NOTES ON PNEUMONIC PLAGUE IN CHINA.

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THE SHANSE EPIDEMIC.

Pneumonic plague has again come dramatically into the picture in China. The expiring epidemic in Shanse and contiguous provinces is reported to have appeared towards the end of November, 1917, somewhere in the neighbourhood of Patsebolong in South Mongolia, in the vicinity of the Yellow River, whence it extended to Paotu and Saratsi in December, where it entered the province of Shanse, reaching the important trading centre of Kweihwa by the end of the year. From Paotu it spread south of the Yellow River, reaching Siaonor about the middle of December. From Kweihwa it spread during January to Fengchen (the rail-head of the Peking-Kalgan Railway), Tatung, Soping, Pienkwan, Shochow, Taichow, and down the mountain passes almost to the gates of Taiyuan in mid-Shanse. From Taichow it reached Pingshanhsien (near the Chenting-Taiyuan railway) and Tingchow (on the Peking-Hankow Railway), in the province of Chihli early in February. From the important centre of Kweihwa, whence trade routes radiate in many directions, it spread extensively some 200 miles east and about the same distance south. Special measures were taken on the Peking-Kalgan Railway, which pretty effectually protected Peking, and on the Taiyuan-Chenting Railway, which is not known to have brought infection on to the Peking-Hankow Railway. That railway was, however, infected by traffic along the mountain roads through the Yen Men Pass from Taichow, and a long section of the line was closed to local passenger traffic. The measures taken on this line appear to have been effective enough to keep Hankow clear. But some remarkable long distance
sprints succeeded in bringing infection down the Tientsin-Pukow line to Fengyang (Anhwei) on February 5, Tsinan on February 11, and Nanking on March 8. This seriously endangered the populous and overcrowded centres in the lower part of the Yangtse valley. By this time, however, the return of spring-like weather helped to prevent further spread. These long distance infections serve to show the enormous potentialities of spread once the railways are reached by persons incubating plague.

The Influence of Climate.

Not only in Nanking, but in Fengyang and Tsinan, it was reported that cases were few and contacts and opportunities of spread many. So that in these places the warmer weather appears to have had a greater effect in stopping the spread of pneumonic plague than such sanitary measures as are applicable at the present day in China. The conditions of extreme overcrowding in the intense cold of the North, where people hive into tightly shut rooms and lie cheek by jowl on the heated ʻang seem to be the cause of the intense contagion which occurs only in the North. Cases of pneumonic plague occur in all bubonic plague epidemics, but it is seldom that they give rise to epidemics of exclusively pneumonic plague away from climates intensely cold.

Comparison with the Previous Manchurian Epidemic.

The epidemic proved of smaller dimensions than the Manchurian out-break of 1910-11, probably because the area of origin was not so closely in touch with railway communication and because measures restricting the movement of carriers of infection by railways, etc., were somewhat earlier put into operation as a result of the published recommendations of the Mukden Plague Conference. Moreover, the Shanse epidemic originated or gathered momentum a month later than the Manchurian epidemic.

Need for Authoritative Report on Shanse Epidemic.

Very little accurate information regarding the present epidemic in Shanse and neighbouring provinces has been allowed to filter through, but its progress appears to have now been stayed by preventive measures and atmospheric conditions. It is highly desirable that a complete and authoritative report on the whole epidemic be made available for future guidance; for a scattered mass of valuable epidemiological data must now exist which requires sifting and crystallising into useful form, so as to fill some of the many gaps in the Report of the Mukden Plague Conference. Such a report would be invaluable
in putting a more effective stop to the next outbreak, which would save thousands of lives and incalculable loss through interference with trade and communications.

**Origin of the Epidemic.**

The origin of the Shanse epidemic closely resembles that of the great Manchurian epidemic of pneumonic plague of 1910-11, which was first observed in the middle of October in Manchouli in Northwest Manchuria, near the Siberian border, being carried by the Chinese Eastern Railway and reaching Harbin by the end of October. Harbin became a focus of the disease from which, after a considerable interval, Changchun and Mukden on the South Manchurian Railway were infected at the end of the year, leading to its further spread to the provinces of Chihli and Shantung. Where still present the epidemic ceased synchronously at the end of March irrespective of sanitary measures. The carriers of the plague in the Manchurian epidemic were those engaged in the fur and wool trade as in the present Shanse epidemic.

The source of the infection in the case of the Manchurian epidemic was practically traced to the tarbagan marmot (*Arctomys bobac*), a large animal of the rat tribe whose fur is much sought after as a lining for winter coats. This corresponds to the plague infection of the ground squirrel of California and of the common rats in so many ports all over the world, to which the infected rats have been carried by ships. The sequence of events seems now to be proved that bubonic plague in man is only got by proximity to the rodent, the actual carrier from rodent to man being the flea. All outbreaks of bubonic plague give rise to a number of cases of secondary pneumonia, as an extension of septicæmic infection, and these, under suitable conditions of proximity and atmosphere, give rise to cases of primary pneumonic plague which, breeding true, may, by droplet infection from the respiratory tract, light up an epidemic of exclusively pneumonic plague.

**The Menace of the North.**

The vast sandy wastes beyond the northern border of China may be considered for practical purposes a potential endemic plague infected area, where plague infection is ever present somewhere or other among certain rodents, leading to a danger of human infection when least expected. Hitherto stress has been laid on the tropical home of plague, mainly bubonic; but the menace of the North is more sinister, threatening, and elusive. Pneumonic plague, the most deadly of all diseases, exceeds the bubonic form in intensity of virulence and capacity for rapidly destroying man.
THE HEIGHT, WEIGHT, AND CHEST MEASUREMENTS OF HEALTHY CHINESE.*

In writing a report on the investigations carried on by the Research Committee as to the height, weight, and chest measurements of healthy Chinese, we must in the first place express our indebtedness to those doctors who have helped in this study. The following list contains the names of those to whom we owe our gratitude. It is perfectly obvious that without the co-operation of these members of the Association the investigation would have been impossible, as no far-reaching deductions could be based on the data collected by a single individual.

Dr. Barlow of Shaohsing ... 27 cases. Dr. Kelly of Kachek ... 86 cases.
Dr. Bay of Kaying ... 252 __. Dr. Maxwell of Yungchun ... 108 __.
Dr. Dobson of Yeungkong ... 221 __. Dr. Mitchell of Tingchowfu 302 __.
Dr. Bich of Tungkun ... 207 __. Dr. Phillips of Kaifeng ... 66 __.
Dr. Hackett of Canton ... 244 __. Dr. Polk of Soochow ... 132 __.
Dr. Hanington of Ningteh ... 46 __. Dr. Shoemaker of Peking ... 395 __.

It is difficult to produce a report on such a subject as this that is not a mass of almost incomprehensible statistics, but an effort will be made to take most of the figures out of the text of the report and group them together in an appendix which, though not very interesting, is full of information.

The people with whom these statistics deal may be divided into four classes: viz., adult and adolescent males, adult and adolescent females. The adolescent class includes young people from 10 to 19 years of age. In regard to all these classes the following points will fall to be considered:—Height, weight, ratio of weight to height, circumference of the chest, and finally a method of gathering together these three measurement (height, weight, and chest) in such a way as to be able to decide from them the physical fitness of the individual concerned.

HEIGHT.

In the first place let us consider the height of the adult males. Under this head data are available in regard to 1,741‡ individuals, and

*Being the Report of the Research Committee of the C. M. M. A. prepared by its Chairman, Dr. G. Duncan Whyte, of Swatow, and read at the Biennial Conference held in Canton, January, 1917.
† These are included in the 1,502 cases dealt with by Dr. Shoemaker in the announcement issued by the Department of Physical Education in the Tsinghua College, Peking.
‡ Of these 1,021 were not collected for this report but were previously published in the Journ. of the Royal Anthropological Institute, 1911.
all but 16 of these are from the provinces of Fukien and Kwangtung. While it is unfortunate that no complete figures are available for a study of the heights of the inhabitants of Northern and Central China, we can at least be thankful that we have fairly adequate statistics for

**DIAGRAM SHOWING AVERAGE HEIGHT OF CHINESE AT DIFFERENT AGES**

These two Southern provinces. Taking the average of all these adult males, the average height is found to be just above 5 feet 4 ins. (163 centimetres, to be exact); and if a curve is plotted showing the frequency with which each different height is met amongst these people, it is found that the highest point of the curve is reached at 5 ft. 4 ins. and that the curve descends again after 5 ft. 5 ins.

With regard to adolescent males it is fortunate that we have the figures of Dr. Shoemaker of Peking to furnish a standard for Northern China. A comparison of his figures with those for the South shows,
as one would expect, that the average height in the North is distinctly greater than in the South for youths of the same age, the average difference being about 3 inches.* A diagram has been prepared showing the average height met with at different ages in the boys and young men of South China and Peking respectively. The average height of young people of the same ages in Scotland is also shown in the diagram, and this reveals the fact that in every case the Chinese figure is lower than that for Scotland, except in the case of Peking boys under 16.

When we come to consider the height of the women and girls we find that the data are distributed over a wider area, for not only are statistics available for Fukien and Kwangtung but some of the Central provinces—Kiangsu, Honan, and Chekiang—are also represented. It is found that there is no obvious difference between the average heights of those in Central China and those in the South, and from a study of the data supplied the following conclusions may be drawn:—

(1) The average height of adult women does not differ from that of young people of 19 or even 18 years of age, the average for 285 such persons being just under 4 ft. 11½ ins. (150.4 cm. to be exact). This is 4½ ins. less than the average height of the adult Chinese males and 3½ ins. less than the average height of English women.

(2) When we examine the group of girls at each year of age from 10 to 18 it is found that the average difference in height between each year is 3.4 cm., that is about one and a third inches.

(3) The girls do not add more than 2 inches (5 cm.) to their stature after the age of 15 has been reached, so that although up to that age the boys of South China are little if any taller than the girls, beyond that age the average for the males is distinctly greater than for the females.

(4) The girls do not attain to the average heights of Scotch girls, which are shown in the diagram for purposes of comparison.

While many of these findings with regard to the height of Chinese of both sexes are strictly what we would expect in any race—such as boys being taller than girls after the age of puberty, and men being taller than women—yet beyond this it has to be emphasised that the Southern Chinese, whether boys or girls, men or women, do not attain to the European standards for height.

*In the case of the younger boys (11 to 15) the difference is 9.2 cm., almost 4 ins., while in the case of the older boys (16 to 19) it is only 6 cm., a little over 2 ins.
Measurements of Healthy Chinese.

WEIGHT.

The question of weight is of considerably more importance to the medical man than the question of height, and the result of the present study confirms previous findings that the Southern Chinese and, so far as statistics are available, the Northern Chinese, also, weigh much less than Europeans and Americans of the same height.

What is perhaps the most important point with regard to the "average weight" is its bearing on the dosage of drugs. The dose recommended in the home pharmacopoeias for any particular drug is calculated on the hypothesis that the adult dose will be administered to an individual weighing about 150 lbs. (say 70 kilos.). In view of the fact that the average Southern Chinaman is about one-fifth lighter than this careful watch should be kept when maximum doses of dangerous drugs are being administered.

The weight of an adult depends partly upon his age but much more upon his height and it is of little value to say that the average weight of a male adult in South China is 119 lbs. (54 kilogrammes), unless we know the average height of the people and what figure should be added to or subtracted from this average weight for every inch or centimetre above or below the average height.

For statistical purposes it is much more convenient to state a person's weight not absolutely as so many lbs., but relatively as so many ounces for each inch of stature (or so many grammes for each centimetre if the metric system be preferred). Such a figure, obtained by dividing the total weight by the number of inches or centimetres of height, may well be used for making comparisons between different classes of individuals, and may be referred to as the "Weight for Height Index."

In England the Index varies between 36 and 40 or even 48 ounces for every inch of stature (or 402 gms. to 447 gms. or even 536 gms. for every centimetre); that is to say, a man who is 64 inches high should weigh not less than 64 times 36 ounces = 2,304 oz. = 144 lbs. (Or height 162.5 cms., weight = 162.5 x 402 gms. = 65.3 kilos.) In South China the Index varies between 26 oz. per inch (295 gms. per cm.) in Tungkun to 30 oz. (335 gms. per cm.) near Swatow, while the average for the few cases from Chekiang is also 30 oz. All these figures are far below the European standard of 36 to 40 oz. per inch (402 to 447 gms. per cm.).

To put these facts in another way: While we know that the minimum weight of an Englishman of 5ft. 4½ ins. (162.5 cm.) is 144 lbs.
(65.3 kilos.), we find that the average weight of a native of this height from Chekiang or Swatow is only 120 lbs (54.4 kilos.) and the average native of Tungkun of the same height only weighs 104 lbs. (47.2 kilos.).

Similar differences exist in the case of women between the standard Weight for Height Index in European countries and the figures obtained in Southern and Central China: 30 to 32 oz. (335 to 357 gms. per cm.) is the home standard, while the averages for South and Central China are 24 oz. (270 gms. per cm.) and 30 oz. (335 gms. per cm.) respectively. It will be seen that the average for Central China only reaches the English minimum figure.

We cannot but feel that the great difference between the standard figures given in foreign textbooks and the true standards for China is so important as to justify all the effort that has been made by the Research Committee and its collaborators to secure the preparation of true standards for China.

Whether a doctor is examining a candidate for life insurance or is trying to determine the prognosis in a case of tuberculosis, it is equally important he should know what a healthy person of the age and height of the individual being examined ought to weigh. If he expected a Chinaman to conform to the standards laid down in European and American textbooks, he would be very seriously misled.

Before going on to consider the Weight for Height Index for young people it may be well to consider the best way to discover the standard weight for any particular individual in South China. It is obvious that one method is to multiply his height in inches by the Weight for Height Index (i.e., 28) and call the result ounces, but as this necessitates dividing the result by 16 in order to get the number of lbs. weight, it is somewhat troublesome to use.

Another and simpler method which has been found to work accurately in Swatow is to deduct 24 from the number of inches representing the height and multiply the result by 3. This gives the number of lbs. that the individual should weigh.

Example. Height 5ft. 5ins. = 65 inches; deduct 24; = 41; multiply by 3; = 123 lbs. weight.

In other parts of China where the Weight for Height Index is lower than in Swatow, 27 instead of 24 should be deducted before multiplying by 3. Whatever method of determining the standard weight be employed, one must remember that variations within 15% above and below the standard figure may be considered as "normal."

Broca's rule for estimating the proper weight of a European is to deduct 100 from his height in centimetres and call the remainder
Measurements of Healthy Chinese.

kilogrammes. This is a very simple rule but cannot be applied to the natives of South China until the remainder has been diminished by 20%. When modified in this way Broca's rule has been found a very reliable guide.

Leaving now the questions of the weight of male and female adults, let us consider the case of the young people. The difference between the indices for boys and for girls of the same age in South China is inconsiderable. Sometimes the boys have the higher index, sometimes the girls; the difference between the indices for the girls in Central China and the boys in Peking is equally insignificant. On the other hand, when one combines the data for the South China adolescents of both sexes, and compares these with the indices of a group representing the boys and girls of Northern and Central China, one sees at once how very slight is the build of the young people of Fukien and Kwangtung compared with those of North and Central China. The difference between these two groups at the age of 17 is 2.1 oz. per inch (23 gms. per cm.), which in the case of a lad 5ft. (152.5 cm.) amounts to 8 lbs. (3.6 kilos.). The average indices for the different age periods will be found in a table in the Appendix.

