. Ch.B.; A. Russell Young, L R.C.P., L.R.C.S. (Ed.); P. B. Pedersen, M.B. Ch.B. (Ed.).

ASSISTANTS AND DEMONSTRATORS:—Dr. Liu Tung Lun; Dr. Kao Wen Han; Dr. Kuo Ming Yao; Dr. Hung Kuo Chang.

The year 1917 is and will remain memorable in the history of the College as it marked the graduation of its first students. An account of the graduation ceremonies has already appeared in the Journal (1917, pp. 434,455) with a photograph of the successful students. Several members of the staff are on war service and no less than 17 of the Chinese, graduates and students, have volunteered for work in France.

In defining the aim and scope of the College, the Report states that it seeks to keep as closely as possible in touch on the one hand with the three missions in Manchuria and the Chinese Christian Church, and on the other hand with the Chinese Government and people. It wishes to draw its students largely from Christian sources, and is, in this, dependent on the Christian Middle Schools. While standing apart from the individual missions in government and finance, it feels itself to be an integral part of them, an essentially Christian institution, established to provide Christian doctors for Manchuria. Maintaining complete religious liberty, it aims at training men not only as doctors but as evangelists.

The College is also desirous to be more and more closely connected with the Chinese Government, to strengthen the links with it, to make this institution a Chinese, not a foreign one, to convince the people of Manchuria that it is here purely for their benefit, and that it belongs to them.

At the same time the College seeks to maintain a high professional standard, to send out only men who are worthy of the diploma given them, and to implant in the minds of its students a noble ambition for the highest and best professionally.

How far has it succeeded in this three-fold object? "Our aims are high, and while we do not claim complete achievement, being only too conscious that we have not reached our ideals, yet we have much to be thankful for in the measure of success meted out to us.

"As to the first, the College is proving itself a valuable evangelistic agency, bringing into Christian Light one after another of its students,
and giving men experience in practical Christian helpfulness. We cannot say that all our graduates are earnest Christian workers, nor can we guarantee that they are all even genuine Christians, but we are glad to know that all profess to follow Christ, that none of them has given reason for us to doubt his profession, and that quite a number are manifestly eager to do their part in the great effort to advance Christ’s Kingdom. Three-fourths of our men have come from mission schools, so that in this way we are closely linked with missionary effort throughout Manchuria. Indeed, there could be no more severe blow dealt to the mission schools than the closing of our College, as we and the Arts College provide them with a goal and an outlet.”

The prospects of the College in the future are extremely good if a generous response is made to its appeals. More teachers are required and the money to provide their salaries. As this is the one Christian Medical College in a vast district where the medical and spiritual needs of the people are very great, there can be little doubt that as soon as peace is declared and life flows again in its usual channels the College will receive all the support it needs.

Report of the Moukden Hospital, 1917.

For the first time the hospital has now fully trained house surgeons and physicians, the best of the recent graduates of the Moukden Medical College. With the foreign staff reduced from nine to four the work could not have been carried on satisfactorily without their help.

Although the Hospital has already steam heat, electric light, and water laid down, there are still many improvements required to bring it up to date. This year there have been added proper bathrooms, and there is the prospect of great and most desirable changes, particularly in the administration block. This is made possible by the generous donation of $9,000 gold from the Rockefeller Trust, and $5,000 from the home Church (about £2,400 in all). The War may prevent these expensive changes being carried out this year, but that they will be possible later on is a source of much gratification to the staff.

Further, there is the sure prospect of two nurses joining the staff when the war is over, one being supported by a kind friend in Scotland, and the other by the Rockefeller Board. According to its constitution, the Medical College is “granted the use of the Hospital as a clinical field,” and the Hospital Committee is glad that it will now be enabled to bring up to a proper standard that branch of the work for which the Scottish Church is specially responsible.
Nearly 42,000 patients were treated in the Hospital during the year. The finances are in a satisfactory condition, though drugs to the value of £174 were lost in the Mediterranean through German submarines. Various interesting questions are discussed in the Report; reference to these is made in "Mission Hospital Notes."

Mission Hospital Notes.

Difficulty of Conforming to Hospital Standards.

In a hospital equipped for less than twenty patients we have found it hard to care for more than forty at a time. We have not sent any away. Early in August, 1917, one hundred and seventy-five wounded soldiers were brought in. These had been carried five days overland. All the rooms in the hospital were crowded. Every hall, every verandah, the unfinished second floor, the waiting rooms at the dispensary, the rooms on the compound, and a temple across the street were all utilized to accommodate our patients. Full well we know this is not an ideal way to do the work,—and yet it may be an ideal work! Reports may be far from perfect, but impressions on the minds of those who need help may be lasting, and bear glimpses of the life eternal.

Suining Hospital, Szechwan.

Hospital Finances.

The tendency in these days is to push self-support of hospitals at a quicker rate than they can stand, consistent with their high purpose. Managers are tempted to gain a little kudos by securing a large local income. It is difficult to see how we can indefinitely maintain our reputation for benevolence before heathendom if our work makes profit in all its branches. So while as a Hospital Committee we recognize the importance of developing self-support, we shall not lightly be persuaded that we came to China to run practices among the Chinese, nor shall we consent in the least degree to sacrifice the influence of our work for the sake of dollars. We shall do our best to keep charity from being abused, and at the same time try to ensure that no needy one is turned empty away.

Moukden Hospital.

Competition with the Work of Medical Missions.

The presence of a house staff of six graduates in residence profoundly affects the prospects of the Hospital. Excellent Japanese
Mission Hospital Notes.

and Chinese hospitals having of recent years sprung up around us, we have no longer a clear field, and our patients will soon go elsewhere if we do not keep up to date, and are not ready to offer prompt and successful treatment. This our residents have largely enabled us to do, in spite of our reduced staff, thus averting the danger that the Christian hospital might have the name of being inferior to the heathen hospitals.

Mukden Hospital.

Suicide among Chinese in Shanghai.

Attempted opium suicides have numbered 281 as compared with 409 last year. Of these 106 have been men and 175 women.

Other forms of suicide are also resorted to, some of which are most distressing and fatal—such as swallowing strong nitric acid, match heads, etc. Over 50 patients have been brought in who have swallowed gold rings, earrings, etc.

Shantung Road Hospital, Shanghai.

Attempted Suicide by Swallowing Gold.

Recently a man was brought in by crowds of interested people. He was in a very excited, wild condition, and was said to have swallowed one or more gold rings with the object of committing suicide. We retained him in a private ward in Hospital, and administered suitable treatment, his guardians and visitors being legion. In due time 3 heavy, solid, gold rings were recovered, and he went out much relieved. The circumstances of his case were that he had been sent from a Soochow jeweller's shop to sell jewellery in Shanghai. Getting into trouble through drinking he had committed the act in desperation. We await our reward in return for our help, the three gold rings remaining in our possession, as having saved his life and recovered his master's property, we think it only fair that some return should be given to the Hospital.

Shantung Road Hospital, Shanghai.

Medical Missions and Chinese Superstition.

The treatment of disease in China is partly in the hands of native doctors; but, as if to aid the treatment, or more likely because of the uncertainty of results of their treatment, they very commonly call in the aid of the gods through the services of the priests. The
Chinese mind is steeped in superstition, especially in superstition relative to the cause, or the healing of disease. For this reason our methods of treatment, fair and above board, and open to the eye as they often are, especially in surgical work, enable us again and again to overthrow the strongholds of the enemy.

Rankine Memorial Hospital, Ichang.

Superstition and Sanitation.

We have tried some publicity work on the prevention of tuberculosis. As all diseases are, to the native mind, caused by the entrance into the body of the spirits of evil, we find it up-hill work to convince them to the contrary. At night all doors and windows must be closed, and sick and well occupy the same beds, in the same cramped, insanitary quarters. Tuberculosis and syphilis are the twin scourges of Western China. The ignorance of the people makes one almost feel that there is neither prevention nor cure for these terrible plagues. The soldiers wander at will, sowing the vile seeds of disease, and there seems no power to control their wanderings.

Shunin Hospital, Szechuan.

The Fear of Hospital Ghosts.

Although the Chinese nursing staff are grown up men and women, yet they are all more or less children, and one of the great difficulties is to get them to realize the responsibilities of their position as hospital assistants and nurses. Recently I found that the night nurse, although brought up in a Christian home and educated in a mission school, feared meeting with a "kuei" (evil spirit) while going from one ward to another, and carried a lantern behind him, so that he could not be seen.

Rankine Memorial Hospital, Ichang.

Self-mutilation to Obtain Revenge.

A few months ago a young man was brought in by his employers, with his left wrist joint all hacked open and the extensor tendons of his hand all chopped through. It seems that he was employed in a shop in the Settlement, and because his master found fault with his work and blamed him, he seized a chopper and thus mutilated himself, rendering his hand useless for life. His home is in the north part of this province, and evidently he did the deed to bring revenge from his
own people down on the head of his master, whose treatment had driven him to commit such an act. It well illustrates the insecurity and danger of Chinese social customs— "responsibility" being a terribly real factor, for good or ill.

Shantung Road Hospital, Shanghai.

Deaths in Hospitals for Chinese.

In former years it happened not infrequently that after a death in the hospital the remaining patients went away as they feared the building might be haunted by the ghost of the dead, and absurd stories were often circulated of what was done by foreign doctors. Because of the prejudices which then existed and with the natural desire to avoid riots or other disturbances, it was the custom to encourage relatives to take home those in a dying condition, this being in accordance with the wishes of the patients themselves. With the disappearance of much superstition and prejudice, it is now possible for missionary doctors to minister to their patients until the end. On this subject Dr. Hall writes:

"As to carrying away dead bodies so as not to attract attention, the little gate at the back of the compound, opening out on the city moat, has no existence for us. When announcement was made that the hospital was a place for people to die in, as well as a place in which to get well, another bit of valuable publicity was generated. The officer commanding the local army unit was so pleased when we told him to let one of his officers die in the hospital that he made a public proclamation of the order, and came in person to offer his thanks for the great kindness. The dying officer was more than one hundred miles from his home, and, had we demanded his removal, would have been forced to die in the open court of a temple, surrounded by dogs and beggars. After he had died his body was carried out through the front gate and placed in a temple. We visited the temple each day his body lay in state, to show that we had done nothing for which we should be either ashamed or afraid.