A further point that must not be neglected in a study of the weight of the people of South China is the difference that usually exists between the weight of an individual at the end of the summer months and the same person's weight at the end of the winter months—and this apart from the weight of his clothes. Of some 250 pupils in the Swatow Anglo-Chinese College the average gain per pupil during the winter months was $7\frac{3}{4}$ lbs (3.5 kilos); whereas during the six summer months it was only 5 oz. (142 gms.) and 40% were found to have actually lost weight during that time. To put the matter in another way, of the average weight gained by the boys in a year at school, 96% was added during the winter months and only 4% during the summer. The gain in height, however, was found to be evenly distributed over the whole year.

CHEST MEASUREMENTS.

In regard to chest measurements it would be a pity to spend much time in considering them as isolated factors when their importance is much greater if they are considered (as they will be before this paper is closed) along with the weight and height of the individual concerned.

Amongst the full-grown men of South China the average circumference of the chest (after full expiration) varied from 28 ins. (72 cm.)
in Tungkun to 31 inches (79 cm.) in Yungchun, while the Chekiang cases showed a larger average, viz., 32½ ins. (82 cm.).

The women's chests were somewhat smaller, the smallest being those from Soochow, 27¼ ins. (70.9 cm.) and the largest those from Ningteh being 32 ins. (80.8 cm.).

An examination of the data for the younger people shows that there is little difference between the boys and the girls, and that though the largest average measurements are frequently those reported from Peking this is not invariably the case.

The popular impression that a man's chest measurement is equal to half his height was found to be true only in isolated cases.

The expansion of the chest was found to be greatest (3 ins.=7.5 cm.) in the case of those whose chest circumference when at rest was 26 or 27 inches (68.6—71.1 cm.). In the case of chests that were a little smaller or a little larger there was still a fair degree of expansion (2½ ins.=6.5 cm.), but if the chest circumference was less than 24 ins. (61 cm.) or more than 30 ins. (76.2 cm.) the expansion rarely exceeded 2 ins. (5 cm.). It is more than likely that this is due to the difficulty many observers seem to have experienced in getting their people to take a full inspiration.

(To be concluded.)

SCLERODERMA OF DIFFUSE SYMMETRICAL TYPE.

JOHN H. KORNS, M.D., Peking.

Scleroderma is perhaps of sufficient rarity to warrant the publication of brief notes on the following case seen in the Union Medical College Hospital, Peking.

The patient, a male, aged 28, unmarried, native of Fukien, a law student by occupation, entered the hospital November 7, 1916, complaining of the tightness of the skin of his hands and of a gradual darkening of the skin all over the body.

History.—For five years patient has noticed that his fingers feel hard, that they turn white in cold weather, and that they are more or less numb. The numbness and the inability to flex fingers fully make it difficult to grasp objects in the palm of the hand. This condition has gradually, but very slowly, grown worse. The legs have shown slight swelling and moderate stiffness, making squatting difficult. He can walk a fair distance but must go slowly and gets unduly tired.
Fig-1. Patient unable to extend legs fully.

Fig-2. Full elevation of arms prevented by tightening of axillary folds.

Fig-3. Showing desquamation of skin and slight ulceration.

CASK OF DIFFUSE SYMMETRICAL SCLERODERMIA (KÖRNE)
He has lost considerable weight. The bronzing of the skin began some months ago on the chest, and has now extended to the face and neck, and to a less extent over the extremities. At this time the patient lays stress on certain nervous phenomena, consisting chiefly of a sudden, periodic, spastic condition of the entire body, usually lasting only a few seconds, accompanied by a mere feeling of helplessness and inability to flex and extend limbs, there being no auræ and no sequelæ. These attacks he has had for thirteen years; they are not increasing in frequency or severity. The patient is chronically constipated.

Twelve years ago the patient had a generalized skin affection, simulating eczema, for one year. Recovery was complete. He denies venereal disease. One year prior to the beginning of the present illness, that is six years ago, he began taking Fukien wine and very often became intoxicated. He says he frequently used more than eighty ounces a day, but after present illness began he gradually decreased the amount. Never used opium. His diet has always consisted of rice principally. Family history negative.

Examination.—Patient is unusually thin, but walks about with ease. Legs and arms can be extended to 180 degrees. The skin of the chest and face, and to a less extent elsewhere, shows deep brownish pigmentation symmetrically distributed, but with minute pea-sized areas less deeply colored. No desquamation. Palpation confirms the impression given on inspection that the skin of the face, neck, axillæ, extensor surfaces of the joints of the extremities, and especially of the hands, is tight. The subcutaneous tissue seems to be lacking; it is extremely difficult to pinch up the skin. The patient finds difficulty in closing the mouth when his head is thrown back, and in elevating arms above the horizontal. As the hands show a more advanced stage they may be described in more detail. The fingers are short and stubby, the tips being thickened in both diameters. The nails are short and thick, with deep horizontal furrows. The fingers are cold, but the rest of the hand is warm. The fingers are cyanotic, particularly in the region of the joints. The skin is very tight and inelastic and cannot be differentiated from the subcutaneous tissue on palpation. The normal wrinkles on the dorsum of the fingers are absent. The flexor surface of the tips shows cartilaginous hardness. Complete extension or flexion is impossible.

Further physical examination is negative. The sensations and reflexes are normal. The temperature is subnormal. The systolic blood pressure, 90. The urine, feces, sputum, and blood were free from abnormal findings on entering hospital, but there is a moderate
secondary anemia. Weight, stripped, 80 pounds. Wassermann, weak positive (+ - - -); Von Pirquet Tuberculin test, strongly positive.

Course of the Disease.—Opportunity was given in the ward to observe the spastic seizures referred to above. Inasmuch as they seemed to the writer to be produced almost at will whenever the patient was piqued, they were given no serious consideration. After two months they disappeared and have not been seen since.

On November 22nd scaling began to appear, first at the axillary folds. By December 5th the areas involved in this scaling included the flexor surfaces of the arms, the inguinal regions, and the buttocks. The lesions looked not unlike psoriasis. By December 12th the back and all the extremities were also involved. The desquamation at this date was fine and there was a tendency to fissuring of the skin. The areas that had desquamated fully presented a fresh, pinkish surface that formed a marked contrast with the original pigmented condition. By January 2nd the scaling was completed, and the skin began to take on a more homogeneous appearance. By February 1st the skin was practically normal in color. This process of scaling began again on March 10th, and was still in progress when patient left the hospital April 13, 1917.

Superficial ulcerations occurred over olecranon processes, patellae, spines of scapulae, but with care these healed. The weight of the bed covers could not be tolerated. The skin was extremely sensitive subjectively both to heat and cold.

During this stay in the hospital there were three febrile attacks, the first two lasting each one week; the last, one month. They were accompanied by some dyspnoea and restlessness, and a disposition to lie quietly in bed. The last attack was also accompanied by some pain in the heart region. On examination the first time a loud pleural friction rub was heard under the right scapula; the second time subcrepitant inspiratory rales were heard in the right mid-clavicular line at the fifth interspace; the third time the same rales as above, but in addition a pleural rub in the right paravertebral line at the 9th interspace, and a pericardial friction rub extending from the left parasternal to the left mid-clavicular line in the fourth and fifth interspaces. These friction sounds lasted for at least three weeks and were present when patient left. There was never an accompanying cough. Such sputum as was obtained, when mixed with antiformin, on repeated examinations showed no tubercle bacilli. There was each time a leukocytosis to 25,000 or 30,000 with a relative and absolute increase in polymorphs. Blood cultures were negative.
Present Condition.—The patient re-entered the hospital May 25, 1917, and is still in the ward. His present condition is illustrated by the three photographs (see Frontispiece), taken June 2. Fig. 1 shows the inability to extend legs at knees on account of the tightness of the skin in the popliteal space; the semiflexed position of the fingers and the prominence of the tip of the thumb; the wide interdigital spaces; the thinness of the body; the open mouth due to tightness of the skin surrounding. Fig. 2 shows the patient attempting to elevate arms and chin and to extend fingers. The face is expressionless, as it has been for months. Fig. 3 shows slight scaling, superficial ulcerations over olecranon and inner condyles, and moderate diffuse alopecia.

There is now a low grade of remittent fever, a leukocytosis of 18,700; the polymorphs show very few granules, the red cells show anisocytosis, polikilocytosis, and polychromatophilia.

The heart is normal except for an occasional extra systole; the lungs still give localized subcrepitant rales. In general the patient's condition is decidedly worse than when he came under observation seven months ago, for while he still relishes food, he has become bedridden, and is somewhat distressed by the increasing tightness of the skin of the neck which makes swallowing difficult.

Treatment.—Aside from general hygienic measures, tonics, and symptomatic treatment, thyroid extract, 33 gm. t.i.d. was given internally, and cocoa butter was used for inunctions.

In conclusion, this case illustrates the extreme chronicity of scleroderma with the tendency to gradual increase in the severity of the symptoms. The mildly positive Wassermann can hardly be considered proof of syphilis, as in certain chronic skin diseases the Wassermann is found positive even in the absence of syphilis.

DIAGNOSIS AND TREATMENT OF APPENDICITIS IN THE CHINESE.*

W. B. RUSSELL, B.S., M.D., Soochow.

In again bringing the subject of appendicitis before this Association I feel that I must crave your indulgence, for I am convinced not only that this disease is not infrequently the unknown cause of death in the Chinese but also that it is the most frequent source of abdominal inflammation or peritonitis among the Chinese. Thirty-nine cases were

*A paper read at the Biennial Conference of the C. M. M. A., held in Canton, January, 1917.
referred to my service in the Soochow Hospital for treatment during the seventeen months from May, 1915, to October, 1916. Four of these patients refused operation so were treated after the method of Dr. Ochsner, as far as possible, and all recovered from the attack. Of the thirty-five operated on, two died.

One of these cases, a little slave girl of a Chinese native practitioner, uncle of one of our male nurses, entered the hospital, February 25, 1916, with symptoms of generalized peritonitis; pulse, 160; temperature, 104.5°F. typical drawn facies, greatly distended and very tender abdomen, etc. I told them there was not one chance in a thousand for her, but our nurse said his uncle had sent her for operation and he would be censured by him if we did not operate. A clear-cut Murphy symptomatic history was given of appendicitis beginning 12 days before coming to hospital. The abdomen was opened at McBurney's point and grayish purulent fluid began to flow out. The appendix was found distended, indurated, and of an angry appearance, but was not ruptured. It was removed by ordinary purse-string procedure and the wound drained with large drainage tubes, one in pelvis, and one at the base of appendix stump. Pus was examined at once and an apparently pure culture of streptococci found. Patient in bed was given a shock enema, afterwards a dose of antistreptococcic serum and she was then placed in Fowler's position. A continuous proctoclysis of saline was started but she died the following day. The appendix showed every gross sign of being the source of the trouble, but I take it the streptococci passed out through the walls of the appendix without rupture, and the large amounts of cathartic patient had received completed the etiology. The other fatal case is reported below.

The course of the disease in mild cases is usually toward recovery, but this is always uncertain and our case histories show a very large percentage of recurrences with increasing violence at each succeeding attack. Cases of so called appendiceal colic, i.e., griping pain near McBurney's point periodically, with vomiting or nausea but no fever, have not come in on our service but apparently have been encountered in the out-patient department. Two of our cases came with old faecal fistulae near McBurney's point. The histories led us to think the trouble originated in the appendix, a conjecture which was confirmed at the operation in both cases. Each of these cases was cured. One of them we report below. We have had occasion to remove the appendix in a number of cases in the course of other abdominal operations when it was found to be what we call a chronic appendix, and it has been rare in these cases not to find either a history of acute attacks in the past, or of chronic indigestion and vague pain or discomfort in the region of the appendix. We now know, from examinations with the bismuth meal and X-ray, that in cases of acute appendicitis there is a spasmodic closure of the ileo-caecal valve and often a reverse peristalsis in small bowels and, especially if food is taken, nausea and vomiting ensue. This result of sympathetic excitation in appendix is nature's effort to protect the affected part. If left alone, or assisted as
Appendicitis in the Chinese.

in Ochsner's method of preparatory treatment, nature may succeed in walling off the organ and, in case of rupture, in completing the walls of the circumscribed abscess. This explains why we should not give cathartics and by forced peristalsis in the small intestine not only prevent nature from forming adhesions and walling off the appendix in case of rupture, but by such meddlesome therapeutics actually help to cause rupture and possibly general peritonitis.

Some observers would lead us to think that appendicitis is frequent in foreigners who are great meat eaters, but rare in the Chinese because they seem, as a rule, to eat little meat. On the other hand in quite a number of our cases, the disease has occurred in those who take little or no meat. In our small series, practically all classes in China have been represented, both the learned and the unlearned, as well as vegetarians and non-vegetarians. Nearly all of our cases have been infected with intestinal parasites. In one case, not included in this series, which we reported to the Shanghai Branch of the C.M.M.A. the appendix was found distended, apparently indurated, and showing congestion. It was removed in the course of an operation for the removal of a large ovarian cyst, and after removal a round worm crawled out of the appendix while it was lying in the pus basin. In a former paper before this Association we suggested that intestinal parasites were one of the etiological factors in appendicitis in the Chinese. In the New York State Medical Journal, September, 1916, Dr. A. W. Armstrong reports four cases of appendicitis in American children with intestinal parasites, and he says that in each case the appendicitis was "caused directly by the presence of the parasites." In our part of China, it has been proved by routine faecal examinations that approximately 70% of the people are infected with one or more varieties of intestinal parasites. In accord with the experience of Dr. Armstrong we should expect to find among the Chinese many cases of appendicitis.

Fundamentally, we have found appendicitis to be the same in the Chinese as in foreigners. Some time ago a former editor of our CHINA MEDICAL JOURNAL wrote to us in regard to this point, and said he had just heard of a case of appendicitis in a Chinese patient without a single Murphy symptom. Since receiving this letter we have observed more carefully the symptoms in all cases of appendicitis, real or suspected, and must say no such cases have been referred to us, nor have we seen such cases elsewhere; but as we are sure we could not make a diagnosis if we did see them, perhaps our opinion on this point should not be considered in any sense final. Occasionally, we have noticed the
absence of vomiting, but very rarely the absence of nausea. We have accounted for the absence of vomiting by the fact that the Chinese who came to us had been sensible enough to take little or no food while the disease was acute.

In reply to the further question whether we thought the disease was more frequent among the Chinese than formerly, we replied that we did not know, but thought conditions are as predisposing now as they were 3,000 years ago, and perhaps appendicitis occurred with about the same frequency then as now. Our cases as a rule have presented fever, pain, nausea or vomiting, tenderness over or in the region of McBurney's point, and have usually been so clear-cut that a leucocyte count has rarely been thought of, or at least found necessary to confirm the diagnosis. We wish to add a little tribute to the memory of Dr. John B. Murphy by saying that in our judgment his observations in this disease are fundamental, and are not limited by Chinese or other racial peculiarities.

Recognizing appendicitis as a surgical disease and that the Chinese as a rule rarely submit to interval operation, we operate as soon as practicable after a definite diagnosis is made. In acute cases we usually employ the McBurney muscle-splitting incision and, when necessary, bring the drain out through the wound which is closed with interrupted sutures by the layer method. In all cases diagnosed in the first 24 hours of the disease we insist on immediate operation. We wish to condemn most emphatically the giving of opium for relief of pain, especially in cases before a definite diagnosis is made. After sufficient time has elapsed to enable us to be sure that the infection has already passed beyond the walls of the appendix we may consider the Ochsner treatment; but we believe that in the Chinese it is, as a rule, wiser to operate at once, being careful to do as little traumatism as possible, draining in all cases of doubt, and in these cases following out the principles of the Ochsner treatment after operation. By this we mean Fowler's position; if necessary, opium to control peristalsis and pain just after the operation; slow, open, continuous normal saline proctoclysis following the usual shock enema; normal saline intravenously, on table if necessary; rectal feedings; lavage of stomach, and giving nothing by mouth until active inflammation is controlled. The attempt is made to meet nature's indications.

Many patients come to us in our out-clinic who give an unmistakable history of repeated acute attacks of appendicitis; there are others that may be called "right-sided" cases; others come with indications of trouble in the gall-bladder, pylorus, or stomach; or, in females, in the
'Appendicitis in the Chinese.

Fallopian tube, ovary, etc. These cases should all be carefully studied with interval operation in view. In interval operation or exploration we prefer the right rectus incision.

We shall now report, first of all, a case of interim operation, which will be followed by reports of seven other cases as nearly as possible typical of the disease in the Chinese who have come under our treatment.

CASE No. 1, Hospital No. 1380. Male, aged 43; teacher. Entered hospital September 11, 1916, on my service for the purpose of having interval appendix operation the following day. Two years ago he had an attack very similar to the one he had two months ago when he applied to me for treatment. The latter attack began about 18 hours before I saw him, with pain, vomiting, and diffuse abdominal pain. Later, the pain became of a gripping character in the appendiceal region, where there was also great tenderness on the least pressure. The temperature was 100.6°F. On operation being advised the patient refused absolutely, so he was urged to be careful and if he got over this attack to come back for interval operation. Upon his return home, after thinking over the possibility and danger of another attack, he wrote us a letter about it and we replied urging operation. Much to our surprise he came and submitted. At the operation, McBurney incision, omentum appeared in wound but on being pushed aside the appendix was easily found by tracing line to head of caecum and was removed by ordinary purse-string suture. Appendix showed some induration and slight adhesions near distal end. Since leaving the hospital after an uneventful convalescence, his indigestion and other symptoms have disappeared.

CASE No. 2, Hospital No. 1653. Patient, aged 24; University student; athlete. Entered hospital December 27, 1915, with diagnosis of appendicitis. Patient said there had been two attacks before the present one; the first in October, 1914, with pain, gripping in character, near McBurney's point; nausea and vomiting and some fever; the second attack in November, 1915, resembled the first. Present attack began on morning of day before operation. Operation under chloroform; McBurney incision. Appendix found inflamed, indurated, and not draining itself. Removed by ordinary purse-string procedure and wound closed by layer method with drainage. After-treatment uneventful. Patient discharged cured, January 7, 1916, on the tenth day after operation. Patient was successful in field sports last spring and has been captain of football team this fall. He has had not the least trouble since operation.

CASE No. 3, Hospital No. 254. Soldier, aged 25. Entered hospital, March 10, 1916, on the medical side. After careful examination Dr. Lee diagnosed the case as appendicitis and turned the patient over to my service. I examined him and obtained the following history. The attack began on February 24, 1916, with pain in abdomen and vomiting. For three days there had been no movement of the bowels, and the Chinese doctor who was called gave him a cathartic which acted effectively. The pain continued and became localized at McBurney's point on March 1, 1916, and there was fever and sweating. Operation March 14, 1916; McBurney incision. A considerable quantity of very thick pus was found which was examined at once by Dr. Lee and many staphylococci reported. Appendix had sloughed off. Remains of stump were found, tied and closed off, and wound closed by layer method, large drainage tube having been brought out through wound. After-treatment—Fowler's position, continuous modified proctoclysis, etc. Patient discharged cured April 11, 1916.

CASE No. 4, Hospital No. 17. Male, aged 21; University student. Entered hospital January 4, 1916, about 3.30 p.m., the diagnosis of appendicitis having been made by Dr. Park from the history given by patient's class-mate. A stretcher was
sent for patient at once as Dr. Park had to attend to an out-call. It was my major clinic afternoon so I was operating, but went out between operations to see him in private room. He said, "I never had an attack like this before." It began on December 23, 1915, at 4.00 p.m., with severe gripping pain in abdomen, and with nausea but no vomiting. He took no food for several days, save a little Chinese sweet-meat, and then he felt very hungry but he seemed to get some relief from the pain in this way. He also stated that the gripping pain grew very bad at four distinct intervals before he came to hospital, but that during the whole time he was not quite comfortable in his abdomen. On rising on the morning of January 4, 1916, he felt very hungry so decided to take little breakfast; after this he grew worse but went to chapel at 7.40 a.m., and after chapel went to his first class. The pain then became so severe that he had to get excused and went to his room. He sent for the school doctor who prescribed turpentine suppositories for abdomen; these gave no relief so early in afternoon he sent for Dr. Park. After I had examined him and gone over his history I told him operation would be dangerous, but not to operate would, in my judgment, be more dangerous. I ordered enema of soapsuds and turpentine, and left the decision to him and his sister who was with him. A little later the sister sent word to operate. On making large McBurney incision, grayish fluid came out as the peritoneal cavity was entered. The intestines were greatly distended, which made the search for the appendix difficult, but it was finally found a little above level of umbilicus, almost at midline, deeply situated and slightly adherent. On being delivered it showed signs of beginning ulceration and was very large and congested. Removed by ordinary purse-string operation and wound closed by layer method, a large cigarette drain being brought out through center of wound. Patient received 600 mls of normal saline intravenously on the table, and 500 mls routine shock enema in bed, and was also given morphia gr. ¼ and strychnia gr. 1/60, and continuous normal saline was started four hours later. Five-hour rectal feedings were started a few hours later, with continuous saline in interval, and kept up for five days with patient in Fowler's position. Temperature went to 102.8° F, but came down to normal on fourth day when we began to give strained liquid nourishment by mouth. He did not receive one dose of medicine by mouth while in hospital. Bowels moved well third day. Patient improved rapidly after fourth day, the drainage tube was removed on sixth day, and he was discharged with wound nicely healed on January 15, 1916, eleven days after entrance. This young man took part in field sports and graduated with his class from the Soochow University in June, 1916. No trouble since operation.

Case No. 5, Hospital No. 1531. Male, aged 19, clerk, entered hospital on December 2, 1915, from Dr. Park's special clinic with diagnosis of appendicitis. Patient and his father gave the following history. Eleven days before entrance the patient was seized with pain in region of stomach, later the pain became localized at McBurney's point where a tender, dull mass was found on examination; no history of vomiting but there had been nausea. Patient was said to have taken no food for five or six days, during which time bowels had not moved and urine was very red. He was put in Fowler's position, given soap-suds enema which returned with large stool. Rectal feedings were then given and continuous saline started; nothing was given by mouth. On following day operation was performed: McBurney incision; firm adhesions were encountered. Abscess was found external and posterior to head of caecum and ascending colon, but as appendix had not been located one drain was put into abscess cavity and one into pelvis and the wound closed by layer method. On third morning some feces seemed to be coming from wound. On the second day patient presented swelling
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in region of left parotid gland, and the diagnosis of mumps was considered. Three days later the right parotid was swollen and tender. Left parotid region showed signs of pus so was opened; only staphylococci found in the pus. A little later similar operation on right side. There had been some tonsillitis preceding the appendicitis. After operation patient received intravenous of normal saline on table, rectal feedings alternating with continuous saline, Fowler's position, etc. Convalescence was slow, the details of which would be too tedious to narrate. Suffice to say that the faecal fistula and all the wounds healed, and the patient was dismissed March 1, 1916, fat and well. He has had no further trouble since.

Case No. 6. Hospital No. 1260. Male, aged 14; farmer's son. Entered hospital August 30, 1916. Family history negative. Had an attack resembling the present one, but not so severe, eight months earlier. Present attack began nine days before coming to hospital with severe pain, first in the stomach and later localized at McBurney's point, with vomiting and fever. On entrance at 5.50 p.m., pulse was 90 and temperature 100.8° F. Soap-suds enema was given, and as faces showed heavy infection with ascaris lumbricoides, oil of cheuopodium was given followed in an hour by one ounce of Epsom salts. On my arrival from Kiukiang on August 31, he was operated upon under chloroform the same afternoon; McBurney incision. An abscess was found just posterior to head of pancreas which contained a faecolith. The remains of ruptured appendix were removed and wound closed with drain. Fowler's position was ordered with continuous saline and rectal feeding. I happened to be working single-handed at this time and an out-call came so I did not see the patient for 26 hours after operation. It was then discovered that the patient had not been placed in Fowler's position, though all the other directions had been carried out. He was at once placed in the position but the temperature was 102.2° F. pulse 125, and general peritonitis had already begun. Everything was done, continuous saline, etc., but patient died on September 3 of peritonitis. Temperature one hour and a half before death at 2.00 a.m., was 105.6° F. and pulse 160. I believe Fowler's position combined with the other measures used might have saved him.

Case No. 7. Hospital No. 408. Female, married seven years, one child. Entered hospital April 11, 1916, on Dr. Lee's service to break off opium. She complained, however, of so much pain in the abdomen that Dr. Lee called me in consultation. We found heavy leucorrhoeal discharge, with pain in right lower quadrant of abdomen, and suggested an exploratory operation. The husband, a teacher in a government school, was sent for and gave his consent. Operation: low median incision, tubes apparently normal, uterus retroverted but normal in size, etc., both ovaries cystic so these were resected; appendix was found large, indurated and congested, so was removed. Patient had a quiet and comparatively uneventful convalescence and was discharged May 27, 1916, forty-six days after entrance and 29 after operation, cured to her own satisfaction.

The case just reported reminds me of another young married woman of good family, wife of a splendid young man, a Christian, well educated, etc. The friends thought the wife had appendicitis as they said her symptoms resembled those of a foreign missionary lady who had undergone an operation, and they were sure the wife's disease was the same. I went over the history and assured them it was not a clear-cut case of appendicitis, but they insisted on operation. When I made incision as above I found the right tube full of pus, with infiltration of broad ligament, ovary cystic, and appendix adherent to fimbriated extremity of tube. As all these structures were inflamed all were removed. The trouble apparently originated in a mild gonorrhoea contracted fifteen years before her marriage one year ago, for I could find no other clue. I take this opportunity to ask if others may know of a similar case.

Case No. 8. Hospital No. 136. Male, aged 34, farmer. Entered hospital September 9, 1916, with foul faecal fistula of abdomen, opening found just below
McBurney's point. History indefinite, save that about a year ago patient had an
attack of pain in right side and a lump formed in appendiceal region which he got
a Chinese doctor to open with a knife. Pus and some blood came away and later
a large part of his feces came daily through opening, this condition continuing to
date. On entrance patient was poorly nourished, so a few days were taken to get
him in better condition for operation, for which he was very impatient. It was
agreed with patient that the abdomen should be opened just to the right of mid-
line and in case this operation failed and a second was necessary, the incision should
be external to opening of fistula. Under chloroform the abdomen was opened as
arranged, the small intestine traced to fistula, and two sections of bowel were found
to open into it, one being full and the other flat, contracted, and empty. Lateral
anastomosis was made between these two coils and the wound was closed without
drainage. The patient did well after the operation, and fistula almost closed.
He then failed to improve so on November 14, 1916, Dr. Snell and I operated again
and began the solution of this troublesome Chinese puzzle. We finally found the
condition was due to an old ruptured appendix the consequence of appendicitis,
with rupture and abscess formation. The operation by the Chinese doctor com­
pleted the etiology. We found the remains of about half of the appendix firmly
held in the wall of the fistulous tract with distal end sloughed away. The two
openings, as found in former operation, were freed, closed, the appendix stump
removed, and wound closed with drain. Anastomosis made at former operation
was inspected, found in good condition and left as it was. Patient did well after
operation and was discharged December 13, 1916, cured.

In conclusion, let me say that I have given you, as near as
possible, descriptions of typical cases of appendicitis in the Chinese as
they have been referred to my service in the Soochow Hospital. The
cases might have been studied with a great deal more profit both to
myself and to you but they are given just as they are. A free
discussion of this subject will be appreciated. Let me urge that in all
abdominal cases there should be a full investigation of history and
careful physical examination, with leucocyte counts in acute attacks,
and whatever else is necessary to obtain an accurate diagnosis.

THE TREATMENT OF LEPERS AS OUT-PATIENTS.

WILLIAM W. CADBURY, M.D., Canton.

For several years we have noted that a large number of lepers
attended the outdoor medical clinic of the Canton Hospital. Little
heed was paid to these unfortunates and they were generally referred
to the police with a prescription for arsenic and iron. After one or
two return visits the cases usually dropped out of sight.

The excellent results obtained in the Philippines by injections of
chaulmoogra oil were first brought to our attention in an address given
by Dr. Victor G. Heiser at Lake Mohonk, New York, in October, 1915.
In conversation with him afterward he suggested that a trial be made
of this treatment on our dispensary cases. Everyone who has anything to do with lepers should read Dr. Heiser's report on this method of treating the disease. Bercovitz has also reported success with this method of treatment in the island of Hainan, China.

My colleague, Dr. A. H. Woods, began the treatment of lepers in the outdoor clinic of the Canton Hospital by the injections of chaulmoogra oil in the spring of 1916, and since his return to America I have continued the injections.

During the year 1917 a little over 6,000 new cases applied for treatment at the outdoor department of the Canton Hospital. Of these, seventy were diagnosed as leprosy and referred to my department. All were advised to take the injections. Of the seventy cases, 61 were male and nine female. Twenty-six did not return and were not injected at all; while, in seven, only one treatment was given. Many of these applied in the first place simply to have the suspected diagnosis confirmed and when the truth was told them gave up in despair any hope of recovery. In a few the fee charged may have been more than they could pay. Thirty cents were charged in each case for the injection and a bottle of medicine.

The following routine method was employed: All cases were instructed to visit the clinic on Friday mornings only. Any who applied at other times were ordered to return on the following Friday and no treatment was given except at that time. After making the preliminary study of the case a smear was made from the nose for lepra bacilli. The weight of the patient was ascertained. Injections were given every Friday to each case that applied unless some special complication developed. The oil was prepared according to Heiser's formula:

\[
\begin{align*}
\text{Chaulmoogra oil} & \quad \ldots \quad 60 \text{ mils} \\
\text{Camphorated oil} & \quad \ldots \quad 60 \text{ mils} \\
\text{Resorcin} & \quad \ldots \quad 4 \text{ grams}
\end{align*}
\]

Mix and dissolve with the aid of heat on a water bath and then filter. The injections were made deep into the gluteal muscle, beginning with one mil and running the amount up gradually to as much as 8 or 9 mils at a dose, and then gradually decreasing the amount until one mil was reached.
### TABLE I.