"Over the hill, towards the temple of the Goddess of Mercy, there may be seen a row of new-made graves by the roadside. We are proud of those graves! Each holds the body of a soldier who died in the hospital, and each man who died here witnessed to our willingness to serve until the end. These graves are daily pointed out as the resting-places of men who were permitted to die in the mission hospital. When it was evident that the end was near for any patient.
his relatives were invited to come to him, and remain as long as they wished. Mothers were thus enabled to sit by the bedside of dying sons; wives with husbands and brothers with brothers,—and the words of love spoken at such times as these cannot fail to bring forth fruit."

_Suining Hospital, Szechwan._

**Caring for the Sick and Indigent to the End.**

Not only do we feed and clothe our patients, but at times we have to help some, who are stranded, to get back to their homes when they leave the hospital. Then we have some sad cases of homeless waifs, and who, if they die in the hospital, we are required to bury. There have been not a few such during the past year, and we have been glad to give them a restful place during their last days. What a contrast this is to the many who are allowed, in China, to end their days by the roadside!

_Rankine Memorial Hospital, Ichang._

**Hospital Publicity.**

The most important function of medical work is to break down barriers of ignorance and prejudice, and to beget confidence. Our invitation, sent out a few days before the New Year, brought more than fourteen thousand men, women, and children into the compound. All were passed through the hospital, and were shown that we have no dark corners hidden away from sight. The visitors mingled freely with the patients, and all the time of every member of the staff was given to them during the three days.

_Suining Hospital, Szechwan._

**Religious Work in Hospitals, Manchuria.**

A number of questions were sent out lately to all missionaries in Manchuria, by a Committee on Mission Policy, among which was the following: "Apart from the work of the hospitals, does the Christian Church in Manchuria leave upon the heathen the impression that it has any deep practical interest in deeds of mercy and active benevolence?"

The answers seemed to show that hospital work is the chief instrument for producing this abiding impression on heathenism. In order to evangelize the world, more than preaching is required,—our message must be carried home by ringing deeds. The indispensable part played by hospitals and medical work in overcoming prejudices is continually being demonstrated. If the Gospel is to pierce men's hearts through
the barriers still interposed by national pride and social antipathy, it must come not in word but in power.

Further, we are of those who believe that the attitude of heathendom towards Christianity will, in the end, be decided less by what the advocates of Christianity declare it to be, than by what it accomplishes in practice. So we wish we could be the means of leading the Church to care not only for the sick, but also for all of whom heathendom despairs,—the incurables, the imbeciles, the homeless. In this respect we have much to learn from our Catholic fellow-missionaries. We rejoice that in our work the service of man and the worship of God are so naturally blended together. Apart from many who we believe have been led to look with kindlier eye on Christianity in our wards and through hearing of our work, we like to think that, because of hospitals up and down the province, heathendom does associate with the name of Christ deeds of mercy and active benevolence.

Mission Hospital Notes.

Religious Work in Hospitals, Szechwan.

The time will come when Mission Boards must consider the equipment of a station incomplete that has no missionary at the hospital to minister to those who ask physical relief. The teaching should not be left to the physician. His work must be to gather the people together for instruction. If he be seeking his own personal glory he may know that a halo is hanging round his head while he is relieving suffering,—and that halo may remain there, for too often the patient looks only at the man who brings relief and has no wish to know more of the Great Cause which brings the medical man away from his home and professional companionship to raise up the unfortunate ill. Patients should be followed to their homes. We should enter into their lives. Gratitude for service rendered should ripen into love,—and a longing for a knowledge of the Truth as it is in the Christ. Then the labor will be its own reward. When the physician goes to the home of a patient he is looked up to as a guest,—one for whom they must spend their hearts,—and money must be expended for food. When the station missionary enters a home of a patient that family knows he comes with a message.

Suining Hospital, Szechwan.

Holidays for the Chinese Staff.

Instead of the irregular pleadings for a vacation, we have made a rule that each man is entitled to fifteen days during each year, on
pay, and the workers themselves are to choose the times for their vacations. The others are to do the work of the absent members, and all know beforehand the date for their own outing.

Suining Hospital, Szechwan.

Generous Appreciation of Medical Mission Work.

The other day a woman came complaining that she had a pain in her ear and that something was running round inside her head. I directed her to the out-patient department and just then she vigorously rubbed her ear and out dropped an insect about an inch long. The woman was very delighted and said, “See how much virtue there is in your hospital. You did not even give me medicine but just coming here was enough. You must be very good people”—and she went away loudly singing our praises.

Medical Missions in India, October, 1917.

Treatment by Suggestion.

A medical missionary in India, Dr. Dyer of Pachamba, reports that at one period of the year, 1917, there was an epidemic of itching ears, and quite a number of people came to the dispensary to have the “beasts” cleared out. The strongest assurances that nothing was wrong were of no avail, till one old fellow was told, in the hearing of the assembled crowd, that his ear was as empty as his head.

Medical Missions in India.

Chinese Are Good Patients.

Men apparently wounded to death recover in a marvellous way. As a rule they make ideal patients. At times we find them pulling off dressings and opening wounds, but on the whole they are most satisfactory. They lie from day to day in any position we place them, and show rapid improvement even under adverse conditions.

Suining Hospital, Szechwan.

Hard Fate of Opium Smokers.

The opium habit seems as bad as ever, and opium patients only come for treatment when some new official comes to exact money from them; these officials even try to squeeze money out of those who already have broken off the habit in our hospital.

C. I. M. Hospital, Hungkiang, Hunan.
The health of the Chinkiang foreign community from October, 1916, to October, 1917, has been on the whole good. The following were the diseases treated amongst the foreign community:

**Diphtheria.** Three cases amongst foreigners; all recovered without complications. Many cases were treated amongst the Chinese.

**Typhoid.** There was one case of typhoid which recovered, and one of paratyphoid fever.

**Malaria.** Several cases of a non-malignant type were seen; one case of malignant malaria was treated successfully with quinine injections intramuscularly.

**Variola.** Amongst the Outdoor Customs staff was one case of variola, and one amongst the Chinese employees of the Shanghai-Nanking Railway; both recovered.

**Scarlet Fever.** Several cases were seen amongst the Chinese; none amongst foreigners.

**Dysentery.** A number of cases of dysentery were seen and treated successfully with emetine, etc.

**Parotitis.** One patient, a child, was under treatment for this disease.

**Operative Work.** Amongst the foreigners nothing more than a little minor surgery was required.

Amongst the Chinese I performed 160 operations within the year. Apart from ophthalmic surgery, these were mostly of a somewhat minor character. One appendicectomy was performed. Much rectal surgery (fistulae and haemorrhoids) was performed and the frequent removal of glands and such operations. One hernia and two mastoids were performed.

**Sprue.** No cases of sprue during this period.

**Gastric and Intestinal Diseases.** The diseases of this type amongst foreigners were mostly mild, santonine being indicated and given repeatedly. In one case the presence of the round worm was associated with symptoms of a toxic character, which completely cleared up in due course.
CHOLERA INFANTUM. One case during a very hot spell occurred, which was removed to Shanghai where the patient died.

CIRCULATORY DISEASES. One case of double aortic disease.

RESPIRATORY DISEASES. One case of pneumonia was removed to Shanghai for treatment. There were several cases amongst the Chinese of pleuro-pneumonia.

URINARY DISEASES. Two cases of nephritis amongst foreigners, and several amongst the Chinese. One case of spasmodic haemoglobinuria due to severe exercise.

VENERAL DISEASES. Amongst foreigners, three of these were treated, one being an obstinate gleet, and two gonorrhoeal cases. The first was dealt with by passing the urethroscope and the application of argent nitric to the ulcer. Neosalvarsan was given several times to Chinese patients, producing great temporary improvement in their symptoms.

SUN STROKE. One case which recovered.

DISEASE OF LENS, CATARACT. Six cataracts, one unripe, were removed with gratifying results.

DISEASES OF IRIS, ETC., IRIDECTOMIES. Fifty iridectomies were performed, also with gratifying results. I have always been careful to choose my cases for this operation, first dilating with atropine to see if improvement in vision can be effected. In certain cases in which the iris was bound down by adhesions, I employed an instrument invented by myself to break them down, which enabled me to remove a portion of the iris which I should otherwise not have been able to extract.

DISEASE OF FUNDUS. In disease of the fundus nearly all the ordinary cases seen were retinitis. I was much struck by the contrast of the fundus cases under my care here and those I saw in the Manchurian Railway Hospital in Dairen, where much clever work is performed by the Japanese ophthalmologists on the staff. I noticed there, among the Japanese, quite a number of cases of retinal hemorrhage, and retinitis pigmentosa and retinitis proliferans were both relatively common. The Japanese are very good patients as they are willing to continue indefinitely with treatment when necessary.

EAR, NOSE, AND THROAT WORK. Several operations for the removal of polypi and of turbinated bones, and draining the antrum were performed on the Chinese, and many cases of middle ear catarrh with deafness were treated by inflation and air massage with very gratifying results.
OFFICERS, 1916 to 1918

President:—Miss Powell, M.E.M., Peking.
Vice-President:—Miss Baldwin, C.M.S., Foochow.
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AMERICAN NURSES IN CHINA AND THE AMERICAN RED CROSS.

The American Red Cross
Washington, D. C.
April 19, 1918.

Miss Powell,
Methodist Episcopal Mission,
Peking, China.