#### Thirty-seven Cases Treated by Injections of Chaulmoogra Oil.

<table>
<thead>
<tr>
<th>Case Number</th>
<th>Age</th>
<th>Sex</th>
<th>Duration Before Treatment</th>
<th>Nature and Location of Lesions</th>
<th>When Began Treatment</th>
<th>Total No. of Visits</th>
<th>Total No. of Injections</th>
<th>Last Treatment</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>15768</td>
<td>40</td>
<td>M</td>
<td>8 mos.</td>
<td>Anesthesia, l. hand.</td>
<td>1917</td>
<td>25</td>
<td>47</td>
<td>1917</td>
<td>Redness and numbness greatly decreased. Face away due to nerve palsy. Face improved, but still some nodules. New areas developed on arms and legs.</td>
</tr>
<tr>
<td>15656</td>
<td>25</td>
<td>F</td>
<td>3 yrs.</td>
<td>Anesthesia, l. face, both arms.</td>
<td>1917</td>
<td>13</td>
<td>30</td>
<td>1917</td>
<td>Ulcer of foot healed. Very marked improvement.</td>
</tr>
<tr>
<td>17376</td>
<td>43</td>
<td>F</td>
<td>5 yrs.</td>
<td>Anesthesia, l. foot, l. arm.</td>
<td>1917</td>
<td>10</td>
<td>29</td>
<td>1917</td>
<td>No definite improvement. Hands became swollen.</td>
</tr>
<tr>
<td>17626</td>
<td>20</td>
<td>M</td>
<td>1 yr.</td>
<td>Anesthesia.</td>
<td>1917</td>
<td>5</td>
<td>16</td>
<td>1917</td>
<td>No definite improvement. Hands became swollen.</td>
</tr>
<tr>
<td>17983</td>
<td>17</td>
<td>M</td>
<td>?</td>
<td>Anesthesia.</td>
<td>1917</td>
<td>5</td>
<td>22</td>
<td>1917</td>
<td>Result not recorded.</td>
</tr>
<tr>
<td>17396</td>
<td>47</td>
<td>M</td>
<td>10 yrs.</td>
<td>Anesthesia, l. arm.</td>
<td>1917</td>
<td>9</td>
<td>35</td>
<td>1917</td>
<td>13 intravenous injections, 17 injected.</td>
</tr>
<tr>
<td>17609</td>
<td>20</td>
<td>M</td>
<td>?</td>
<td>Anesthesia.</td>
<td>1917</td>
<td>10</td>
<td>6</td>
<td>1917</td>
<td>Developed abscess in buttock. Skin in face thinner, less nodular.</td>
</tr>
<tr>
<td>17155</td>
<td>15</td>
<td>F</td>
<td>?</td>
<td>Anesthesia.</td>
<td>1917</td>
<td>6</td>
<td>1</td>
<td>1917</td>
<td>No change.</td>
</tr>
<tr>
<td>17146</td>
<td>14</td>
<td>F</td>
<td>6 mos.</td>
<td>Anesthesia.</td>
<td>1917</td>
<td>8</td>
<td>21</td>
<td>1917</td>
<td>No improvement. Hands became swollen. This later decreased.</td>
</tr>
<tr>
<td>171310</td>
<td>28</td>
<td>M</td>
<td>15 mos.</td>
<td>Anesthesia, l. arm.</td>
<td>1917</td>
<td>8</td>
<td>21</td>
<td>1917</td>
<td>No improvement. Hands became swollen. This later decreased.</td>
</tr>
</tbody>
</table>

#### The Treatment of Lepers as Out-patients.

<table>
<thead>
<tr>
<th>Case Number</th>
<th>Age</th>
<th>Sex</th>
<th>Nature and Location of Lesions</th>
<th>When Began Treatment</th>
<th>Total No. of Visits</th>
<th>Total No. of Injections</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>171465</td>
<td>50</td>
<td>M</td>
<td>Anes. back, rt. arm.</td>
<td>1915</td>
<td>5</td>
<td>4</td>
<td>1915</td>
</tr>
<tr>
<td>171745</td>
<td>16</td>
<td>M</td>
<td>Anes. back, rt. arm.</td>
<td>1915</td>
<td>5</td>
<td>4</td>
<td>1915</td>
</tr>
<tr>
<td>172131</td>
<td>20</td>
<td>M</td>
<td>Anes. face, l. arm.</td>
<td>1915</td>
<td>5</td>
<td>4</td>
<td>1915</td>
</tr>
<tr>
<td>172153</td>
<td>15</td>
<td>M</td>
<td>Anes. face, l. arm.</td>
<td>1915</td>
<td>5</td>
<td>4</td>
<td>1915</td>
</tr>
<tr>
<td>172984</td>
<td>30</td>
<td>M</td>
<td>Anes. face, l. arm.</td>
<td>1915</td>
<td>5</td>
<td>4</td>
<td>1915</td>
</tr>
<tr>
<td>173907</td>
<td>15</td>
<td>M</td>
<td>Anes. foot, l. arm.</td>
<td>1915</td>
<td>5</td>
<td>4</td>
<td>1915</td>
</tr>
<tr>
<td>174757</td>
<td>24</td>
<td>M</td>
<td>Anes. foot, l. arm.</td>
<td>1915</td>
<td>5</td>
<td>4</td>
<td>1915</td>
</tr>
<tr>
<td>174421</td>
<td>43</td>
<td>M</td>
<td>Anes. foot, l. arm.</td>
<td>1915</td>
<td>5</td>
<td>4</td>
<td>1915</td>
</tr>
<tr>
<td>174797</td>
<td>17</td>
<td>M</td>
<td>Anes. foot, l. arm.</td>
<td>1915</td>
<td>5</td>
<td>4</td>
<td>1915</td>
</tr>
<tr>
<td>174923</td>
<td>18</td>
<td>M</td>
<td>Anes. foot, l. arm.</td>
<td>1915</td>
<td>5</td>
<td>4</td>
<td>1915</td>
</tr>
</tbody>
</table>

#### Remarks

- Areas ring-vomale type. Very marked improvement.
- No definite improvement.
- Developed abscess in buttock. Skin in face thinner, less nodular.
- No change.
A prescription was given to each patient as follows:

R.
Liq. potassii arsenit. ... ... 1 mil;
Tr. ferri chloridi ... ... 10 mils;
Aqua ad ... ... 180 mils.

M. Sig. 10 mils twice a day.

To this treatment was often added a mixture of sodium sulphate and magnesium sulphate. The hygienic conditions could not be controlled and since many of the patients are very poor they probably had barely enough food to live on. Outdoor treatment of patients is never very satisfactory, but that something can be accomplished in the dispensary treatment of lepers our report is intended to show. We have tried intravenous injections of sodium gynocardate as recommended by Sir Leonard Rogers.3 The cases thus treated showed no change whatever while the injections were being given, although to one patient 15 and to another 13 weekly injections were given and as much as .082 gm. at one time. Later, the oil mixture was begun and improvement was noted after a few weeks.

Of the seventy lepers seen, 37 or 53% received two or more injections of the oil mixture. It is with these 37 cases that our report has to deal. There were 31 males and 6 females (84% male). Most of the cases had been sick for more than a year and several as long as ten years. In seventeen cases lepra bacilli were demonstrated in smears from the nose. In several no smear was obtained, and in others only one or two negative tests were made. All the cases were clinically typical of leprosy. The majority of the cases were between the ages of 30 and 50 years. None could be called a very advanced case; that is, in none were any of the extremities badly ulcerated or missing. Ulceration was present in only two or three. Some degree of anesthesia was present in nearly all. Many were of the mixed tubercular and anesthetic type. In some only ringworm-like patches were present with very little anesthesia.

One case attended the clinic pretty regularly from the middle of 1915 to the end of 1917. Most were seen only during the year 1917. Unfortunately, no record was kept of the number of injections given during the years 1915 and 1916.

Complications resulting from the injection of the oil were as follows:

1. Swelling or edema of the hands.
2. Necrosis and abscess formation at the site of one of the affected areas, but not at the point of injection.
The Treatment of Lepers as Out-patients.

3. Induration and pain at the site of injection.
4. Abscess formation at the site of injection.
5. Oil embolism in the lung.

The swelling and edema of the hands developed in three cases after the injections of oil were started. There was severe itching associated with it. The general condition of these patients showed little improvement and injections were given intermittently or stopped entirely on this account.

In one case, necrosis of the face occurred twice during the course of the treatment. The tissues near the lower jaw were affected and a large abscess formed which, when lanced, was found to contain dark granulous pus. After the healing of the abscess the general condition of the patient seemed to be markedly improved. This case was also one of those that developed an abscess at the site of injection.

The injection of the oil, especially when more than five mils is given, is not free from discomfort, and for several days following there is more or less pain and induration, and sometimes fever. The efficacy of the treatment is proved by the fact that patients continue to come for injections week after week in spite of this discomfort. In order to prevent the induration from becoming too severe, injections were given alternately first in one buttock and then in the other.

An abscess formed at the site of the injection in two cases. Of course this may have been the result of faulty technique, but the tone of the tissues is not so good in these patients as in normal individuals. In each case the abscess rapidly healed after incision and drainage.

Much the most alarming symptom was pulmonary oil embolism. In several instances, before the contents of the syringe were completely discharged, the patient began to cough. In most cases this lasted for a few minutes and nothing further happened. In one boy, however, there was faintness and a rapid pulse, the cough persisted and the next day there was fever. Consolidation of the base of one lung appeared and the patient was sick with fever and cough for several days. At the end of a week there were no signs of the trouble. In this case, when the needle was withdrawn there was a spurt of blood so that evidently one of the larger gluteal arteries was punctured. In order to avoid this complication we suggest that a little suction be made on the needle after inserting it and before the oil is injected.

Among the signs of a favorable effect of the treatment were the lessening of anesthesia, itching and pains in the limbs, and desquamation of the nodular and erythematous areas. This latter effect was
always soon followed by a flattening of the elevated patches and a paling of the color.

RESULTS.

Unfortunately, we have no record of the result of treatment in eleven of the cases, although some had received several injections. It may be safely inferred that these cases showed no change for the worse and had remained practically stationary. Marked changes were always noted on the history card. Our figures on results therefore have only to do with 26 cases in which a definite statement was made.

### TABLE II.

Results of Treatment according to the Number of Oil Injections Given.

<table>
<thead>
<tr>
<th>No. of Inj.</th>
<th>No. of Cases</th>
<th>Arrested</th>
<th>Improved</th>
<th>No. Change</th>
<th>Hand</th>
<th>New Areas Appeared</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>...</td>
<td>...</td>
<td>1</td>
<td>1</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>3</td>
<td>...</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>...</td>
</tr>
<tr>
<td>5 to 10</td>
<td>...</td>
<td>9</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>...</td>
</tr>
<tr>
<td>11 to 20</td>
<td>...</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>...</td>
<td>1</td>
</tr>
<tr>
<td>21 to 30</td>
<td>...</td>
<td>3</td>
<td>3</td>
<td>...</td>
<td>...</td>
<td>1</td>
</tr>
<tr>
<td>31 to 40</td>
<td>...</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>41 to 50</td>
<td>...</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>...</td>
<td>1</td>
</tr>
<tr>
<td>51 to 60</td>
<td>...</td>
<td>1</td>
<td>1</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Totals</td>
<td>26</td>
<td>5</td>
<td>16</td>
<td>5</td>
<td>...</td>
<td>...</td>
</tr>
</tbody>
</table>

### TABLE III.

Results according to the Number of Months under Treatment.

<table>
<thead>
<tr>
<th>No. of Months under Treatment</th>
<th>No. of Cases</th>
<th>Arrested</th>
<th>Improved</th>
<th>No Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 or more</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>6 to 12</td>
<td>10</td>
<td>2</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>1 to 5</td>
<td>10</td>
<td>...</td>
<td>7</td>
<td>3</td>
</tr>
</tbody>
</table>

By reference to Table II it will be noted that of those who received two or more injections, five or 19% showed signs of complete arrest of the disease. For months no new areas had appeared. In some patients all discoloration of the skin had disappeared, though in others this was not the case. All nodular areas had subsided and become flat. Anesthesia, in some, entirely disappeared, while in others numbness
The Treatment of Lepers as Out-patients.

persisted. Subsequent bacteriologic tests were only made in one case and in this a positive became negative. The patient himself felt well and was known to resume his work and intercourse with men.

In sixteen, or 62%, the patients showed definite improvement, in some more and in some less. In five, or 19%, no definite change had occurred, chiefly because treatment had not been applied long enough. In no case when the patient was last seen was the condition worse than when treatment was first instituted. In those cases where new areas appeared during treatment these subsequently faded again.

In Table III it is seen that the proportion of cases improved is greater among those who had been observed for longer periods of time. Of course this means that they had received more injections of oil.

Conclusions.

1. The employment of intramuscular injections of the chaulmoogra oil mixture is the most effective treatment of leprosy. Even where other valuable hygienic and therapeutic measures cannot be employed this method alone may result in marked improvement and even arrest of the disease.

2. Complications resulting from the injections, though they may cause inconvenience, need not be looked upon as serious.

3. This treatment may be successfully employed in an out-patient dispensary. Though some of the cases will not constantly return for treatment until cured, yet about one half may be counted on for returning often enough to receive distinct benefit.

References.


Blastomycosis of the skin is a rare disease. It begins as a small papule which in the course of several weeks becomes pustular and breaks down into an ulcer. This enlarges so as to form a patch and new lesions may appear at the periphery. As the disease extends a papillary growth is formed with fissures of varying depth which give it a verrucous or cauliflower appearance. A sero-purulent discharge is usually present and can be squeezed out from between the papillary projections. In this discharge the blastomycetes, the cause of the disease, can be readily seen under the microscope. The lesions occur most frequently on the exposed regions of the body, as the face, neck, hands, wrists, and lower extremities. As a rule, the patch is of slow growth, requiring several months to attain the diameter of an inch. If the infection becomes systemic it is of serious import, but in the great majority of cases there is no serious disturbance of the general health. The disease untreated becomes chronic. The administration of large doses of potassium iodide will generally effect a cure.

Report of Case.—Patient, Mrs. Woo, of Yangchow, aged 49, by occupation a street hawker. She came with a patch of nodular swelling over her left elbow. Owing to her ignorance, peculiar dialect, and nervous excitement, little could be ascertained as to the family history and the exact origin of the disease. She said it had been contracted in Shanghai over a year ago. It started near the elbow as a small nodule which after a time became pustular and ulcerative; slowly extending, it then became a granular, papillomatous growth with purulent exudation and crusting. Upon examination a swelling was observed extending across the left elbow, over an area about six inches long and fully four inches wide. The surface was covered with ir-
regular elevations of papillomatous appearance and was surrounded by a dark red areola with slight induration. At the upper part of the area healing had partly taken place as the surface there, instead of being warty and of a deep red color, was flattened out with pinkish-white irregular scars. The most typical features of the disease were seen at the margin of the patch. Here it was sharply defined, purple in color, about \(\frac{3}{4}\) in. wide and strewed over with a great number of miliary abscesses. Altogether there were upwards of 25 points of suppuration. The parasitic organisms were found in large numbers in the glairy discharge from the punctured abscesses, and were well seen under microscope by adding to the pus a little caustic potash solution. The organism is a spherical, doubly contoured, vacuolated body, varying in diameter from 10 microns to 15 microns. It occurs singly or in pairs, rarely in groups. It proliferates by gemmation like the yeasts, and readily takes haemotoxylon and aniline dyes. Cultures were made with the pus from the abscess but no growth was developed, much to our disappointment.

As to subjective symptoms the patient did not complain of pain or itching, but some tenderness over the abscess was elicited on pressure. Her general health was not disturbed, although the blood examination showed slight anemia. At the time of her visit, after taking specimens for examination and photographing her the patient was in a hurry to go home. The ulcerated patch was therefore quickly disinfected with Tr. Iodine and an antiseptic dressing applied. She was directed to take large doses of potassium iodide and advised to come back in a week for further treatment. To my regret she never returned.

**Differential Diagnosis.**—This is the first case observed and diagnosed microscopically in the Skin Clinic of St. Luke's Hospital, Shanghai, and very few cases of this nature have ever been reported from the province of Kiangsu.

The cutaneous manifestations of the disease under consideration in many points resemble those of tuberculosis verrucosis cutis, syphilis, and sporotrichosis. Of course the diagnosis of blastomycosis can only be made with certainty by the microscope and cultures. Tuberculosis, as a rule, is more apt to attack younger persons, and is more often limited to small areas about the lower forearm and the ankle. In syphilis, besides the cutaneous lesions, there are usually concomitant symptoms of infection. Salvarsan rapidly improves the symptoms and a positive Wassermann reaction should be obtained. As to sporotrichosis the infection usually follows the lymphatics which is not the case in blastomycosis. For the differentiation of these two diseases reliance must be placed on the use of the microscope and observation of cultures.
ARTIFICIAL ANUS: REPORTS OF TWO CASES.

C. C. ELLIOTT, M.D., F.R.C.S.E., PAONING, SZE.

An artificial anus differs from a faecal fistula in that the whole intestinal content escapes through it. The two cases reported below are of interest from a pathological rather than from a surgical standpoint; in one case a condition supposed to be almost incompatible with life having existed for many years.