My dear Miss Powell:

Doubtless you know of the endeavor of the American Red Cross at this time to enroll among its members all American citizens in various parts of the world. You will be interested in knowing that it is further desired that all nurses living abroad who are citizens of the United States and adequately qualified shall become members of the Red Cross Nursing Service. Such enrollment will not necessitate military service, for the regular work of nurses in foreign missions is much too important to be given up except for the most extreme emergencies. But it is believed that the enrollment under the Red Cross Nursing Service of all American Nurses in any country and who shall be immediately available for needed service in their own locality will be of mutual help and advantage. I am sure our nurses will welcome this opportunity of representing the Red Cross in their several fields of usefulness and of serving under her banner as need or opportunity arises. All enrolled Red Cross Nurses are privileged to wear the Red Cross nurse’s badge and at all times will be given the help and protection of the American Red Cross.

As a first step, it is important to know the nursing resources of each country. Mrs. Hart, formerly of Wuhu, refers me to you for help in putting this opportunity before every American nurse in China. At her suggestion, I am sending duplicates of this letter to Misses Ogden and Batty, and also to Dr. Beebe. Those of you who receive this will of course communicate and prevent any duplication of effort.

We know the extremely busy life of each of you, but we need your help and trust you will be able to give it.

It is desired the enclosed circular letter should be put in the hands of every American nurse known to you. I am sending you all names of others in China believed to be nurses who if not known to you may be investigated. In addition to a supply of these circular letters, I am sending you application blanks for both the regular and special forms of enrollment together with circulars of information, physical immunity blanks, and filing card. It is not necessary that the physical examination blank be filled out, but a few of these are sent for possible need. One or more Local Committees on Red Cross Nursing Service will be appointed by Miss Delano shortly and the filing cards designated D. M. R. 2, which are the
filing cards for these Committees, you will please hold pending such appointments. Any applications for enrollment might, in the meantime, be sent to the Director of Nursing for the 14th Division, American Red Cross, Washington, D.C.

Very sincerely,

Helen Scott Hay,
Director, Bureau of Elementary Hygiene and Home Care of the Sick.

[Copy of Letter sent to American Nurses in China.]

My dear Miss——

The American Red Cross is trying to enroll as members all American citizens scattered over the world. Wherever there are enough members found to form a chapter, one is organized, and all these chapters together compose the Fourteenth Division of the Red Cross.

It may be you are a member of the chapter in your adopted country, but as a nurse you can do even more. The Department of Nursing of the American Red Cross at Washington, D.C., is desirous of enrolling every graduate American nurse who is eligible for its service in order that there may be a list of nurses to call upon in case of local disaster anywhere, or for war relief work, or for any emergency now unforeseen where a Red Cross nurse would be of great service.

Will you do three things?

1st, Send us promptly your application for enrollment in the Red Cross Nursing Service.

2nd, Send us a list of the names and addresses of American graduate nurses in your locality.

3rd, Get in touch with the Red Cross Chapter nearest you, that you may co-operate with it and represent the nursing side of any activity in which it may engage.

See the attached sheet of information.

Very truly yours,

Jane A. Delano,
Director, Department of Nursing.

Sheet of Information.

For your guidance the following as to enrollment is given.

1. Enrollment in the American Red Cross Nursing Service.

It is desired that all nurses abroad who are qualified shall be enrolled according to the regular form. (See A.R.C. 703.) Registration is not a requirement for enrollment of nurses resident in state or country where there is no registration law. Those nurses graduated from Training Schools not up to standard or otherwise unable to qualify for regular enrollment may yet come in under the special form of enrollment as Home Defense Nurses. (See Form No. 495.)

2. Service.

(a) Nurses in work that is so greatly needed as is that of the nurse in the mission field, are urged to remain at their posts of duty subject to call only in case of local calamity or emergency, or extreme need.

(b) Married nurses and others not in active service should be available for local calamity or other emergency as Red Cross may direct; or they may act as instructors of the Red Cross course in Elementary Hygiene and Home Care of the Sick which may be taught only by an enrolled Red Cross nurse. (See A.R.C. 704.) For authority to instruct, a special appointment is necessary from the Division Director of Nursing.
You may be familiar with our course in Elementary Hygiene and Home Care of the Sick. (See A. R. C. 704.) This course in the last year has been given to more than 50,000 women of our country and rightly presented is of much practical value. We believe this course might with much profit be given the men and women in your Mission Schools, affording them such knowledge of the home and of their sick as they could put to practical use in their own homes and communities.

This course might be supplemented by the Red Cross course in First Aid or in Home Dietetics. Whenever possible, a brief experience in a hospital might also be arranged for, following in this the outlines used in the preparation for service as Nurses' Aids. Students having had the course in Elementary Hygiene and Home Care of the Sick which has been supplemented by a period of hospital experience would constitute a reserve corps of men and women to be known as Nurses' Aids and pledged to assist in times of local or national calamity whenever desired, serving under the enrolled Red Cross nurses in that field. While we realize the enormously different conditions existing in these foreign lands, yet we believe the above plan adequately modified to suit local conditions and needs can be made of great value to the people themselves, at the same time creating a body of men and women capable and ready to render important services to their country. We are eager to know your opinion regarding this plan, looking for your help and co-operation.

CHINA.

First Aid Course.

Text books:
- General edition ........................................... 3
- Woman's edition ........................................... 3

Circulars of Information:
- First Aid (A. R. C. 301) ................................... 12
- Contests (A. R. C. 300) .................................... 3
- Life Saving (A. R. C. 303) ................................... 3
- Posters (2 subjects) ........................................... sets 9
- Instructions to Chapters ..................................... sets 2

Elementary Hygiene and Home Care of the Sick.

Text books .................................................. 4
Circulars of Information (A. R. C. 704) ......................... 50
Instructions .................................................. sets 2

Home Dietetics.

Text books .................................................. 2
Circulars of Information (A. R. C. 705) ......................... 5

Red Cross Nursing Service.

Enrollment blanks (D. M. R. 1) ........................................... 100
Circular of Information (A. R. C. 703) ............................ 50
*Physical examination blanks, (D. M. R. 29) ....................... 50
†Filing card for Local Committees (D. M. R. 2) .................... 100
Special enrollment for Home Defense Nurse, enrollment blank (Form No. 293) ........................................... 30
Circulars of Information (Form No. 495) ......................... 30
Circular letter and sheet of instruction—each ................. 100

Note.—When more circulars, blanks, etc., are needed, please order by the letters and numbers exactly as given in parentheses.

* For general enrollment the filling out of a physical examination blank is not needed. These few are sent for a possible emergency.

† These filing cards are to be held by the Local Committees on Red Cross Nursing Service for all enrolled Red Cross Nurses in their territory. Please hold these awaiting further instructions.
The China Medical Journal.

Medical and Surgical Progress.

Internal Medicine.

EDWARD H. HUME, M.D., Changsha.

Etiology of Epidemic Poliomyelitis.—A recent article written by Rosenow and Wheeler (Journal of Infectious Diseases, Vol. xxii, page 281) carries forward the results obtained earlier by various workers. It had been previously established that the specific cause of poliomyelitis was a filtrable virus and that an ultra-microscopic organism was regularly present. It had also been shown that this virus when injected into monkeys produced a disease almost identical with human poliomyelitis. The present research shows that the organism is anaerobic, and that under aerobic cultivation it belongs to the streptococcus group. A second article in the same Journal (Journal of Infectious Diseases, Vol. xxii, page 313) by Rosenow, Towne, and Hess, indicates that the streptococcus of poliomyelitis tends to localize in the central nervous system of young animals and less in adult animals. When the organism is grown on artificial media, especially under aerobic conditions, its elective localizing power is promptly destroyed.

Treatment of Epidemic Poliomyelitis.—Rosenow reports (Journal of Infectious Diseases, 1918, Vol. xxii, page 379) a series of fifty-eight cases of epidemic poliomyelitis treated with immune horse serum. Of this number ten died, but seven of the ten were moribund when treatment was commenced, and it is, therefore, fair to state that of fifty-one cases in which serum had a fair chance, only three died, a mortality of 6%. Of twenty-three untreated cases, nine died, a mortality of 35%. It is significant that paralysis did not develop in a single instance when treatment was begun before its onset, and all recovered. No extension of paralysis occurred after the giving of serum in the patients who recovered and in whom paralysis was marked at the time of treatment.

The drawing of conclusions as to the exact value in this disease of any treatment is most difficult. Considering all the facts, however, the serum used appeared to have a prompt and powerful beneficial effect in a very large percentage of the patients treated. Its harmlessness, at least, is demonstrated, and its use on a large scale indicated. The treatment should be given before paralysis has developed, hence early diagnosis by spinal puncture should be made. The course of this disease should be considered in terms of hours, not days, particularly now that there is available what appears to be a curative serum. The serum is of distinct benefit at least as long as postparalytic pains are present or the spinal fluid is positive.

The Atropin Test for Typhoid Fever.—Mason (Archives of Internal Medicine, 1918, Vol. xxii, page 1) reports a series of 305 tests as to the value of the atropin test proposed by Marris for the diagnosis of typhoid fever. The test is performed as follows:

"On a fasting stomach the pulse rate is taken for ten consecutive minutes, while the patient rests quietly in bed. If the rate per minute remains practically constant, this is accepted as the average mean rate. The one-thirtieth grain of
atropin sulphate is injected hypodermically into the upper arm, after which the patient continues to remain quietly in the same position. After twenty minutes have elapsed the pulse rate is taken again and the counting is continued until the maximum rate per minute has been reached and it has definitely started to fall to a lower level. The difference between this high level and the mean of the ten consecutive minutes before the injection is taken as the release."

"In most normal persons the pulse rate increases from twenty to forty beats per minute after one-thirtieth grain of atropin sulphate hypodermically. The increase is more marked in the earlier years of adult life, while after 50 it is not so great. The question of sex seems to play no important part in regard to the degree of release. Marris found this release to be so constant that he declared that an increase of only ten beats or less per minute was very suggestive that the patient was suffering from a typhoid or paratyphoid infection."

Mason's conclusions are given in the following summary:

"Three hundred and six atropin tests were performed on 109 patients, 63 typhoid patients or paratyphoid B patients, and 46 on non-typhoid patients. Eleven of the typhoid group cases failed to give the reaction. This has been discussed previously.

"The reaction becomes positive at about the tenth and disappears at about the thirty-first days of disease.