The first case, a male aged 31, came to the hospital in the autumn of 1914, presenting the appearance shown in the photograph. Eighteen years ago, at the age of thirteen, a cow had gored him, tossing him over a precipice. The animal's horn had first caught and torn open the prepuce, then wounded the right iliac region of the abdomen, while his fall on the rocks laid open his scalp to the extent shown by the scar. Compelled to beg, he became known throughout a large country district, the local magistrate making a standing offer of reward to anyone who could heal him.

For eighteen years his life must have been one of insupportable anguish. Liquid faecal matter was discharged at short intervals. The seven inches of prolapsed bowel, being sensitive to friction, made him bend forward as he walked and the mass waved uncannily to and fro with the peristalsis. As the wound was of the small intestine, even his ravenous appetite could not supply the needs of his body. Moreover, he was heavily infected with ankylostoma.

On October 30, 1917, the abdomen was opened by a median incision. The site of injury was found to be the lower part of the ileum. From long disuse the distal portion of the bowel was contracted to the size of one's little finger. A lateral anastomosis was performed between proximal and distal loops of bowel. Owing to the above mentioned contraction, this was no easy matter, and it seemed doubtful whether the new opening would functionate. For ten days after the operation only flatus passed per anum, then came a small amount of faeces. By degrees more and more passed, till we felt that the new route could be depended on if the old were closed.

The patient was now treated for ankylostomiasis and an attempt was made, without much success, to improve his general condition. A second operation was undertaken with the object of closing the artificial anus. After elaborate cleansing of the skin an elliptical incision was made around the opening, the bowel freed from the parietes, the
PROTRUSION OF BOWEL WITH ARTIFICIAL ANUS. (Elliott.)
opening in the bowel closed with three rows of sutures and the abdominal wall sewn up. Here our troubles began. Post-operative pneumonia developed, then abscess of the lung with *B. coli* infection. Then the abdominal wound broke down and the fistula reopened, so that his plight was worse than before. The fetid sputum and the abundant faecal discharge made him quite the hardest case to nurse that we have ever had in the wards. Nor was it until three months had elapsed that death came to his relief and to ours.

*Comment* :—Probably it would have been better practice, at the second operation, to have reopened the abdomen in the middle line and severed the proximal loop of bowel between the anastomosis and the fistulous opening, rather than attempt to do anything in an area where the excoriated skin made asepsis impossible.

The second case, a boy aged 16, was admitted in September, 1915. Four years ago he had been gored in the abdomen by a cow, soon after which a fistulous opening formed. Finally, the entire faecal discharge was passed by this route. He became a beggar, moving about in a squatting attitude, partly to protect a sensitive mass which protruded from the aperture; partly, no doubt, to excite sympathy. In the pursuit of his vocation he "crawled" 360 li to the city of Tungchuan, where Dr. Lucy Harris, of the Friends' Mission, saw him and sent him to Paoning.

*State on Admission* :—A bright, intelligent boy; paresis of lower limbs from disuse; unable to stand erect, or even to extend the limbs. In the left inguinal region was a red, raspberry-like mass the size of a mandarin orange. This corresponded to the "spur" formed in the operation of colostomy, being formed by the posterior wall of the bowel, which, as it bulged forward, became filled with new tissue and could not be reduced. Above and below this mass could be found the afferent and efferent openings of the bowel. A rectal tube passed per anum was made to appear below the "spur," showing that the site of injury was the iliac colon (part of the "sigmoid flexure" of our student days).

*Operation* :—The abdomen was opened by an elliptical incision, the bowel freed from the parietes, the "spur" entirely dissected away and the continuity of the bowel restored by an end-to-end anastomosis. After making an uneventful recovery and regaining to some extent the use of his limbs he left us to serve a man who had taken pity on him.
A CASE OF TUBERCULUM DOLOROSUM.

O. T. Logan, M.D., Changteh, Hunan.

Although the painful subcutaneous nodule or tubercle, known as tuberculum dolorosum, fibroma, neurofibroma, neurinoma, is said to be not uncommon in Western lands, during nineteen years of hospital and dispensary work in Changteh, a city of about 100,000 inhabitants, only two such tumors have been recorded. In each instance the patient was a woman, and the tumor was on the outside of the leg, below the knee. An abstract of the history of the more recent case is as follows:

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Tuberculum dolorosum, before operation.

Case 998/17. Female, aged 31. Five or six years ago she noticed a white elevation on the outside of her leg about half way between the knee and calf. This spot soon became very sensitive to touch and there occurred frequent paroxysms of pain "like the stinging of a wasp." These attacks had no reference to accidental pressure on the spot. The paroxysms increased in frequency until during the past two years she has had nine or ten attacks during each twenty-four hours. The night attacks were more frequent than those of the day. To judge by the patient's conduct while under observation in the hospital, the attacks lasted about six minutes, during which time she would always rise from her bed or chair and limp about the room holding her leg with her hand above the tumor and crying out, evidently from pain.

Examination of the tumor was impossible until the patient was etherized when it was felt as a hard nodule under the skin.

The growth was shelled out and found to be a hard mass with a shiny surface. The color was a very light yellow. The measurements were 14 mm. x 12 mm. x 10 mm.

The paroxysms of pain ceased after the removal of the growth but it is too early to say whether they will return or not.

The histopathology of these little tumors is still the subject of debate, but according to Adami and Nicholls, *Principles of Pathology*, 2nd edition, Volume II, pp. 632-634, "the so-called fibroma or neuro-
fibroma, is, according to the more recent studies, not developed from the connective tissue proper of the peripheral nerves, but from the cells which compose the sheaths of Schwann of the medullary nerves, cells which are of neuroblastic and not of mesoblastic origin. Following Verocay, these tumors should be spoken of as neurinomas. Here it may be noted that tumors of this nature are generally multiple, and are occasionally to be found in great numbers upon most of the peripheral nerves.''

SCARLET FEVER IN CHEFOO SCHOOLS.

ALFRED HOGG, M.D., Chefoo.

In view of the increasing prevalence of scarlet fever in China, the following particulars concerning a mild epidemic of the disease which occurred in the spring of 1917 among the children in the schools of the China Inland Mission, Chefoo, may be of general interest.

In January, 1917, a large contingent of children came north from Shanghai, arriving on January 30. On February 3rd, two boys were found ill and a rash appeared. Later on, information was received that a passenger on board who landed at Weihaiwei had developed scarlatina on the following day, which suggested that infection occurred on the ship. The two boys who first developed the disease had not been much together. It is to be noted that the type of scarlet fever prevalent in Shanghai at the time was very virulent, whereas the cases which developed in Chefoo were very mild or of medium intensity.

On February 3rd, a little girl in one of the houses on the compound was taken ill and in a day or two the rash of scarlatina appeared. She had been resident in Chefoo and was not on the steamer, but had slight contact with newly-arrived children who did not belong to the schools. A possible source of infection is that at the close of the holidays many of the school servants return from their country homes where there may have been cases of scarlet fever.

Each of the above foci became the centre of one or two fresh infections, which in the Boys' School ran on for many weeks, each fresh case generally managing to infect one or two others before showing any symptoms, the more so as the type was mild, and often the rash was the first indication of anything wrong. (Query: As in several of the cases the symptom of "strawberry tongue" was absent, were all the cases true scarlet fever, or were some of them a pseudo- or para-form?) Every suspicious or contact case was promptly
isolated for a week or eight days. Apparently, some "contacts" did not develop a rash till the eighth or ninth day.

On March 29, 1917, the first case in the Girls' School appeared. There had been no contact with other foreign children, or very little between the schools, and practically no contact with the Chinese. As scarlatina has formerly been very rife amongst the natives in Chefoo, and as some of the sewing amahs and servants come daily to school from their homes, a fresh avenue of infection is possible. Other cases began to appear in the Girls' School as in the Boys', and mostly of the same mild type. A few suspected cases were isolated, one of them being Mary B. who was kept in a small ward alongside of two well-marked cases; after a week or two her skin peeled to a moderate extent. All cases in isolation were being treated with daily inunctions of equal parts of eucalyptus oil and olive oil, while the throat and nasal passages were drenched and gargled with a solution of glycerin of carbolic and borax. The normal or mild cases were sent back to school in a month; the more severe ones and those with enlarged glands were kept isolated for six to eight weeks.

On May 24, after the Girls' School was apparently free, Mary B. (and another girl who had been in contact with her) developed the rash in a more severe form, several weeks after she had returned to school. Both children had a typical attack of real scarlet fever. No other cases followed immediately from these, but on June 19, another case appeared in the Girls' School, and a third on July 13.

On April 3, a single case appeared in the Boys' School, that of a boy newly arrived from Shanghai. The disease manifested itself on the fifth day after arrival. On June 11, there was again a solitary case.

On June 20, another case appeared in the house which had its first case on February 3, with other contacts later on. This was also a solitary case.

The inferences I was able to draw from the epidemic were:

(a) that in a community in close contact with an outside Chinese population, there is likely to be infection from outside sources as well as from contact with the sick.

(b) That prompt segregation and isolation of the fresh cases are effective in the severe type, but fail to check infection in the mild types.

(c) That there seems to be a mild type of red rash fever, very similar to scarlatina but not identical with it and which does not protect from scarlatina. Several of the patients in this epidemic had been certified as having had the milder disease previously.
That moderately close contact with a scarlatina patient who is kept very clean by the use of antiseptics will not necessarily cause infection even to the susceptible. Mary B. was a month in a ward with two real cases, yet escaped infection during that time, only to get it some weeks later.

That the free use of disinfectants to skin and throat in all probability considerably lessens the risk of infection, except possibly in "carriers" who are infective for many weeks. We did not find any good evidence of isolated cases getting infection from discharged patients; but that is probable. Two or three cases were apparently due to imperfectly disinfected dormitories. Formaldehyde was very freely used; but fumigation is, I think, only partially efficient.

ALCOHOLISM IN CHINA.

W. H. PARK, M.D., SOOCHOW.

That alcoholic drinks are made and sold in immense quantities in China is a statement that I think cannot be gainsaid. A few months ago a report came from a certain province that the officials and rich men had clubbed together and bought over half a million dollars' worth of rice at one time to make samshu, and that the poor were complaining that rice as an article of food was scarce and dear. Distilleries and breweries are found all over the country, more numerous in some places than in others, but everywhere more numerous than is good for the people. In addition, the farmers in their own homes make for themselves more alcoholic liquors than are made probably by the farmers of any other country in the world. The substances from which these liquors are made vary with the part of the country producing them, but there is probably nothing in China from which they can conveniently be made that is not utilized.

All these liquors are not made for fun, neither are they made to throw into the river, but they are made to drink and the Chinese drink them. Many ricksha coolies set aside a cent or two every day for drink, and so do the wheel-barrow coolies, the chair coolies, and all other coolies, the boatmen, and even the beggars whenever they can get the money. Farm laborers stipulate that they shall have so much liquor daily in addition to their wages. The farmers who make their own liquors—and nearly all well-to-do farmers in this part of China do make their own liquors—drink them whenever they want to, which
is generally every day; and the small farmers do the same as the beggars—drink whenever they can. So do the masons, the carpenters, and all other laborers, and as for the business men and professional men, merchants, doctors, priests, officials, etc., they drink more than the coolies and laborers. The worst drinkers of all are the idle rich. Recently I was called to see a rich man who rides up town every day and spends his time in drinking rice beer, of which he cannot hold enough to make him really drunk, talking with his drinking friends, smoking a water pipe, and hawking and spitting. In common with myriads of Chinese, he has the idea that he was born with a phlegm-producing body, *t'ao ti tss* (痰子), and he must spit up a certain amount of phlegm every day or he will not be healthy, and he uses the water pipe to help bring up the phlegm. The more he drinks, smokes, and hawks, of course the more he can spit; and the more he can spit the more he thinks he ought to spit; and when he gets so that he cannot spit, as happened when I was called to him after a fall from his horse, he is frightened out of his wits for fear he will choke to death. After spending his days as above described, he usually returns home at night and tries to get drunk on samshu before going to bed.

The following week I was called to see a rich man suffering from alcoholic paralysis. When I asked about drink he smiled and said his nickname among his drinking friends was "eight catties," but really he hardly deserved the name for, as a matter of fact, he only drank six catties (nine pints) a day, and some days as low as five. Since seeing these two men I have had in my clinic an ex-official who, according to his own statement, could out-drink either of them. He has all sorts of gastro-intestinal disturbances with beginning ascites and cirrhosis of the liver due to drink.

Not long ago I lectured to a large Sunday school in Soochow on the evils of alcohol and told the members, among other things, that I saw diseased conditions due to drink every day of my life that I saw any patients at all. I had not seen any evil results that day because I had not seen any patients, but expected to see some bad cases as soon as I got home. Sure enough, the first two patients to enter my office, on my return, met my expectations as completely as if their cases had been made to order. The first patient was a well built, strong-looking young farmer, but he had a pinched suffering look on his face, and when I asked him what was the matter he said every time he swallowed any food he felt as if his stomach would burst wide open. His mouth felt as if he could eat three bowls of rice, but his
Alcoholism in China.

stomach would not let him eat even one. He had other statements to make and they sounded, word for word, like the text-book descriptions of the gastro-intestinal symptoms of cirrhosis of the liver. I asked if he drank and he said not even a little. I then asked if he drank very much before he became an invalid, and he replied there was not a drink in the whole catalogue with which he was not familiar, but his favorite was pure samshu of which he could take half a catty at a sitting and never show a sign of being drunk. My next patient was a little girl, only four years of age, with the general dropsy of kidney disease due to drink. I suspected alcohol the minute I saw the child, and asked her mother if the little one drank. "She sees another person drinking and then she drinks also," replied the mother. I asked who was the other person and was told it was the child's father. On another day a man came to my clinic who was taking "Tiger Bone Tincture." Tinctures, or liqueurs, or medicated wines made from secret formulæ, are even more numerous in China than patent medicines are in America. So much for my private patients and the ordinary run of those who come to the clinics.

Every alcoholic ailment that can be found in other countries can be found in China in equal abundance, and the Chinese know more about some of them than we think they do. The other day I was examining the distended abdomen of a fine old gentleman for ascites, and he said I need not look for water as he had never been a drinker, therefore he was sure the distension was due to gas and not to ascitic fluid.

Alcohol is also in partnership with venereal diseases in China as in other countries of the world. Many are the cases incited, relighted, and prolonged by its use. One day an elegant lady of good family came to my clinic with syphilis and when I lifted my eye-brows she said her husband got drunk one night and went outside to "play."

We should keep the possibility of alcoholism in mind in every important case we are called upon to treat in China, without any regard to age, sex, or condition in life. Alcoholism may not be apparent at first sight owing to the Chinese way of drinking, and to the fact that so many of them quit drinking before coming to see us, but it is present just the same. In getting our histories we have to be on the alert else alcohol may never be mentioned. We are all looking for germs and worms and we must keep up the search, but at the same time we must not neglect the "worm of the still." If we do, we shall see many a case we cannot understand, and if we write down a diagnosis it may be as unreliable as the history given by the patient we are trying to help.
When the preceding number of the Journal was issued the epidemic of pneumonic plague in North Nanking, China was well under control and the danger of its spreading southward seemed to have passed. But early in March it was reported that cases of plague had been discovered in Nanking. Fortunately the prompt and vigorous measures taken by the foreign physicians in the city with the more or less harmonious co-operation of the Chinese doctors and officials, were successful in checking the epidemic. Altogether, there were only about twenty deaths. When we remember the records of the appalling mortality due to plague a few centuries ago in cities certainly no worse from the sanitary point of view than Chinese cities, this quick suppression of the plague in so large a city as Nanking and with so few deaths, is certainly a notable triumph of modern sanitary science. It is most gratifying to learn that in consequence of this visitation a permanent Department of Public Health will probably be formed in Nanking. In other cities also the same gratifying progress in public sanitation and hygiene is reported so that it seems as if the Chinese are beginning to lay the foundations of a Public Health Service.