"In the non-typhoid group three cases gave a positive reaction. We offer no explanation of these findings.

"In the diagnosis of fevers of the enteric group, we believe the test to be of great value, and in many cases undoubtedly precedes the Widal reaction."

Surgery.

J. C. McCracken, M.D., F.A.C.S., Shanghai.

A few months ago Sir Berkeley Moynihan, M.S., F.R.C.S., delivered before American colleagues four lectures bearing on military surgery. The following summary of each is given in his own words, taken from the volume entitled American Addresses, which contains the lectures in full.

GUNSHOT WOUNDS AND THEIR TREATMENT.

So far as our present knowledge will allow us to formulate conclusions, the following deductions may usefully be drawn:

Perfect mechanical cleansing, that is, the excision of all contaminated, infected, or dead parts, the removal of all fragments of clothing (by far the most important of all causes of continuing infection in a wound) and of all projectiles, is the supreme necessity in all cases.

In early cases, when there has been little or no loss of tissue, this may allow of immediate closure of the wound, which will be followed by healing in the majority of cases, say in 70 per cent or 80 per cent.

In infected early cases the mechanical exposure and cleansing may be followed by a treatment directed to the removal of the remaining infection. Physiological and anti-septic methods each have their advocates. The aim of both is to permit of the earliest prudent
secondary closure of the wound. In infected late cases a thorough mechanical exposure and cleansing of the wound and the parts around will allow of secondary closure forthwith if certain antiseptic pastes are used. Experience shows that similar results have sometimes followed upon this thorough mechanical treatment of the wound without the introduction of antiseptics. A further trial in this class of cases may show that the natural defences of the tissues already awakened are ample to deal with the infections then remaining. Where large gaping wounds are left as a result of gross destruction and loss of tissue, infection is controlled and subdued without suppuration to the point of "clinical sterilisation" by the application of the Carrel-Dakin method.

It is the natural defensive powers of the body fluids and tissues, of serum and leukocytes, that are the chief agents in finally subduing the bacterial infection in a wound. Sufficient reliance does not appear to be placed upon the stupendous power the body tissues possess for controlling infection.

Finally, full emphasis must always be laid on the paramount necessity for the complete immobility of wounded parts at all times and on all occasions. So will one of the most powerful agencies making for re-infection be kept constantly in check.

WOUNDS OF THE KNEE-JOINT.

1. In all cases of wounds of the knee-joint the limb should be fixed immovably upon a splint at the earliest possible moment, and until circumstances and surroundings permit of a complete operation.

2. At the Casualty Clearing Station, or other operating centre, an X-ray examination is made in all cases. The whole limb is then prepared for operation.

3. The following are the essential features in all operations: excision of the wounds and of the track of the projectile after preliminary sterilisation by the cautery or otherwise; a free exposure of the joint, either by enlarging existing excisions or by long internal or external incisions or by the formation of a flap by division of the patellar ligament.

4. All foreign bodies must be removed from the joint. Even the smallest piece of clothing or of metal may be the nidus of a continuing infection.

5. The wounds are closed in layers by catgut sutures. Drainage is secured by leaving a gap in the line of suture of the synovial membrane, or by leaving a tube close "down to but not into" the joint.

6. Drainage-tubes are never placed within the joint cavity. They do not drain the joint; they are harmful in their effects upon the delicate synovial membrane, and they are often a channel by means of which infection is conducted to the joint.

7. In cases of severe infection of the joint by staphylococcus, or especially by the streptococcus, the wounds must be reopened, the synovial membrane stitched to the skin, free drainage of the joint secured, and the Carrel-Dakin or other method of progressive sterilisation of the wound adopted. In more severe cases, with an infection rapidly gaining ground, excision of the joint may be necessary.

8. In cases of severe comminution of the articular ends with much loss of substance (the whole of one condyle, for example,) a resection of the joint is performed forthwith.

9. In severe and extensive wounds with heavy infection the
method of resection with wide, temporary separation of the ends of the bones (Fullerton) should be practised.

10. In cases of very extensive damage, especially with infection, amputation is desirable.

INJURIES TO THE PERIPHERAL NERVES.

The following summary may be given of our experience up to the present time:

1. The earliest examination should be made of all wounds in which division of a nerve-trunk is probable. If at the Casualty Clearing Station such a lesion is found, end-to-end suture should be adopted forthwith. This is more likely to be possible in cases where primary suture of the wound, after excision, is found practicable.

2. If secondary suture of the wounds, after the Carrel-Dakin method has been practised, is to be undertaken, the union of divided nerves should be secured at the same time.

3. If these methods have been attempted and have failed, they do not prejudice the later union of the nerve. On the contrary, they probably insure that an easier and more satisfactory operation can then be practised.

4. Throughout the whole period before late nerve suture is attempted the strictest attention must be paid to the relaxation and nutrition of all paralysed muscles, to the maintenance of suppleness in all joints moved by these muscles, and to the preservation of the integrity of the skin.

5. Operations upon nerve-trunks demand the most scrupulous observance of the ritual of asepsis. There must be the greatest gentleness of manipulation; the nerve must not be injured by instruments or by the surgeon's finger; it must not be separated from its sheath or disturbed overmuch from its bed; it must not be chilled or allowed to dry. All sutures must be of fine catgut, and introduced with most puncilious accuracy. Axial rotation of the nerve must be avoided. The cut ends of the nerve before approximation must show clearly the fibres of which the trunk consists.

6. Nerve-grafting is of little or no value; nerve anastomosis is to be sharply condemned; the turning down of flaps from the nerve to bridge a wide gap is useless.

7. Tendon transplantation is of great value in cases where nerve suture is impossible, or has given a result not entirely satisfactory.

GUNSHOT WOUNDS OF LUNGS AND PLEURA.

The following general conclusions may be stated:

1. The approximate mortality from gunshot wounds of the chest at all parts of the line of communication is 20 per cent.

2. The causes of death are haemorrhage, as a rule, within forty-eight hours, and sepsis after the fourth or fifth day.

3. The local conditions in wounds of the chest-wall and lung are in all respects similar to those met with in wounds elsewhere. The missiles are the same, their destructive effects upon the tissues are the same, and the infecting organisms are the same.

4. The lung tissue is more resistant to attack than are many other tissues. The opening of the pleural cavity and the resulting exposure of a large serous sac to infection and all its consequences add, however, a danger of the most threatening character.
5. The chief essential in the treatment of all cases of penetrating wounds of the chest is rest.

6. In clean perforating wounds of the chest rest, together with the cleansing and dressing of the wound of entrance or exit, will lead to the recovery of the great majority of cases.

7. In cases of "open thorax" the earliest and most complete effort possible must be made to secure closure of the wound after an appropriate toilet.

8. In those rare cases of grave haemorrhage, when haemoptysis is present or when the blood escapes by the wound, a direct access to the source of the bleeding must be obtained, and the wound in the lung must be treated by suture, preferably, or by plugging of the cavity from which the blood escapes.

9. In cases of haemothorax, when the blood effused is small in quantity and remains sterile, no active measures are necessary unless absorption is long delayed. Aspiration, repeated, if necessary, may then be performed.

10. In cases of haemothorax, when the blood effused is large in amount and remains sterile, aspiration after the seventh or eighth day, or earlier in cases of urgent dyspnoea, certainly hastens convalescence, permits a more rapid expansion of the lung, and prevents the formation of firm adhesions which may permanently cripple the free movements of the lung.

11. In cases of haemothorax, whether the amount of blood is small or large, when infection takes place, open operation is necessary. Early operation, especially of the Carrel-Dakin technique, is adopted, saves many weeks of tedious convalescence and permits of a more perfect functional recovery.

12. Small foreign bodies or rifle bullets embedded in the lung often cause no symptoms: they become encapsulated and may safely be left.

13. Larger foreign bodies retained in the lung may cause distressing or disabling symptoms for long periods. In such cases removal after resection or elevation of the fourth rib through an anterior incision will allow of the safe removal of the projectile from any part of the lung. Pieces of metal so removed are generally infected.

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Tropical Medicine.

MALARIAL MIMICRY.—A. E. Kamar (Journal of Tropical Medicine and Hygiene, December 15, 1917) believes few practitioners realize how closely malaria can mimic other diseases. In a tropical town a man arrested because he is extremely noisy and apparently drunk may next morning be found very ill or dying and the blood examination shows many subtertian parasites, indicating pernicious malaria. A man brought to a hospital in a stuporous or melancholic condition, with normal or subnormal temperature, may be considered a lunatic, but a blood film leads to the true diagnosis of pernicious malaria. A man never known to have malaria, attending a concert, slipped off his chair, unconscious, and was thought apoplectic; a blood examination showed malarial parasites. Pernicious malaria may
produce a clinical picture by no means unlike cerebrospinal meningitis. A boy, aged twelve, was brought to a hospital, unconscious, with dilated pupils, very slight corneal reflex, involuntary passage of urine, twitching of the fingers and toes, rectal temperature 103°, tongue coated, and spleen enlarged. Lumbar puncture was negative but subtertian parasites were found in the blood. In another case, a male aged twenty-five, the malarial condition resulted in acute mania so violent that the patient had to be put in chains and under guard. He talked incessantly and never replied correctly to questions. Under repeated ten grain intramuscular injections of quinine bihydrochloride he recovered completely in fourteen days. The temperature in this case never rose above normal, though there was a history of recent attacks of fever. In malarial districts, in the event of sudden insanity or a violent crime committed without any sufficient reason, malarial infection should be tested for by blood examination and quinine therapy. The case simulating cerebrospinal meningitis indicates that the diagnosis of this disease without lumbar puncture may not be trustworthy.