A striking testimony to the value of medical missions, not only in the direct treatment of the sick and injured but also as a means of educating the Chinese people so that opposition to measures necessary for the prevention and control of epidemics is either lessened or wholly removed, is furnished by a communication sent to the “Peking Leader,”
March 17, 1918, by Dr. S. P. Chen of the Chinese Plague Preventive Service. In this letter he describes the serious difficulties encountered by the department in battling with the recent epidemic of pneumonic plague in north China. He ascribes these difficulties partly to the lack or absence of the necessary authority of the Central Government over the local officials, but mainly "to the ignorance on the part of the people of modern medical methods due primarily to the complete absence of missionary or other medical institutions in the districts affected by the epidemic." This ignorance "was the almost insurmountable obstacle encountered by the plague doctors, and was one of the most if not the most important factor in extending the duration of the epidemic."

Almost in a tone of remonstrance, Dr. Chen writes: "It appears strange that this field has not been invaded by the medical missionary, although mission stations have existed for many years in these regions. Modern medical institutions of any kind are conspicuous by their absence. It need hardly cause surprise then that the people did not take kindly to modern preventive methods when they were so suddenly forced upon them, especially as these in many ways affected their personal liberty, and in many cases interfered with their family life, without conferring any apparent benefit. That there is no cure for the disease no doubt helped greatly to shake the confidence of the people; and yet it would have been more than useless to tell them that so far no cure had been found for plague, because such explanations would only serve to further discredit western medicine in their eyes.

"Had modern medical institutions existed in these parts, the history of the recent epidemic would have been considerably altered. Their existence would have paved the way for the attack by giving the people an insight into the advantages of western medical science over Chinese medicine, and by thus creating a more favourable atmosphere for modern medical methods to be applied. The experience of those medical missionaries who have done pioneer work in China will readily confirm this view."

The annual report of the Joint Finance Committee of the British Red Cross Society and its auxiliary, the order of St. John, for the year ended October 20, 1917, has just been published. During the first three years of the war the Red Cross received £8,451,790. 17s. o½d; it expended £7,178,939. 4s. o½d, leaving a surplus of
In 1916 the administrative expenses amounted to 7d. or 2.92% in the pound; during 1917 to 3.86d. or 1.61% in the pound of expenditure. The interest on deposits covered the whole of the administrative expenses, so that the Committee is able to report that "every penny of money which the public has subscribed during the year has been spent on the direct succour of the sick and wounded." After reviewing the numerous departments and activities of the Red Cross, a leading English newspaper remarks that "the accounts which accompany the report are of model clearness, a real triumph of accountancy, showing all Red Cross spending since the beginning, and completed with remarkable promptitude despite war-time difficulties," and that "it can safely be asserted that no other fund for relief work in war-time can produce a record that more thoroughly entitles it to the support of British people at home and throughout the Empire."

It is little or no disparagement of the Chinese Red Cross Work in China. It has been in existence and the inexperience of its officers, to say that it has not yet attained to the high standard of the British and American Red Cross Societies. It does not comply with those requirements which in the West ensure confidence and support, and its prestige is weakened by its lack of control over Red Cross work, or what is supposed to be Red Cross work, in the interior. Numerous Red Cross societies are formed by the Chinese throughout the country without authority, and their purpose is not to succour the sick and wounded, but to protect the lives and property of those who join them on the payment of a small fee. Moreover, the privileges of the Society are abused by the military, and the badge is even worn by armed robbers. The central Society needs to be on a stronger and more extended basis, and the Chinese generally should be taught the meaning and purpose of Red Cross work, so that no support would be given to the formation of societies of a dubious character.

In friendly agreement with the Chinese, chapters of the American Red Cross are now being formed in various parts of China with the principal object, at present, of helping to meet the medical and other needs of the Allies during the war. This is a development of Red Cross work of very great importance to all medical missionaries in China. During revolutions and inter-provincial struggles, when the
care of a great many sick and wounded falls upon the medical mis-

missionaries near the field of action, independent Red Cross Societies

are sometimes hastily formed by them and their friends to meet

the emergency. This procedure may be necessary in the existing

circumstances—indeed it is hard to see what else can be done—yet

it must be confessed that it is irregular and because of its irregu-

larity cannot be safe guidance for the Chinese.

IT is now possible for us all to get on firm

Join the American

Red Cross. for the Chinese exclusively. The British Red

Cross Society has no branches in China, and

its membership is confined to those who have obtained its certificate

by examination. The American Red Cross, with its broader and

more flexible organization, is able to welcome all Americans through-

out China to become members, and as a patriotic duty at this
critical juncture it is hoped that all will join; it also welcomes
those of other nationalities to become associate members, for these
chapters in China are not exclusively American either in their
organization or activities. Whatever money and supplies are col-
lected are for the good of all. Ninety per cent of all funds raised
by the parent society—one of the greatest philanthropic agencies
the world has ever seen, with its adult membership of over
22,000,000—has been spent abroad, and by far the greater part of
its service has been rendered to other nations. If all medical
missionaries in China will join this society our Red Cross work
will then be on a firm and proper basis. Mr. Julean Arnold of
Shanghai is now engaged in organizing chapters and he will be
glad to furnish whatever information may be desired.

The question is often asked, will the prohibition

The Chinese and

Intoxicants. of the sale and use of opium in China lead to an

increase in the consumption of alcohol? Behind

the question lies the assumption that the Chinese

are, and always have been, a very sober people, so that if they

should become addicted to alcohol it will be something new.

As to former times this assumption is not correct. In his

"Adversaria Sinica," Giles collects from the Chinese literature

of the past much that has been written in praise of wine, and

cites numerous instances of princes, statesmen, philosophers,

and poets who were accustomed to drink deeply. In the
The China Medical Journal.

second century a law existed which prohibited more than three persons from drinking together, without special cause and license, so drunkenness must also have been common among the people at large. In opposing a memorial urging the prohibition of the use of wine during a time of famine and rebellion, a famous writer of the same period argued that the emperors of the Golden Age had drunk wine, that Confucius had drunk wine, and—rather a novel argument—that many acts of bravery had been performed by horses well primed with liquor. These horses must have been ridden by soldiers in the same plight. Wang Han, of the eighth century, composed the following short poem on military life:

'Tis night: the grape juice mantles high in cups of gold galore; We sit to drink,—but now the bugle sounds to horse once more. Oh, marvel not if drunken we lie strewed about the plain; How few of all who seek the fight shall e'er come back again!

"Here is wine," writes another, "let us sing. For man's life is short like the morning dew; its best days soon go by. But though we would rejoice, sorrows are hard to forget. What will make us forget them? Wine, and only wine." Wine is one of the few things which seem able to obliterate the distinctions between the East and the West. Topers all over the world share the same sentiments and sing the same songs.

In the great "Concordance" to Chinese literature, there are over 300 headings under which the numerous references to drunkenness are arranged, such as drunkenness in the morning, evening, spring, summer, autumn, in company, when solitary, blind drunkenness, etc.

The evidence seems conclusive that in the past the Chinese were not a very temperate people.

Are they temperate now? Is the drinking of alcohol to excess common at the present time? Dr. Park's article in the present number of the Journal is evidence that it is common in Soochow. Drunkenness is also said to be terribly common in Sining, Kansu, a small city where there are no less than eleven native distilleries and the liquor produced contains 70% of pure alcohol; the Chinese, Thibetans, and aborigines there all drink heavily. Doubtless the same story can be told of other cities.

On the other hand, a drunken person is very rarely seen on the streets of a Chinese city. In Shanghai, during 1917 there
were only 64 arrests for drunkenness among a Chinese population of 644,580. That is a record very hard to beat. And how many hospitals in China can report cases of delirium tremens?

According to Rodney Gilbert the Chinese drink as much as they can, but the fear of "losing face" acts as a deterrent to open drunkenness. He writes: "Even in this temperate age, the ability to drink wine is a polite parlour accomplishment in China and is considered a certain sign of robust manhood and superior natural endowments. The flat-chested, tea-sipping individual, who will not risk a cup, does not refuse to drink because of his virtuous regard for temperance, but because he is afraid of making himself ridiculous by displaying his weakness. Confucian scholars of the highest rank are often proud of their ability to emulate the ancients by tossing off whole kettles of fire-water and are never so pleased as when they find a boon companion who combines in his person the wisdom of a Chinese encyclopaedia and the absorbent properties of a sponge. It is no impropriety to succumb to a great quantity of alcohol, in fact it is rather heroic, but one loses prestige by succumbing to a little; and as the Chinese, owing to their simple diet, respond quickly to stimulants, there are very few successful topers among them. This accounts, at least in part, for the far-famed temperance of the Chinese people."

But there is another point to be considered. In China the struggle for existence is very keen, and it is quite likely that in the course of centuries families with a propensity to drunkenness have been weeded out to a very great extent, so that the Chinese, as a nation, may be far more temperate to-day than in former times, because fewer among them are born with an hereditary inclination to alcohol. What drunkenness there may be is an acquired habit, which is far more easily restrained than the craving of the born drunkard.

Whatever the facts and explanations may be it is a relief to know that Western nations with their civilization cannot be accused of having led the Chinese astray from the paths of sobriety. There is a general impression that the suppression of the opium traffic is actually leading to an increased consumption of alcohol, but all must earnestly hope that in the near future the country will be able to rid itself of both evils.
TYPHUS FEVER IN WEIHAIWEI.

The Chinese press has recently contained statements as to the epidemic of typhus fever in the depot of the British Emigration Agency in Weihaiwei, which are grossly overdrawn. The authorities of the Agency have now furnished the following facts as to the epidemic:—

On 29th January, 1918, there were over 800 perfectly healthy coolies in the depot who had passed the quarantine period for all possible epidemics. But on 30th January and on 2nd February, some 1,650 further recruits arrived from the North via Tientsin and Chinwangtao. Owing to the spread of pneumonic plague in Shansi these men were put in quarantine for 7 days. But the incubation period for typhus is from 8 to 14 days and it was found later that among these two shipments there had been typhus-infected coolies. The diagnosis was not clear until the 19th February, but directly it was so the depot was reconstituted into a segregation and hospital camp under Dr. A. K. Baxter, S. M. O. of the Depot, and Captain L. A. C. Panton, C.A.M.C., as Deputy S. M. O.

The results attained in checking and preventing the spread of this very infectious disease and in treatment of the sick have been most remarkable.

Out of some 2,500 coolies in the depot there have only been 311 admissions to hospital for typhus and only 13 deaths up to the 18th March.

On 18th March, the date of our news, there had been no admissions to hospital for five days.

The epidemic has therefore been stamped out in the depot completely, and no single case has developed outside of the wire fence.

Unfortunately, the late Dr. A. K. Baxter, who from the nature of his appointment and from his knowledge of Chinese was the Medical Officer in charge of the sick coolies before the diagnosis was confirmed, was infected and succumbed as a result of his noble work.

There is, however, probably no epidemic of this disease on record which has been suppressed so rapidly and effectively as in Weihaiwei.

Of the twenty British in the depot at the time of the outbreak of what was known to be a deadly disease, not one flinched or objected to any detail of work allotted to him. Disinfecting and bathing of coolies, dealing with infected clothing, watching exits and entrances, keeping
the men in good spirits and occupied, all was willingly and cheerfully performed.

Under such example the Chinese of all grades followed, and of them also it must be put on record that their conduct was irreproachable.

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PNEUMONIC PLAGUE IN NANKING.

Dr. F. F. Tucker, of Tehchow, the special medical officer of the Ministry of the Interior, was sent to Nanking to report on the epidemic of plague in the city, and the measures taken for its control and suppression. The following forms part of his Report dated March 28, 1918:

"Based on observations made in the three northern plague provinces, we are surprised that there has been so little plague here, even allowing that some of it has been covered up. It is now three weeks since the first death, and not over 20 deaths are on record. We are also surprised that the authorities did not earlier avail themselves of the services of the foreign physicians here, freely offered. However, after conference with the civil and military governors, and a degree of insistence with an official or two in the local plague bureau, this assistance has been arranged for now, and Doctors Macklin, Sloan, Smith, Perkins, Hutcheson, and Charles are working in co-operation with the Chinese physicians in the six sub-stations of the city, to-day being the first day of service. The results sent in to-night to headquarters indicate a good spirit of co-operation at last. Some 23 deaths were reported and investigated to-day, but not one of them proved to be from plague. Two children who are on the sick list are suspicious.

"Had the Plague Prevention Bureau been established earlier here, not only could lives have been saved, but a huge economic loss would have been avoided. One shudders to think what might have happened had the outbreak taken place in cold weather, with people huddled together in unventilated rooms night and day. Much credit is due Dr. Sloan and others for aiding in bringing matters to public attention, and for constantly urging the Chinese to perform their obvious duty. The authorities are surprised that the foreign physicians demand no salary—and it may be hoped that this lesson in altruism will not be lost. Perhaps the Bureau is spending money too freely.

"Attempt is now being made to have all cases of illness reported, and several officials of high rank, including the military governor, have
expressed the hope that this expensive misfortune will result in a permanent board of health for Nanking—surely a desideratum."

LESSONS FROM THE EPIDEMIC.

The correspondent of the *North China Daily News*, in a communication dated March 29, 1918, makes the following interesting comments:

As an aftermath to the plague situation it may be noted, first, that passenger traffic out of Nanking was only partially suspended. The big streams of travel, railroad and steamship lines, were closed, it is true, but the smaller streams flowed on. People went from Nanking across the ferry to Pukow, thence by steam launch to Kaotse and thence by another launch to Chinkiang. Or they went by launch to Yangchow and thence to Chinkiang. Then later, as the pressure increased, I have on good authority that boats were being towed from Nanking direct to Chinkiang. Besides this there is an old roadway between here and Chinkiang and indeed between here and Soochow. Chairs and donkeys are available and the poorer classes of people, those most likely (because of the crowded conditions in which they live) to carry contamination, would only have to revert to fifteen or so years ago to travel by these means and by the smaller water craft, out of Nanking. To stop up the larger and healthier routes and force the streams of travel into these smaller and often dirtier rivulets would seem to be a caution of, at least, only partial value. This has no bearing on the present plague situation which, as we all believe, is happily passed. But it may be well to make a note of it for reference in any like contingency in the future.

Again, it may be noted that the plague situation has brought about a sharp conflict between the older and more selfish and the newer and more altruistic ideals in dealing with the public welfare. On the side of the old was ignorance, lots of it, graft, China's old enemy, self-interest, "the quarantine is hurting business," suspicion and so on. On the side of the new was an enlightened medical science, honesty of administration, desire for the public welfare and a straightforward dealing that was not, perhaps, always patient enough. And the newer ideal has won.

It may be noted, in the third place, that good has come out of this evil. The apportioning of the city into districts, each under the charge of a foreign doctor, and the new regulation regarding the reporting to the Health Bureau of all deaths point to what may be a new day in the care of the public health of Nanking. All will echo the wish of Dr. Tucker that a permanent Board of Health may be established.
In all this credit is due first to the local doctors, then to the enlightened commission which the Ministry of the Interior sent down, then to progressive men such as Commissioner Wang of the Health Department, and last of all to the higher officials who when they once saw the situation in its true bearings fell into line and used their authority for the establishing of effective relief measures. It may seem ungracious to put the first last, but this seems undoubtedly to be the fact. Our hope for the future, however, is that the last may be first.

In official credit given for effective prevention work these will probably have first place anyway. But the end has been accomplished and for that we are all gladly grateful.

The Prevention of Pneumonic Plague.