Points in the Treatment of Bacillary Dysentery.—Duncan Graham (Lancet, January 12, 1918) brings out some valuable points in the treatment of bacillary dysentery as the result of wide experience in the British Salonika forces. In acute and severe cases all patients are given fifteen mils (one half oz.) of castor oil on admission and, beginning eight hours later, receive eight grams (drams ii) of sodium or magnesium sulphate, which is repeated every four hours as long as the mucus stage lasts. When the mucus disappears the saline is given in just sufficient amount to secure a soft movement. Intestinal lavage with solutions of eusol, potassium permanganate, protargol, or normal saline are given night and morning if the patient is relieved by their use. Opium enemata and astringents by mouth are irrational. Antidyseremic serum should be begun at once and given intravenously. To avoid the severe primary reactions which occasionally occur, two mils should be injected at once and the remainder slowly run in after an interval of ten minutes; larger doses than usually prescribed should be used, ranging from sixty to eighty mils, and should be given twice daily. In most of the very toxic acute cases the greatest danger seems to come from dehydration of the tissues and this can be largely overcome by the use of intravenous injections of 150 to 300 mils of normal saline immediately following each dose of serum, or of five per cent solutions of glucose in distilled water. In the chronic, mild, and mild recurrent cases, dehydration is not a factor, and these injections are not necessary. One of the most important features in treatment of all forms is the proper regulation of diet, not only during the acute stage, but also when the patient is convalescent. In the beginning it should consist of albumen water, gruels, and tea sweetened with lactose. During recovery the diet should be slowly changed to contain arrowroot, Benger's food, malted milk, sour milk, and diluted fresh milk along with the use of lactose in the foods. Progress to full diet should be made very slowly.

Treatment of Lamblia Infections.—Clifford Dobell and George C. Low (Lancet, December 23, 1916) state that they have investigated the effects of several of the most widely recommended drugs for the removal of Lamblia inte-
tinalis from the intestine of man. They made their studies upon a single especially suitable case, free from other forms of parasitic infection and otherwise in normal health. They first found that a few stool examinations cannot be taken as criteria of cure of this infection, for in a series of daily stool examinations without treatment this patient had intervals of from one to ten days during which his stools were entirely free from lamblia. He was then tried, successively, on beta-naphthol with bismuth salicylate, methylene blue, turpentine, and guaiacol carbonate. None of these drugs had any influence on the passage of lamblia, except in some cases to increase both the number of the parasites found in the stools and so make their occurrence much more frequent for a considerable period of time. Methylene blue also had the further disadvantage of producing rather troublesome toxic symptoms. Other cases were studied which had received emetine hydrochloride hypodermically, emetine bismuth iodide, bismuth subnitrate, thymol, salol, kerol, cyllin, and liquid paraffin, all without any influence upon the infection.

TREATMENT OF KALA-AZAR.—In Medical Missions in India, April, 1918, Dr. E. Muir, commenting on a recent article in the CHINA MEDICAL JOURNAL by Dr. Korns on the use of Antimony in Kala-azar, says that this method of treatment sometimes fails because it is not continued for a sufficient length of time.

Speaking generally no Kala-azar case should be treated for less than three months, giving injections every second day. If the disease has lasted more than three months before treatment begins, the treatment should be for three months. If the disease has lasted for more than six months before treatment begins, the treatment should be for four months. Dr. Korns' cases were treated for 61, 26, 30, 35, 32, 14, 26, 5, 32, 18, and 17 days respectively. While in Kalna we get practically cent per cent of cures in cases which have been ill for less than six months before the beginning of treatment, we have never, as far as we are aware, got a single cure in a case that has been treated for less than 60 days. The temperature comes down to normal and remains at normal generally within the first fortnight of treatment, but in a few cases it takes three or even four weeks to remain normal.

The temperature should always be taken at night, as the night temperature is always the last to subside.

SIMPLE METHODS FOR THE PRESERVATION OF HELMINTH OVA IN FECES.—Alcohol, 70 per cent, with 5 per cent glycerine added, is raised to boiling point. Fluid faeces—or faeces made fluid by dilution with normal saline—are poured into the boiling alcohol, stirred, and then set aside to inspissate in a warm place. When the faeces have become a sticky mass, sufficient pure glycerine is added to make a soft paste.

Or: To any quantity—say, half an ounce—of fluid faeces an equal bulk of Langeron's Lactophenol is added. The whole is intimately mixed by vigorous shaking. This mixture will form a pasty jelly, and will keep indefinitely. A permanent microscopical preparation can be made at any time by stirring a small portion into a drop of glycercine and ringed with melted glycerine jelly, a cover-glass is placed on the jelly, and when this is set the preparation is completed by sealing with goldsize. Langeron's Lactophenol consists of carbolic acid one part, lactic acid one part, glycercine two parts, and water one part.
The faeces used should be of a creamy consistence. If solid it should be diluted with normal saline. — R. T. Leiper, Trans. Soc. Trop. Med. and Hygiene, July, 1917.

Gynecology and Obstetrics
Margaret H. Polk M.D., Shanghai.

Corpus Luteum Extract to Prevent Abortion in Cases of Irritable Uterus.—Dr. John Cook Hirst, of Philadelphia has recently published a paper on "Corpus Luteum Extract, given hypodermically in cases of repeated abortion without demonstrable cause."

He writes—'‘The type of case to which this paper refers is the one described in text books as one of irritable uterus;'' that is, a uterus which will stand distention up to a certain point, usually between three or four months of pregnancy, and then expels its contents.

There is apparently nothing to account for the abortion; no displacement of the uterus, no laceration, or erosion of the cervix, Wasserman negative, no pelvic adhesions, and it occurs usually in patients most anxious to have children. There is no bar to conception, which occurs frequently, but the usual sequel is abortion at the third or fourth month. Several months after I began the use of corpus luteum extract in the treatment of the nausea of pregnancy, a patient of the type described came to see me, just beginning her seventh pregnancy.

I had attended her several times before, in abortion about the third month, and had told her the last time, if she became pregnant again to consult me as early in the pregnancy as possible, and I would attempt to find and treat the cause of her repeated miscarriages.

I had no clear idea at the time what I proposed to do, as careful examination had disclosed no cause for her miscarriages, and I had always ascribed them to "irritable uterus." When she finally presented herself, it occurred to me that possibly the cause of her miscarriages might be a premature absorption or blighting of the corpus luteum of pregnancy, the relation of which to pregnancy is well known.

It seemed possible that if by some failure of mechanism the corpus luteum of pregnancy did not run its normal course, but was absorbed, that such an occurrence would lead to repeated miscarriages. Based upon this, and purely empirically, I gave her hypodermics of corpus luteum extract, intramuscularly, using 1 mil of the extract, representing 20 mg. of the dried substance, once daily.

Having no guide to the number of doses, I gave her thirty-six in all, continuing a little over two months. The administration was reduced gradually and stopped at the end of two months. This patient had never gone beyond the fourth month and one week in pregnancy: this pregnancy resulted in a living child, delivered at term.

The second patient had a similar history, having had five miscarriages, all without demonstrable cause. She had never gone beyond three and one half months. In her sixth pregnancy I began the use of corpus luteum extract when she was seven weeks' pregnant. She received thirty-two doses in all, over a period of nine weeks. She also was delivered at term.

The third patient had had four miscarriages, and, except for the smaller number of pregnancies, her history was in every respect similar...
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to the others. No cause whatever could be found. Corpus luteum extract was begun when she was nine weeks pregnant. She received thirty-two doses over a period of nine weeks.

She had never gone further than four and a half months in any of her four preceding pregnancies, but in this one she miscarried at five and one half months, without demonstrable cause.

These cases are rare in the experience of any one physician, as it is not often that a close examination will not reveal a possible or probable cause. It is impossible to prove, without operation, the correctness of the theory, and the case must rest upon the evidence of practical trial.

It is for this reason that the few I have had, I have reported, with the hope that the united experience of physicians meeting such cases can settle the value of a theory which must rely at present on rather slender proof.

I believed this use of corpus luteum was original, but found it was merely independent. In Graves' Gynecology, there is reference to a case reported by Damreuther, with date and place of publication not specified, which gives the successful result of corpus luteum in a similar case. His extract was given by mouth. I know of no other where it was used hypodermically, and I am convinced, if it has any value, hypodermic administration will prove more reliable.

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In the course of preparing a monograph dealing with a series of meningeal fibro-endotheliomata, the author made a tentative division of them into tumors (1) arising from the spinal meninges; (2) from the basilar meninges; (3) from the superior envelopes of the brain. It was found that the spinal and basilar lesions usually started from the point of exit of a spinal or cerebral nerve root, and that many of the tumors of the cerebello-pontile angle involved the acoustic nerve. Holding the opinion that if brain surgery is to be perfected a special study must now be made of special tumors in special localities, he has selected from the records of 784 tumors of the brain the case reports of 30 acoustic tumors, in all but one of which one or more operations had been performed and the character of the tumor histologically certified. There is a full analysis of the symptoms, etc., and the operations are carefully described and results stated. A full bibliography is given.

To specialists in brain surgery and in nervous diseases the work is indispensable; to the general practitioner, who is usually the first to see these cases, it will be a valuable diagnostic guide; and the surgeon in China, often obliged to undertake by himself very difficult cases, will find it a stimulating record of skilful and courageous endeavor to overcome the difficulties of what has sometimes proved a very disheartening branch of surgery.


According to the author's preface this work has been written to meet the needs of students of medicine in the acquirement of a knowledge of those principles on
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which modern hygienic practices are based; to aid students in architecture in comprehending the sanitary requirements in ventilation, heating, water-supply, and sewage disposal; and to aid physicians and health officers in familiarising themselves with the advances made in hygiene in recent years.

This is the sixth edition, which is proof of the popularity of the work, but in our judgment it has not been sufficiently revised so as to incorporate the advances which have been made during the last few years, especially during the present war. The chapters on naval and military hygiene should be entirely re-written. The wonderful success in combating typhoid fever in European camps and barracks is not mentioned; we are referred to the dismal statistics of the Boer War. More than 50 lines should be given to venereal diseases among soldiers. In the section on foot inspection no directions are given concerning "trench feet." Nothing is said of the great Manchurian epidemic of pneumonic plague in 1910-1911, nor is any reference made to the Report of the International Plague Commission, held at the time, which made important recommendations as to quarantine, etc. The sections on diarrhoea and dysentery need amplification and revision. Apparently, no discovery of pathogenic bacteria has been made since 1906, nor of parasitic "worms" since 1903. The numerous antiquated tables, unless of historical interest, should be discarded.

Even as it stands the book is very useful but so much progress has been made since the first edition was issued that the time has now come when the whole work should receive that thorough revision which the author is so well competent to perform.


Most of the leading English text books on Hygiene and Public Health have been written by authors not very familiar with the sanitary conditions and problems of sub-tropical and tropical countries. The author has been a lecturer on this subject for over ten years in one of the largest medical schools in India and having found his students much handicapped by not having a text-book particularly adapted to the requirements of life in India, he has written this book to meet their needs. The chapters on such diseases as malaria, plague, cholera and dysentery, are partly written from the Indian standpoint; so are the chapters on personal hygiene, food and drink, and those on village sanitation, on faunique and segregation camps, on the fairs and camps in connection with sacred places of pilgrimage, and on the oversight of the multitudes of pilgrims, which are particularly interesting. The greater part of the work, however, is on familiar lines. The book is well printed and should be very useful to those for whom it has been written and to students belonging to other Oriental countries. A work of this kind adapted to the particular needs of Chinese students is still a desideratum.


The constantly increasing discoveries in immunology and their practical application in the diagnosis and treatment of disease have made this branch of medicine one of the most important and progressive of all. An enormous literature has now accumulated, many new terms have been coined and numerous theories adduced, so that the subject has acquired an aspect of considerable complexity to all but the expert. Yet as it is most desirable that every physician and surgeon should have a sound working knowledge of the diagnostic methods and treatment based on immunological methods the author has undertaken to meet this need and to furnish a guide to those who wish to study the subject practically.
The first part is on general immunologic technique; the second, on the principles of infection; the third, on the principles of immunity and special immunologic technique; the fourth, on applied immunity in the prophylaxis, diagnosis, and treatment of disease; and the fifth furnishes a laboratory course in experimental infection and immunity. The work is clearly and attractively written and the illustrations are numerous and very good. To the laboratory worker it is an excellent instructor and guide, and the general practitioner will be enabled by it to keep abreast of some of the most recent and important advances in scientific medicine.


Since its first publication in 1883, many generations of British and American students have found the hard, dry facts of anatomy made more interesting and assimilable by the study of this Manual and it should now render international service, to Chinese medical students among others. In this edition, the seventh, every chapter has been revised in the light of recent surgical experience and progress gained during the present war. Although intended mainly for the use of students preparing for their final examination in surgery, practitioners will also find the manual helpful as it will refresh their memories concerning anatomical matters which have a bearing upon the diagnosis and treatment of surgical injuries and diseases.


During a visit to America, Sir Berkeley Moynihan, the well-known British surgeon, who has done such splendid work at the Front, read papers before meetings of American surgeons on the following very important subjects: Gunshot Wounds and their Treatment, in which the different methods of treatment, their merits and disadvantages, are clearly and impartially reviewed; Wounds of the Knee-joint; on Injuries to the peripheral Nerves and their Treatment; Gunshot Wounds of the Lungs and Pleura. A more detailed summary of its contents will be found under "Medical and Surgical Progress." In forming his opinions and judgments he necessarily relies upon his own large practical experience but he has also received very great help from the many consultations and discussions he has had with surgical friends in the different war zones of France and England. The value of the volume is in inverse proportion to its size and price; it will be of the greatest interest to every practising surgeon. It contains also Sir Berkeley’s eloquent Convocation Address to the American College of Surgeons on the Causes of the War.


This work is a compendium of information gathered from many sources on the medical, administrative, and advisory duties of army medical officers, and will be found extremely informing to those newly entering upon military service. After a statement of the general principles of military medical administration, the respective duties of regimental surgeons of different ranks are fully considered, and all necessary information is given concerning field and base hospitals, ambulances, sanitary squads and committees, the removal of sick and wounded, hospital trains, sanitation of camps, examination of recruits, malingering, Red Cross work and a variety of other subjects. At the close are many illustrative forms properly filled out as a guide in making reports. The young medical officer is given directions as to his personal equipment and the various articles which may be required by him when on active service. In recommending the work we cannot
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do better than quote its official endorsement by Surgeon General Gorgas: "It
gives me great pleasure to express my approval of your work. Your personal
experience with the war in Europe is particularly valuable, and publishing the
book now, just as our own army is going abroad, I think, is especially apt and
appropriate. I hope every medical officer in our service will furnish himself with
a copy."

A MANUAL OF PHYSICS, Theoretical and Practical for Medical Students, By
Coloured Frontispiece and 280 figures in the Text, Price 7/6. Publishers:

In this Manual of Physics the author has very satisfactorily presented the
subject so as to meet the special requirements of medical students. Frequent
reference is made to the therapeutic applications of radiant heat, light, and elec­
city; and simple geometrical proofs are given of the fundamental formulæ
relating to prisms and lenses. As a knowledge of physics can never have the
necessary precision and reality without practice in working out numerical prob­
lems and in performing experiments, written exercises are added to each chapter
and numerous practical exercises have been carefully selected to provide this
practice. In this edition the text has been revised throughout and considerably
extended. The work is a companion volume to Luff and Candy's Manual of
Chemistry which has been translated into Chinese, and it deserves the favorable
consideration of those who prescribe the books to be used by Chinese medical
students.

THE TREATMENT OF INFANTILE PARALYSIS, by Robert W. Lovett, M.D., Phil­

The author, in this second edition of his valuable monograph, makes use of
the vast amount of information collected during the great epidemic of 1916 when
27,000 cases of infantile paralysis were reported in the United States. He is more
convinced than ever "that by taking the therapeutics of the convalescent and
chronic stages of infantile paralysis more seriously, and by ceasing to regard
this affection as a more or less hopeless condition, we shall be able to obtain a
class of results with which we have been previously unfamiliar." The book is of
particular interest to orthopaedists, but all physicians who have chronic cases of
this disease under their charge will find it very helpful.

THE PRACTICE OF PEDIATRICS. By Charles Gilmore Kerley, M.D., Professor
of Diseases of Children, New York Polyclinic Medical School and Hospital.
Second edition, revised and reset. Octavo of 913 pages, 136 illustrations,
Cloth 28s net. Publishers: W. B. Saunders Company, Philadelphia and
London, 1918.

The first edition of this work having met with a very favorable reception,
a second edition has now been issued in which a great deal of old material has
been removed and in its place has been substituted that which it is hoped will be
of more service to the practitioner and student. The directions given for the
treatment of each disease are in accordance with the author's personal experience.
There are interesting chapters on such miscellaneous subjects as heredity and
environment, consanguinity, obscure elevations of temperature, the therapeutic
value of climate, and a well-illustrated section on gymnastic therapeutics. At the
end of the volume is a list of drugs with the dosage for children.

INFANT FEEDING. By Clifford G. Grulee, A.M., M.D., Assistant Professor of
Pediatrics at Rush Medical College; Attending Pediatrician to Presbyterian
Hospital, Chicago. Third Edition Thoroughly Revised. Octavo of 326 pages,
illustrated. Price Cloth, 15s. net. Publishers: W. B. Saunders Company,

The title is hardly adequate, for the volume not only gives directions for the
feeding of infants but also, in making practical application of this information,
many of the diseases of infancy are described and directions given for their
treatment. In accordance with German writers the author classifies the
nutritional disorders of infancy as follows: (1) weight disturbance, caused by a relatively high fat content in the food, and characterized by constipation, stationary weight, increased ammonia output in the urine, pallor, fretfulness, and disturbed sleep; (2) dyspepsia, due to overfeeding with one or many of the food constituents, characterized by vomiting, diarrhoea, and slight elevation of temperature; (3) decomposition, or a chronic state of malnutrition characterized in inability to assimilate food so as to gain weight properly, by subnormal temperature, emaciation and greatly lowered resistance; (4) intoxication, which is described as an acute affection of the organism characterized by sudden onset, with collapse, high fever, diarrhoea, vomiting, deep, pauseless breathing, leukocytosis and mellituria, occurring most frequently in the summer months and in artificially fed babies living in poor hygienic surroundings. The active causes are said to be sugar or other element of the food, the decomposition of food, bacterial infection of the intestinal wall. The author agrees with Czerny and Keller that the protein in the food is not responsible for nutritional disturbances of any kind; if curds appear in the stools it is evidence of non-digestion, a condition far removed from indigestion. He has endeavored to combine the scientific with the practical, not always an easy task. The directions given for the feeding of infants are plain and sensible, and his treatment of the diseases of nutrition shows the same qualities. The volume should be added to the library of those desiring to study the nutritional disorders of infancy from a point of view other than the ordinary.


Among the numerous text-books on Obstetrics published in the States the present work has always been held in high estimation. In this edition the text has been condensed as much as possible to provide space for a careful review of recent advances in obstetrical science and in the surgical treatment of gynecologic conditions related to child-birth.

The author holds that the best anesthetic for the first stage of labor is morphia (gr. 1/6) and scopolamin (gr. 1/200) when the pains have become so severe as to demand relief. The scopolamin is repeated once, or at most, twice, during this stage in doses of gr. 1/400. He omits the accessories of the Freiburg treatment—the complete isolation of the patient, absolute quiet in the room, bagging the eyes and stuffing the ears with cotton, nor does he test the woman's insensibility by the memory test, the ataxic test, or the Babinski reflex. For the second stage he prefers ether.

In puerperal sepsis he believes that in every case there should be a disinfection of the genital canal by an intra-uterine douche, light but thorough curettage, followed by a second intra-uterine douche. He admits that many specialists do nothing more than put the patients in Fowler's position to secure drainage; and that others, influenced by the surgical experience of the great war, recommend the continuous irrigation of the uterine cavity with Dakin's fluid. After trying the treatment by antistreptococcic serum for a period of three years he discarded it, but has again resumed its use as it is occasionally followed by decided and sometimes by brilliant results. He deals with other obstetrical questions in the same cautious yet progressive spirit.

The whole work, which is very well illustrated, can be commended without reserve; particularly to young physicians whose limited experience and resources receive special and kindly consideration.