THE PREVENTION OF PNEUMONIC PLAGUE.

The following notices were circulated in Shanghai by the Municipal Health Department when it was feared that the epidemic of pneumonic plague might spread from Nanking to Shanghai, and are reprinted here as they may be useful in future to those engaged in Plague Preventive Service.

PNEUMONIC PLAGUE.

1. Infection is got by proximity to a coughing case.
2. To avoid infection wear a cloth or mask snugly covering the mouth and nose when near a coughing case. Masks are obtainable from the Health Offices.
3. But do not go near sick persons if possible.
4. Report all cases to the Health Offices where you will receive help and be told what to do.
5. Sick persons should be isolated.
6. Those who have been in contact with sick persons should be kept apart from other people for seven days. After that time there is no danger of the disease developing.
7. The disease begins with a headache, then fever comes and a cough with spitting of blood. Death invariably ensues, usually within two days. Medicinal treatment is useless.
8. Danger comes from the living cases not the dead.
9. When a case appears in a household keep everyone away from the sick person. But if the person attending on the sick person wears a mask carefully there is little danger. After use the mask may be burnt or boiled.
10. Do not leave home; it is not the house which is infected. Do not move about or travel by boat or train as this may carry plague to other places. Do not receive travellers until they have lived apart for seven days.

ARTHUR STANLEY, Health Officer.

THE MUKDEN PLAGUE MASK.

Cut the gauze into 3 tails for tying.

No disinfectant required.

If necessary, plug the angles at the side of the nose with wool.

病 疫 肺
具面戴 須 地 之 險 染 傳遇 如
取 索 處 生 衛 各 向 可 具 面

上海工部局衛生處肺疫病傳單

傳染緣由是適在病人咳嗽之時，
防禦傳染須在鼻與口之氣部用布或面具繃緞密縫此面
染疫之人宜隔離居住勿與人接觸
設有患染是疫之人速赴本衛生分處報告分處中須備助者

指示如何療法

染疫之人宜隔離居住勿與人接觸

是項肺疫病狀初起頭痛發燒後來咳嗽吐血約三日即死服

無論有效

疫病危險是罹生者傳染非為死者

設法內有人染疫除病人外勿任他人與彼同居惟侍奉者小心
MEDIA|C INSTRUCTION FOR NON-MEDICAL MISSIONARIES.

As no small proportion of missionaries are sent to parts of the world where the services of fully qualified physicians are not obtainable, the importance of giving medical instruction sufficient to enable them to look after their own health, and to minister simply but effectively to the sick around them, has long been recognized, and various institutions have been opened in which such instruction is given. Livingstone College, near London, has been doing work of this kind for over fifteen years. Since August, 1915, it has been used as a hospital for wounded soldiers. In the Journal of Tropical Medicine and Hygiene, February 1, 1918, the editor, who has been in China and therefore knows the value of Christian missions, makes the following interesting remarks upon this subject:—

It would be premature to attempt any detailed forecast of the programme which may be attempted when the College becomes once more a school for the training in the elements of medicine, surgery, and hygiene. Reconstruction, however, is one of the burning topics of the day. Not only Livingstone College but most other institutions for the training of men are temporarily in abeyance, and it is none too soon to consider plans for the preparation of the missionaries of the future.

One of the great lessons of the war has been the importance of the medical services, and the future should see a great development of medical missions under the leadership of qualified doctors and nurses.

Another lesson to be learned from the war is the large part which may be taken by men and women with only an elementary medical training in ministering to the sick and suffering (as nurses and orderlies).

With this object-lesson before them, missionary leaders should be led anew to recognize the importance of elementary medical training such as Livingstone College can afford; but on account of the demands which are being made for specialized training of the missionary, there is serious danger that the necessity of instruction in elementary medical subjects may be overlooked.

We believe that, as a result of our experiences of the war, a great impulse will be given to the work of Livingstone College, and that some of those who have been serving the sick and wounded in the war may themselves desire to continue to use their gifts in similar work in the mission field, for which they may seek further training at Livingstone College.
Japanese Medical Literature.

Review of Current Periodicals by the Staff of the Research Department, Severance Union Medical College, Seoul, Korea.

RALPH G. MILLS, M.D., Director.

Tokyo Igakukai Zasshi
(Mitteil. d. med. Gesellsch. z. Tokio)
Bd. xxxi, ht. 10. May 20, 1917.

(344) An Organism similar to Diplococcus crassus isolated from a Case of Meningitis. 2nd Contribution. Pp. 1-40. M. Kauno. (For Abstract of first article, see No. 158.)

In addition to the information given in the previous article the author wishes to place on record the following facts. Growth takes place better in a neutral or weakly alkaline medium than in one containing acid. Cerebrospinal fluid is a splendid culture medium whereas the other body fluids are inhibitory. Fluorescence is not produced in any of the carbohydrate media except soluble starch. Dye stuffs, especially anilue compounds, exert an inhibitory influence. The immune serum contains agglutinins, but lacks bacteriolysins and precipitins. The agglutination titre is not greatly dependent upon the temperature at which the process takes place. The intraperitoneal injection of a culture, or of the toxin alone, into a white rat will cause its death. The development of antibodies following the subdural injection of the organism reaches its maximum in about a week. Mice and white rats which have died from the effects of intraperitoneal injections show a definite fatty degeneration of the liver. This organism unquestionably belongs to the group of pseudo-meningitis cocci.


The substances investigated were divided roughly into four groups:
1. Iodin and iodin-preparations, the effect of which in moderate concentration was beneficial rather than the reverse.
2. Those which are bactericidal only in concentrated solution, the weaker solutions rather favoring growth; these include, gold-potassium cyanide, copper compounds, sublimate, and perhaps atoxyl.
3. Substances bactericidal in high dilution, antipyretics, methylene blue, perhaps antimony sulphate, and sulphur. Sodium salicylate is active up to 1-1,000,000.
4. Drugs inert in ordinary strengths, active only in considerable concentration,—pilocarpin, morphin, opium, senega root, ipecac, perhaps also tobacco, arsenic, hezol, calcium chloride, and iron compounds.

(346) X-Rays, Effect upon the Growth and Germination of Beans. Pp. 77-8. H. Komuro. [Evidently an abstract of work reported in full elsewhere.]

Cytological alterations. Black flat beans were soaked for six days in water, exposed to varying doses of X-Rays and allowed to germinate in saw-dust, after which the root tips were fixed and sectioned. 5 H.—10 H. same as control. 40 H. roots shorter and stouter than normal, mitosis was imperfect and the nuclear membrane was irregular and the chromatin increased. 60 H. no active segmentation and condition intermediate between 40 H. and 80 H. 80 H. nucleus larger
and degenerated, outline of nucleus indistinct, starch grains changed in shape, the protoplasm full of vacuoles and no proper cell division taking place.

**Growth experiment.** Beans soaked in water 46 hours, radiated and then planted after 17 hours, half in a box and half in a field. The latter did not germinate, while those of the former which had been exposed to 120 H. had grown 0.9-1.3 cm. in 44 days and those that had received 150 H. grew 1.2 cm. The 40 H. beans grew as though nothing had been done to them.

In another series, soaked only 31 hours and then planted, the resistance was greater, only manifesting itself about 60-80 H.

The conclusion was reached that the sensitiveness to the X-Ray varied directly with the water content of the seeds.

**Tokyo Igakukai Zasshi**

(Mitteil. d. med. Gesellsch. z. Tokio)

**Bd. xxxi, ht. 11. June 5, 1917.**


In an autopsy on a case of carcinoma of the stomach with extensive liver metastases and enlarged lymph glands, there were found numerous thromboses in the principal vessels and even in the smaller blood vessels of the lung and in the pelvis. These foci were all distinct, had white organized tips, and were evidently primary in origin. In the organized portions were demonstrable the cells of the malignant tumor but were without observable vascular lesions. The lungs from other cancer patients were then examined and in many were found these thromboses of blood-platelets, in the center of which were metastatic carcinoma cells. These cells were nearly always degenerated in appearance and gave rise to the idea that perhaps the degenerative process had initiated the formation of the clot. Women of middle age showed this phenomenon more than men of any age.

The intravenous injection of autogenous organ extracts from the uterus, intestine, or stomach, commonly induced a thrombus of blood-platelets and leucocytes in the heart, in the lungs, here and there in the branches of the pulmonary artery and even in the capillaries, but rarely in the veins. These primary blood-platelet thromboses are not always permanent; they may persist for a time, then shrink and finally disappear.

The contributing factors to thrombus formation do not always include the slowing of the blood stream. The primary thromboses formed under the influence of organ extracts do not need the assistance of blood stagnation. It was noticeable that in some cases the process began in the femoral artery where it had been held during the injection of the extract and where the circulation had been re-established after a brief interval. Perhaps in this process there had been a slight injury to the intima and the question arose as to whether it was not the tissue juice that exudes from the broken intima rather than the mechanical fact of the injury that is responsible for the local process.

Thrombus formation was less in cases without any liver cell degeneration and was less under experimental conditions when the organ extract was injected into the portal system than when it went into any other vein. Thrombosis of the liver vessels was not observed. In animals whose liver cells were injured by repeated chloroform anesthesia the thrombosis inhibiting power of the liver was definitely decreased.


By the use of the hemocrit and by chemical analysis the author has determined that glucosamin can penetrate the red blood cells of man but not those of the goat, dog, or puppy.
The chief pathological finding being acidosis, the experiment was tried of administering ammonium carbonate to the rabbits intravenously and by mouth. By either method the alkalinity of the blood was increased but the duration was short, the blood returning to normal in the course of a few hours. This procedure did not materially postpone the appearance of the symptoms as compared with rabbits not so treated. Animals raised on a large allowance of albumin have a higher degree of blood alkalinity as compared with those given ordinary food, and it took twice the time for them to die from thermic fever as compared with animals under usual circumstances. The principal cause of death in these cases was lack of blood oxygen.

Rabbits raised on rice bran with a little addition of sweet potato and sugar had a low degree of blood alkalinity, and the administration of ammonium carbonate produced diarrhoea and led to a lowering of the body temperature. Exercise in high temperatures soon caused their death with symptoms of acidosis, but the blood oxygen was apparently sufficient.

Tokyo Igakukai Zasshi
(Mitteil. d. med. Gesellsch. z. Tokio)

This is a detailed histological study of the uterine mucosa during its various conditions. The intimate connection of the placenta with the maternal circulation makes it probable that formed elements, including bacteria, could readily pass from mother to offspring.

(351) TRANSUDATE AND EXUDATE, Differential Diagnosis on the basis of H'-ion Concentration. Pp. 55-64. K. Hiruma.
Peritoneal and pleuritic exudates contain a protein which is precipitated by an acetate-phosphate mixture, whereas the corresponding transudates do not. The iso-electric point for this protein is for the acetate mixture, H'-ion concentration, 0.36,10^-4 and for that in the phosphate mixture, 0.214,10^-2. The exudate in the cerebrospinal fluid in meningitis is identical.

Tokyo Igakukai Zasshi
(Mitteil. d. med. Gesellsch. z. Tokio)
Bd. xxxi. ht. 15. August 5, 1917.


The use of diastase for the liberation of glycogen does away with the uncertainty attending the reduction of sugar owing to the presence of the split products of albumen produced by the acid used. This has no action on mucoid substances and hence can be used for their chemical purification. The methods followed were those of Pflüger and Bierry and Gruzewska, combined with the employment of animal charcoal as advocated by Momose. In this method it is necessary to wash the charcoal after use with a dilute solution of acetic acid to liberate the absorbed sugar, in order to avoid an error in quantitative determination.
Tokyo Igakukai Zasshi

(Mitteil. d. med. Gesellsch. z. Tokio)
Bd. xxxi, lt. 16. August 20, 1917.

Tuberculous foci contain more iodine than normal tissues, the combination being with the fats and lipoids and not with the protein.

Suppurative processes of either infectious or toxic origin contain an increased amount; in the pus the iodin is in the form of basic iodides and not in organic union.

Carcinomatous tissue absorbs more iodin than normal, while that of sarcomatous tissue is of medium grade. Softened tissues in any malignant growth contain more than the unaltered portions. In these tissues also there was no organic union demonstrated.

Syphilitic tissue contains more iodin than other forms, and it is somewhat increased in various forms of exudates.

(355) Cholesterol, Determination of Fat by the Kumagawa-Suto Method in Its Relation to Unsaponifiable Substances in Animal Tissues. Pp. 39-75. T. Nagayama. A polemic against the objections raised by Thaysen against the above method in which the claim is made that saponifiable cholesterol esters are determined as unsaponifiable substances. Short synopsis of the argument in German.

Tokyo Igakukai Zasshi

(Mitteil. d. med. Gesellsch. z. Tokio)
Bd. xxxi, lt. 17. September 5, 1917.


Five cases of musical heart have been observed in the author's practice and the autopsy findings in all were different. This convinced him that the cause of this condition was not to be found in any one of the pathological lesions which were of frequent occurrence, but in some other condition common to all. He is inclined to the belief that certain physical conditions must be present connected with the length, thickness, and tension of abnormal tendons, unassociated with the circulatory rate and blood volume.

The pancreatic and blood amylase of guinea-pigs is most active at 27°—55° C., while that of the frog is between 5° and 37° C. The former ferment is inhibited at about 65° C. and the latter at 45° C. The trypic ferments of the two animals have about the same relation. The antitryptic action of the guinea-pig blood serum is stopped at a higher temperature than that of the frog. A stronger concentration of alkali is needed to stop its action than is required for frog's blood.

Tokyo Igakukai Zasshi

(Mitteil. d. med. Gesellsch. z. Tokio)

Water-insoluble globulin is the most active in producing hypersensitization, and the water-soluble globulin is next in activity. One fraction of the precipita-
tion of the serum protein has a certain amount of toxicity for guinea-pigs sensitized with another fraction, but not as much as for those in which the whole serum was employed.

(359) Fat-determination method of Kumagawa-Suto, and the influence upon it of the oxidation of unsaturated fatty acids, pp. 37-54.

Y. Sueyoshi.
The fact that linoleic acid alone could be completely reduced from its unsaturated condition by the use of a current of oxygen and some platinum black, led the author to question how much change takes place in the extraction residue obtained with petroleum ether in the above test under ordinary conditions. To his surprise there was practically no change in the results when the same method was applied to this residue and the explanation is offered that the presence of cholesterin may hinder this oxidation process in the mixture.

Kyoto Igaku Zasshi
(Kyoto Journal of Medical Science)

The hypophyses of puppies thyroidectomized 1½-5 months previously were always found to be hypertrophied, even to 2½ times the usual size, the anterior lobe being chiefly affected. Histologically, there was a decrease in the chromophile cells and the appearance of certain characteristic cells rich in protoplasm (which stain poorly), often with numerous fine granules (staining either with eosin or hematoxylin), vesicular nucleus and poor in chromatin. The anterior lobe often contained vacuoles, and there was a homogeneous substance between the cells. The junction between the cells of the middle lobe was loose but there was no special cell alteration.
The same procedure carried out on full-grown dogs led to an enlargement of the hypophysis, but without the presence of the enlarged eosin-staining granular cells. These cells are not regarded as simple chromophobe cells but as incompletely developed chromophiles.
The hypophyses of parathyroidectomized dogs and puppies were not particularly changed in the anterior lobe, while the middle lobe had an increase in volume in puppies, and an increase of colloid substance in full-grown dogs. Histologically, this was decidedly different from the condition seen in thyroidectomized animals.
The chromophile cells arise apparently from the chief cells and ordinarily develop to their normal condition and secretion capacity, but under pathological conditions these characteristic cells are derived from the chief cells also. These behave quite differently from the usual type and have a separate function. The eosinophils of the eosinophilic-adenomas come partly from the tumor cells and partly are derived from these same chief cells.
As to the fate of these chromophiles, some probably lose their granules and revert to the character of the chief cells, while others perish without this transformation. This cell loss is compensated by the renewal of the chief cells. Acidophilic and basophilic cells are not mutually transformable.
The parathyroids left behind after a thyroidectomy are always hypertrophied, especially in dogs, but do not undergo any cellular changes. A thyroid rest, overlooked in a total thyroid-parathyroidectomy, underwent great hypertrophy; the follicles were very unequal in size and contained a thin fluid. The cells of the follicle walls were projected into the lumen in the form of polyps.
Partial parathyroidectomy produced no effect upon the thyroids or the remaining portion of the parathyroid.
Adrenalin glycosuria was greatly decreased by total thyroidectomy in dogs, and adrenalin had no toxic action on these animals when given in reasonable doses. It was, however, quite toxic for the parathyroidectomized dogs, and the violent symptoms of tetany were suppressed or counteracted by the administration of thyroid extract.