In common with many other medical men and social reformers, the author holds that the time is ripe—for a universal campaign against syphilis, which he calls "the third great plague," the other two being tuberculosis and cancer. Accordingly, in this book written for the laity, he has undertaken to put the facts concerning syphilis in such a form that they may the more readily become matters of common knowledge; for he thinks that as soon as the laity have full and correct knowledge concerning this disease and can speak of it with open, straightforward honesty of expression, its power will be crippled.
After giving a brief account of the history of the disease and the social problems which it has created, the natural course of the infection, the blood tests and the methods of treatment are described; next follow chapters on the various ways in which it is transmitted, directions as to moral and personal prophylaxis, and on the necessity of public effort being directed against the social evil in all its ramifications.

The work is written with great clearness and the whole subject is presented in a highly commendable form such as we can expect from a surgeon connected with the Mayo Clinic. It is one of the best books a physician can place in the hands of a syphilitic patient in order to secure his intelligent co-operation in the treatment of his disease, and it may be safely given to the laity generally to arouse their interest in the campaign against the venereal peril. It contains good photographs of Schaudinn, Ehrlich, Roux and Metchnikoff.


The author does not desire to emulate the prophet Daniel as an interpreter of visions of the night, but as dreams have lately received much attention as a possible aid in the search for the underlying cause of psychopathic disorders, in this short essay he discourses pleasantly on the whole subject. With many others he is in revolt against the Freudian school which regards all dreams as the involuntary expression of sexual desires repressed by the will during full consciousness. His own opinion is that dreams reveal past cerebral impressions; that they are revivals of actual sensory impressions either in whole or in part; but he also believes that thought transference and inherited memories may play some part in their causation. He mentions the nightmare in which a person dreams that he is falling, falling through eternal space, and he ascribes it to the consumption of cucumbers or other indigestible articles of food; yet as a believer in ancestral memories ought he not to ascribe it rather to the arboreal habits—with their attendant dangers—of our very remote ancestors? The little book is well worth reading, especially by the dreamers to whom it is dedicated.

DIRECTORY OF PROTESTANT MISSIONS IN CHINA, 1918. Edited for the China Continuation Committee by Charles L. Boynton, Statistical Secretary. Published by Kwang Hsueh Publishing House, 445 Honan Road, Shanghai.

In compiling this Directory of Protestant Missions in China, the China Continuation Committee is rendering a very great service to all who are interested in missions as it enables an accurate estimate to be taken of the forces at work and the extent of the field occupied, besides serving the ordinary purposes of a directory. The total number of Protestant missionaries in China is 6,383. The names are arranged in three ways: (1) according to the societies to which the missionaries belong; (2) according to their stations; (3) in simple alphabetic order. Symbols indicate whether a missionary is absent on furlough, or on war service, whether he is a minister, doctor, or language student, and the code of his mission is also indicated. The only thing lacking seems to be the thumb mark for personal identification. The editor is to be complimented on the immense amount of accurate, painstaking work which he has put into the volume. It will be found most useful not only by missionaries but also by all other foreigners in China and by many of the Chinese. The list of members issued by the China Medical Missionary Association should be corrected and amplified in accordance with it.
Correspondence.

Correspondents are requested to write on one side of the paper only, and always to send their real names and addresses. The JOURNAL does not hold itself responsible for the opinions or assertions of correspondents.

Ascaris lumbricoides in Foreign Children Living in China.

To the Editor, C. M. J.,

Dear Sir:—The importance of this subject was brought to the writer's attention some weeks ago by an editorial in the Journal of the American Medical Association, Vol. 70, No. 7, on "Infection with the Roundworm Ascaris."

The editorial reviews the recent experimental work done by Stewart, Ransom, and Foster, which demonstrates positively that the ascaris has a life cycle within the human body, and part of the cycle is passed elsewhere than in the intestines. This fact may explain many of the varied symptoms so often found, but unaccounted for, in children suffering from this infection.

The incidence of infection in America is found to be about 1/2%, while among the Chinese it is believed to be 75%-80%.

It occurred to the writer that it would be interesting and instructive to know how common the infection was among foreign children living in China.

Accordingly, during the past winter, Dr. Tyau has carefully examined for me in the laboratories of St. Luke's Hospital, Shanghai, the feces of sixty foreign children of school age. Of the sixty examined, 18 or 30% were found to be infected with Ascaris lumbricoides—which is sixty times more frequent than was found by Stiles in his 3,000 examinations made in America.

In the light of our recent knowledge of the seriousness of this malady it seems highly desirable that the feces of every foreign child living in China should be frequently examined and when found to be infected steps should be taken immediately to free the patient from such a source of danger.

Yours truly,

J. C. McCracken.

Shanghai, May 17, 1918.

Dissection in China

To the Editor, C. M. J.,

Dear Sir:—Since writing my article on "Dissection in China," I have learned that Dr. Roys, of the Shantung University Medical School, Tsiulanfu, uses 20% sodium chloride solution in which to store cadavers awaiting dissection. To inject the arteries, he uses the following formula: Vermillion (crude Cinnabar as obtained from the Chinese), one ounce; Starch (also bought in Chinese shops), two pounds; Water, three pints. Inject under gravity pressure.

Yours truly,

Herman Bryan.

Sloughing of Penile Tissues.

To the Editor, C. M. J.,

Dear Sir:—In the January number of the JOURNAL just come to hand, I notice the article by Dr. Maxwell, re "Extrusion of Glans Penis through a Sloughing Aperture in Prepuce."

In the last two years I have had two similar cases except that both were syphilitic. In each case the sloughing mass was removed, leaving a penis such as would be seen after circumcision, and the condition cleared up with bichloride dressings and injections of hydrarg. salicylas.

Two other interesting cases in which destruction of tissue was even more extensive, have been under my care. The first was a soldier, a Cantonese, serving with the Northern troops, who came into the hospital two years ago with a most foul-smelling mass where the penis should have been. As no assistant would approach it, I was obliged to treat it myself. Bichloride dressings were used to clean it up and, to my surprise, after a few dressings preparatory to operation, the whole penis came away in the dressing. The urethra had partially adhered to the adjacent tissues and seemed healthy. The bichloride dressings were continued and the man left the hospital before healing was complete. He had only partial urinary control.

The second case of sloughing of the penis, not as extensive as the for-
mer, also cleared up under bichloride dressings, the larger half of the organ dropping off with the dressings. As before, here also the urethra needed no surgical assistance, as it had become attached to the surrounding tissues and function was very good. In both cases operative interference was planned but nature made such quite unnecessary.

One ventures to opine that there are far worse troubles among the natives than ever come under the eye of the foreign practitioner. As far as one can find out all the concoctions used by the native doctor as applications in these cases seem to but aggravate the trouble and make the disease worse.

Yours sincerely,

WALLACE CRAWFORD.

Concerning Hospital Mortality Returns.

The following letter, sent recently to the editor of Medical Missions in India, raises a question which should be interesting to medical missionaries in China, though the reluctance to receive patients in a moribund condition, much more common formerly than now, was usually due to the desire to avoid trouble with the ignorant and prejudiced and to win their confidence. As a matter of fact, even at the present time very few of our hospital reports give the mortality returns.

FRIENDS' MISSION HOSPITAL,
ITARSI, C. P.

DEAR DR. MACPAIL,

I wonder if you would mind telling me what is the usual practice with regard to counting dying patients whom one takes in, if desired, as a forlorn hope. If they die after two or three hours in the ward, before a night has passed, must one count them as in-patients? It sends up one's record of deaths terribly, and yet one cannot refuse if the friends wish it: as there is almost always a chance, especially in the case of a child. We had two such cases last week, and the approach of the date for statistics makes one think of such things.

Yours truly,

H. M. ROBSON.

New Medical Society in Soochow.

To the Editor, C. M. J.,

DEAR SIR:—Perhaps our fellow-workers may be glad to know that we recently started a Medical Society in Soochow as the result of the pleasant co-operation we had during the plague scare. Twenty-seven Western-trained doctors were present at the first meeting. The Constitution, which we may send you later, was adopted and officers duly elected. Dr. Tsai, Dean of the Provincial Medical School, was elected President, and the writer, Vice-president; Dr. Y. S. Chen, of the Soochow Hospital, English Secretary, and Dr. Van, of Dr. Wilkinson's Hospital, but now in private practice, Chinese Secretary. Other Western-trained Chinese and some foreign doctors in the City will doubtless join later. 澄洲醫院 is the Chinese name.

As the result of an invitation from the Changchow gentry, and in response to a cablegram from the Mission Board, M. E. Church, South, the writer plans to open a general hospital in Changchow City July 1, 1918. It will be called the Changchow General Hospital; Chinese name, 武進醫院.

Yours cordially,

W. B. RUSSELL.

NEWS AND COMMENT.

BIRTHS.

HEWITT.—On April 9, 1918, at Yencheng, to Dr. and Mrs. J. W. Hewitt, A. P. M., a son (Horace George).

LILJESTRAND.—On March 16, 1918, at Tzechow, to Dr. and Mrs. Liljestrand, M. E. M., a son (Oscar Leonard).

TOOTELL.—At Chenchow, Hunan, May 12, to Dr. and Mrs. G. T. Tootell, American Presbyterian Mission, a daughter (Jennievieve Grace).

MARRIAGES.

MAIN-COULTAS.—On April 26, 1918, at Hangchow, Sydney Duncan, eldest son of Dr. and Mrs. D. Duncan Main, to Caroline Jessie, only daughter of the Rev. G. W. Coultas, C. M. S.

ECKFELD-SOWEBY.—On May 21, 1918, at Peking, Dr. O. Eckfeld, of the Lutheran United Mission, Kwangchow, Honan, to Miss Alice May Sowerby, of Peking.
DEATH.

SCORE-BROWNE.—Word has just been received that Dr. Score-Browne, formerly of the C. M. S. Hospital, Ningpo, has been killed in action on the Salonica front. Shortly after the outbreak of the war Dr. Score-Browne offered his services to the British Government and was posted to Salonica. It was here that he gained the Military Cross for gallant work. His death followed shortly after a short home leave.

Returned from Furlough:—Dr. Benjamin Harding, A. P. M. (North), Ichow-fu, Sung; Dr. Emma J. Betow, M. E. F. B., Sienyu, Fu.

Departures:—Dr. and Mrs. J. R. Cox, M. C. C., Jungshien, Sze.; Dr. and Mrs. C. W. Service, M. C. C., Cheng-tu, Sze., Dr. Mary Carleton, M. E. F. B., Foochow, Fu.

Dr. Colin Simpson, who joined the Russian army medical staff in August, 1914, and who has now arrived in England after almost three and a half years' service in the field, and a perilous journey of ten weeks' duration, is a nephew of the Provost of Fraserburgh. He is a graduate of Arts and Medicine of Aberdeen University, and has had an adventurous career abroad. Dr. Simpson was attached to a British Boundary Commission in Bolivia, and visited places in South America in which no white man had previously set foot. Subsequently he became a Professor in Mukden Medical College. At the outbreak of war he joined the Russian army, receiving the rank of Colonel. He superintended the evacuation of 18,000 wounded from Lodz, for which feat he received congratulations and the Vladimir decoration with swords. Then for two years he worked with the army in the Carpathians.—N. C. Daily News.

Dr. Howard G. Barrie of Kuling General Hospital has been in charge of the Surgical Division of the 44th Stationary Hospital, Kuntara, Egypt, for the past year and is remaining on with the R. A. M. C. for another term.

Dr. Carrington, who has been in charge of the work at Kuling during Dr. Barrie's absence, has received a captaincy in the U. S. Army and has been called to report for duty at Manila.

Dr. A. Fletcher Jones of Yungpingfu, Chi., is acting as locum tenens for Dr. Barrie for the present year.

Dr. Francis P. Tucker, of Telschow, whose furlough begins this summer, is looking forward to availing himself of a fellowship granted him by the China Medical Board of the Rockefeller Foundation.

Dr. Charles K. Roys, of the Medical School, Shantung Christian University, Tsinaufu, has been granted the Shevlin Fellowship in the University of Minnesota, which carries with it $5,000 and all work done counts towards a Master's degree.

SCHOLARSHIPS TO CHINESE NURSES.—The China Medical Board of the Rockefeller Foundation last year made grants of $8,100 for nurses' scholarships (four being for Chinese girls and some providing for three years' study abroad); of $2,610 for three Chinese pharmacists studying in Baltimore; and a renewed grant of $500 for the translation of nursing text-books into Chinese.

PEKING UNION MEDICAL COLLEGE.—The work of the reorganized Peking Union Medical College is divided between two schools, the Medical School, which will give a five years' course in medicine (including one year of internship or of special work in the laboratories) and the Premedical School, which was opened on September 11, 1917.

It is the purpose of the Trustees, in opening this work, in both the Medical and Premedical Schools, to establish a standard in medical education in China that will put the institution on an equal footing with medical schools of the highest grade in America and Europe, and to make it possible for Chinese students to obtain a thorough medical education without going abroad. The requirements for admission and for graduation are at least the equivalent of those adopted by the Association of American Medical Colleges and by the various State Examining Boards in the United States of America, so that graduates should not find it difficult to secure recognition in any of these States.

The curriculum is longer than has been the custom in China, but is not longer than in high grade schools abroad, neither is it longer than is absolutely necessary to teach the essentials of modern scientific medicine and surgery.
FORTY STUDENTS FOR PRE-MEDICAL SCHOOL, PEKING.—One outgrowth of the anti-plague campaign of the past winter is that Governor Yen has decided to send thirty or forty qualified youths to the Peking Union Medical College. This is the first step in an effort to remedy the lack of qualified medical practitioners in Shansi, and ultimately, to carry out a programme of public health measures in the future. It should be encouraging to the medical men who helped the Governor in his anti-plague work to feel that their labours have received an appreciation of this sort.

MATERNAL IMPRESSIONS.—A girl was born to a resident of the Bubbling Well District, Shanghai, and according to the "Eastern Times," "its appearance did not differ from the ordinary infant, but it cried like a lamb." The parents became alarmed and thinking it a bad omen strangled the girl. "Those who know of this wonderful child attribute the cause to the mother being frightened by the cries of a lamb," says the vernacular paper, which adds: "We record this in order that scientists will study the cause."

DR. CARL HEDBLOM, FORMERLY OF RED CROSS HOSPITAL, SHANGHAI.—General Orloff's detachment at Pogranitchna arrested Dr. Hedblom, Chief of the Swedish Red Cross Mission to the prisoners of war in the Primur, while he was in a train proceeding to Habarovsk last month. The detachment took away Dr. Hedblom's papers and documents and also a large sum of money and escorted him back to Harbin, where he was subsequently released and his papers returned, but the money was retained. Dr. Hedblom, surprised at such treatment, has appealed to the Swedish Minister in Peking to demand an explanation of this high-handed action.

SANITARIUM IN SHANGHAI.—In Shanghai the physicians of the Seventh Day Adventist Mission have recently opened a Sanitarium in which the methods of treatment are mainly hydroopathic, electrical, and dietetic. A wealthy Chinese merchant of Hongkong, Mr. Au, who gave $50,000 last year to the Hongkong University, has now given a similar sum to the Shanghai Sanitarium for the construction of additional buildings. During the next few years its work will be conducted in the Red Cross Hospital, formerly occupied by the Harvard Medical School.

SUICIDE IN JAPAN.—In 1914 there were recorded in Japan 241 suicides of those under sixteen years, 431 between sixteen and twenty, and 3,056 between twenty and thirty. A brilliant but dissatisfied university graduate, having exhausted, as he said, all religions for their answer to human life, without avail, in the year 1902 flung himself into the river above a famous waterfall, and his battered body was found a few days later on the rocks, 600 feet below. Another youth did the same, and another, and another; until, in spite of police, barricades, and every effort to prevent the stream of suicides, in ten years 245 men and women had ended their lives in that way and at that spot.

CHRISTIAN PHYSICAL DIRECTORS FOR SCHOOLS.—At a late meeting of the Medical Missionary Association at Kodaikanal, India, a resolution was passed in favor of a thoroughly equipped institution for the training of Christian physical directors for work in Indian schools. The Indian government is understood to be interested in the plan.

MENINGITIS EXPERT GOES TO CHINA.—Lieut. Peter K. Olitsky, Medical Corps, U. S. Army, and of the scientific staff of the Rockefeller Institute for Medical Research, on permission granted him by the Surgeon-General, sailed from Vancouver, April 11, for China, in response to a cabled request received by the Institute from the Colonial Secretary at Hong Kong for assistance in a local outbreak of epidemic meningitis. Dr. Olitsky is to advise the Hong Kong government concerning the control of the disease, especially in the preparation of an effective serum and the institution of other therapeutic and prophylactic measures.

EPIDEMIC OF INFLUENZA.—Towards the end of the month, reports were received of outbreaks of 'fever' which rapidly affected a large proportion of the employees of various offices, shops, schools, police stations, etc. As a result of clinical and laboratory observation of cases admitted to the Chinese Isolation Hospital the disease was recognized as epidemic influenza. The same disease was reported to have appeared in Peking before reaching Shanghai, but subsequent reports showed that most of the river ports were almost simultaneously infected; that is to say the rate of spread conformed to the rate of conveyance by railways and boats of infected persons;
the infection being sprayed out by infected persons during sneezing, coughing, talking, etc. No other disease excepting dengue has the same wide power of rapid spread, some 40 per cent of people being as a rule infected. On the other hand, the incubation period (3 to 4 days) and the course of the fever are so short that the duration of the epidemic is not calculated to much exceed a month. The mortality is likely to be very low.—Shanghai Health Officer's Report, May, 1718.

Laws regulating practice of medicine in China urgently needed.—With regard to the dangerous advertisements of self-styled physicians, surgeons, and dentists, the farther away from the coast the bolder these fellows seem to be. Where there any power in China to deal with these scamps many lives might be saved and much inflicted suffering saved.

Truly these "fools rush in where angels fear to tread," and medical men would stand aghast to see chloroform administered and operations attempted with unsterilized instruments in circumstances only calculated to increase suffering. In a land where every kind of quackery finds willing dupes, this seems a hopeless problem, but as the term "Western" supported by a few bottles of spirits and forceps means so much more booty, something ought to be done, and one is often ashamed to know that the drugs of most respectable firms are misused by these gentry. This suggests that at least foreign firms should call for some credentials before posting dangerous drugs to unknown natives up-country. It seems absurd that educated Europeans have to prove their medical certificates to obtain drugs while "Dr." Wang of say "Kan-lie-fu" can get them by post, notwithstanding that "Dr." Wang may be and probably is a youth discharged from a hospital for thieving, with no medical knowledge beyond that gained from labels while acting as 1 ottle-washer. By putting a piece of burning paper in the tube and clapping it over the needle point quickly, the tube stood out horizontally from the knee, owing to the pressure of the outer atmosphere, much more imposing by placing a piece of brass tube, three-quarters of an inch in diameter, sealed at one end, over it. By putting a piece of burning paper in the tube and clapping it over the needle point quickly, the tube stood out horizontally from the knee, owing to the pressure of the outer atmosphere, much more imposing by placing a piece of brass tube, three-quarters of an inch in diameter, sealed at one end, over it.

I was told that a little while previously a quack doctor, while treating a man’s knee, had cut through the artery, the man bled to death and the quack had to decamp without waiting for his fee.—N. C. Daily News.

Snakes, lizards, tortoises, frogs, and newts are wanted for the Museum. If you are willing to help, please keep a big wide-mouthed closely-covered bottle containing 75% alcohol (or strong samshu) for dropping such specimens into. Towards the end of the year place the specimens in a tobacco or grocer’s tin just wrapped in a piece of cloth moist with strong alcohol and send by Parcel Post.

A few notes as to where found, etc., will increase the value of the gift.

Out-of-pocket expenses will be gratefully paid on receipt of particulars.

Arthur Stanley, Curator.