The histological and physiological independence of these two organs was definitely proven, even though at times there may seem to be antagonism and at other times a complementary action.


The delicacy of this test is 0.0002% of KI, and the simplicity of the method is self-evident. Five mils of urine are placed in a glass and mixed with a very small amount of starch (an amount that can be held on the point of a knife) and one mil of the reagent is added. This is thoroughly shaken until the iodine has had time to become freed from combination and has entered into union with the starch, which settles out as a blue sediment. The reagent is composed of 0.1 gm. potassium bichromate in 200 mils dilute sulphuric acid. It is very stable, keeping for many months.

(362) **Embryonal Tissue of Various Kinds Implanted into Chick and Duck Embryos.** Pp. 65-114, with 7 photographs and drawings. K. Kiyono and Y. Sueyasu.

The authors had fair success in transplanting portions of embryonal tissue of chicks, ducks, turkeys, mice, rats, guinea pigs and puppies into chick and duck embryos. There is an author's abstract in German of two pages giving the general findings.

(363) **Kidney Function Tested by Injections of Soluble Starch.** Pp. 115-161. 3 figures. T. Matsuoka.

Five mils of 5% soluble starch were injected into puppies with sublimate, cantharidin, and chromic acid nephritis, and into normal animals as controls. In the healthy animals the commencement, duration, and intensity of the starch excretion were constant. In toxin nephritis, in which the terminal portion of the collecting tubules and the convoluted tubules were injured, the beginning of the excretion was delayed, the duration shortened, and the intensity decreased. The intensity of the starch excretion and the amounts of diastase in blood and urine were not correlated. It was microscopically demonstrated that the excretion of the starch in the healthy animals chiefly occurred in the collecting and convoluted tubules, where it was mixed with the urine from the glomeruli and then reabsorbed. In nephritic cases the condition of the tubules could be quite accurately determined. The injection of the starch apparently did no harm to the animals.


The scorpion is found in Manchuria. The nature of its poison, which causes hemolysis, has not hitherto been investigated chemically. The poison is a protein, and is contained in the terminal joint of the tail. This portion of a tail was mashed to a fine pulp and then extracted with various solvents. Five primary fractions were obtained by extracting with (1) ether; (2) alcohol; (3) distilled water; (4) dilute acetic acid; and (5) the residue. Nos. 1, 2, and 5 were inert when injected into frogs, but Nos. 3 and 4 caused the death of the animals. The dose in each of these cases was 0.0015 gm. for a 20-25 gm. frog. The same result was obtained when the dose used was 0.0023 gm.

The two fractions, which were water soluble and dilute acetic acid soluble, were about equally active, whether extracted by the first or second method, hence the dual nature of the poison, part of which is soluble with one substance and part
The China Medical Journal.

with the other. Both are protein in nature, however, and the results of further examinations were practically identical.

After trypsin has acted on this toxic protein two substances can be crystallized out, corresponding to leucin and tyrosin. The toxicity is destroyed by the action of pepsin, trypsin, potassium permanganate, and calcium hypochlorite. Lecithin and cholesterin were identified in the split products.

(365) ATROPHY OF BONE AND CARTILAGE THROUGH PRESSURE OF ANEURISMS. Pp. 175-220. 4 plates of drawings. Y. Tanaka.

This is a comprehensive analysis of bone resorption and is based upon lesions almost half of which were aneurisms. The findings are summarized in a five-page German abstract.


In two cases of rat-bite fever which ran a typical course, the organism was identical with the strain "Chôto" of Futaki. Guinea-pigs injected with this blood died after the course of 2-3 months, having passed through an incubation stage of 13-17 days, toward the end of which the organisms could be demonstrated in the blood. Mice and white rats were also susceptible but showed no marked symptoms. The course in mice is very much shorter, the spirochetes appearing in the peripheral blood in 5-6 days. Enlargement of the heart and pericarditis were commonly noted in the experimental animals. There was no organ in which the organisms were uniformly more numerous.

In a series of house rats examined, 13.8% were found infected and the urine was commonly found to contain the organisms. Guinea-pigs which were inoculated from these spontaneously infected rats had the same symptomatology as those injected with patient's blood.

The morphology was in agreement with published accounts. A flagellum was found at each end and the number of turns varied with the length, from 1.5—6. commonly 2.5—3.5. The cross sectional area of the organism is apparently not circular.

Pfeiffer's phenomenon was positive at certain periods.

In all probability the organism is transmissible by the urine as well as by the saliva. Another form is sometimes encountered in experimental guinea-pigs, corresponding to the strain "Kawakami" of Futaki, but the relation of this to rat-bite fever is as yet unsettled.


By the use of Van Slyke's method the author determined that the amino-acid nitrogen of the urine of healthy nursing infants is constantly about 2.6%. In nursing beri-beri patients it is definitely increased, especially in the cardiac form, the early stages of all forms, and in any severe case; the amount usually returns to normal in perhaps 6-7 weeks. This increase is attributed to deficient oxidation in consequence of the functions of the liver being impaired. The intermediate stages of protein metabolism were impaired even to the 6th or 7th week.

Kyoto Igaku Zasshi
(Kyoto Journal of Medical Science)


The liver in Schistosomiasis experimentally produced in dogs was compared with that altered by the injection of various substances into the portal system, viz.,
oil drops, lycopodium spores, and starch grains. In the latter cases there was a small amount of infiltration about the foreign body following the emigration of a few leucocytes.

The amount of reaction in the case of emboli of fluke eggs was much greater. Eggs in various stages of development were seen and those fixed in position had undergone a retrogressive change in their contents. In proportion as the egg development had proceeded there had occurred a cell infiltration and granulation tissue formation. An intensely irritating toxic substance had been elaborated during this development and had produced an extensive new tissue formation in the surrounding area. The fibrous elements and the smooth muscle fibers of the vessel walls had been extensively degenerated in the area which had been saturated with this poisonous substance. The tissue change was definitely greater than could be explained on a merely mechanical irritation basis.

With the death of the egg the poison production stopped and the area soon became overgrown with an extensive scar tissue formation and limiting capsule.

Certain club-shaped structures could be seen in the immediate vicinity of the living eggs and these could not be seen in the act of extrusion. The conclusion was that they were products of the metabolism of the developing egg and had been excreted in a liquid condition or passed out through the lid. The importance of this substance to the welfare of the fluke was fully apparent for the tissues in which the eggs were held were altered by it, leading in many cases to the extrusion of them from the host and thus increasing their chance to develop in the open.


The glycogen of the liver and muscles was supposed to turn into glucose after death and yet the results of experiments on the subject are somewhat at variance with this supposition. Iwano finds that the carbohydrate content of liver and muscle extracts from well nourished dogs is definitely increased, while that from animals reduced by hunger at least 1/10 of their body weight had no such increase. The inference is that the liver and muscles of the former contained glycogen which was convertible, while in the latter this had been exhausted. This phenomenon was observable in full grown dogs but could not be elicited in puppies under any condition of nourishment.


Precipitinogen (casein) 0.3843 gm.=phosphorus, 0.95% Precipitate, 0.3252 gm.= ,, 0.05%
The casein solution used was in different concentrations.


The measurements were made according to the method of Toldt, and the weights were taken in the dry condition. Ordinary bones of fetuses of like age were the same on both sides in weight and measurement; there was variation in those in which ossification was quite incomplete at the time of the examination. The difference in months was manifest, not so much in length or breadth of the bones, as in their weight.
The China Medical Journal.

**Weights and Measurements.**

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<th>Bone</th>
<th>IV</th>
<th>VI</th>
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**Weights.**

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<td>16</td>
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* The period of gestation is reckoned as ten lunar months. The weights, and measurements are given in the metric system. Abbreviations: H.—height; B.—breadth; L.—length.
AVERAGE MEASUREMENTS OF BONES OF LIMBS. *

| Clavicle, w.c. | .8 | 1.6 | 2.4 | — | 3.8 | — | 4.1 | — | 4.3 | — |
| Clavicle, bone | .3 | 1.4 | 1.4 | 2.0 | 3.2 | 3.8 | 4.2 | 4.3 | 4.7 | 4.7 |
| Scapula, height | — | .4 | 1.3 | 1.9 | 2.8 | 2.9 | 3.5 | — | 4.0 | 4.1 |
| Scapula, breadth | — | .4 | 1.1 | 1.6 | 1.9 | 2.3 | 2.5 | — | 3.0 | 3.0 |
| Humerus, w.c. | .8 | 2.0 | 3.4 | 4.3 | 5.2 | — | 5.9 | — | 7.7 | 7.8 |
| Humerus, bone | .3 | 1.1 | 2.3 | 3.8 | 4.3 | 5.2 | 5.2 | 6.1 | 6.8 | 6.8 |
| Ulna, w.c. | .6 | 1.7 | 3.3 | — | 4.0 | — | — | 7.3 | 7.6 | |
| Ulna, bone | — | .9 | 1.9 | 3.2 | 3.9 | 4.2 | 4.8 | 5.1 | 5.5 | 5.5 |
| Femur, w.c. | 1.7 | 2.1 | 3.4 | — | 5.7 | — | 6.5 | 9.0 | 9.0 | 9.0 |
| Femur, bone | — | 1.0 | 1.9 | 3.7 | 4.0 | 5.5 | 6.1 | 7.1 | 7.6 | 8.4 |
| Tibia, w.c. | 1.6 | 1.6 | 3.1 | — | 4.3 | — | 6.5 | — | 7.9 | 8.1 |
| Tibia, bone | — | .8 | 1.7 | 3.4 | 4.3 | 5.0 | 5.7 | 6.0 | 6.8 | 7.4 |
| Fibula, w.c. | .9 | 2.0 | 3.2 | — | 4.3 | — | 7.3 | 7.8 | 8.0 | |
| Fibula, bone | — | .8 | 2.1 | 3.3 | 4.0 | 4.9 | 5.4 | 5.8 | 6.7 | 7.0 |

*(372) METAGONIMUS YOKOGAWAI, Biological study of the Cercaria of, pp. 79-100. M. Muto.

The present contribution has to do with the question whether a second intermediate host is necessary in order to complete the life history of this parasite, or whether it is possible, under certain conditions, for the partly developed cercaria, when it had become free from the first host to complete its cycle in the body of the final host.

The parasite free from the snail can live about 8 hours in water; one minute in gastric juice; and about 2 hours in 1% Na₂CO₃ solution. It has been impossible to secure infection by the feeding of these forms to susceptible animals by mouth, through the skin, or by introduction directly into the duodenum.

The cercaria can invade the body of a gold-fish through the skin but apparently not through the mouth. At first a capsule is not visible, but it becomes so in about five days. Development of this portion proceeds until it reaches a certain size. The invading parasite continues its development in the new host, the eye spot retrogresses completely in 12-14 days, the excretory apparatus appears in 6-7 days, progressively increases in size and becomes filled with a granular material. After 20 days the original form is no longer recognizable.

The feeding of these modified cercariae is unsuccessful until they have reached the age of about 20 days. Those between the ages of 21 days and 3 months are almost always able to parasitize a susceptible animal, the degree of infection varying directly with the state of development of the parasites. The period required for the complete development of the second stage is about 20 days, and the absolute necessity of a second intermediate host is proven.

The potability of water is therefore apparently not affected by the parasitism of this fluke, for it was proven that in the stage between the snail and the gold-fish the parasite was not capable of infection. The release of the encysted cercaria from the body of the fish and its transmission through the water would be unusual indeed.

The obvious method to prevent infection is to prohibit the eating of raw fish.

During the investigation of these water forms of the parasite there were seen no intermediate forms which could be called Clonorchis sinensis.

* "w.c."—with cartilage; "bone"—without cartilage.

On the basis of the examination of 65 pelves, half of which were male, the author draws some generalizations, and gives in detail some of the more important measurements.

The height of the symphysis in both sexes is about the same, i.e., 5 cm. and the breadth in women is a little greater.

The important differences between Japanese and European pelves are: 1. The true pelvis is higher but not broader than in Europeans. 2. The distance between the posterior superior spines is greater in the Japanese, but the anterior superior spines are about the same distance apart in both. The angle of inclination of the ilia, i.e., the splay of the pelvis, is flatter in the Japanese, more so in men than in women. 3. The inlet index is more mesatipellic in the Japanese, and in Europeans platypellic.

Pelvic Measurements in Centimeters.

<table>
<thead>
<tr>
<th></th>
<th>Man of 18 yrs.</th>
<th>Man of 30 yrs.</th>
<th>Woman of 26 yrs.</th>
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<td>20.0</td>
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<tr>
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<tr>
<td>&quot; depth</td>
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</tr>
<tr>
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</tr>
<tr>
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<tr>
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<td>10.1</td>
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<tr>
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<td>&quot; L.</td>
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<td>Incl. angle of C. V.</td>
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The parallel columns in each series have reference to the measurements of the pelvis both in the body and after removal therefrom.

(374) Schistosomum japonicum. Invasion of Skin by the Cercarise of. Pp. 25-41. 8 figures. A. Fujinami and V. Sueyasu.

Pieces of the skin of a rat, a susceptible animal, and of a chicken, a naturally immune animal, were placed for from 3-24 hours in water containing free swimming cercariae. Both were invaded equally well by the embryos, which indicates that gland secretion, warmth, or blood circulation are not necessary requisites for the penetration of the skin. Although the cercariae pass readily into the skin they do not reach the portal system in any but susceptible animals. The same was found true for the domestic duck and the frog. Immunity must then be understood to mean the inability of this parasite to mature in the body of an animal and it hardly involves the question of the ability of the cercariae to invade the skin.
Fig. 1. Skin of chicken exposed in water to action of cercariae for 24 hours. Invasion of subcutaneous tissue by the parasite.

Fig. 3. Same, greatly magnified, before the appearance of any skin reaction.

Fig. 7. Same, three days after exposure illustrating round- and giant-cell formation.

Fig. 8. Same, a little later.

Skin of chicken penetrated by cercariae of Schistosoma japonicum.
The hair follicles and gland ducts were the points of entrance in the skin of the rat, but the absence of glands in the skin of the chicken and duck did not prevent their entrance. Free cercariae were provided by crushing and rubbing up several snails known to be intermediate hosts, and this emulsion was applied to the skin of the selected animal, the place being kept constantly wet. The skin of the portion under examination was then excised and fixed with formalin and sectioned.

The cercariae had penetrated the skin and were found lying in the subcutaneous tissue. Here a round cell infiltration was induced and the parasite body became surrounded by giant cells of the "foreign-body" type. The manner of death of the cercariae was not determined, but it was noticed that the internal structure became indistinct and gradually disappeared.

Hifukwa, Hitsunyokwa Zasshi


The workers in the arsenal at Osaka have been affected by a trade eczema which has given those in charge considerable concern.

The eruption produced by the mineral oils is confined to the hair follicles and causes hyperkeratosis, dilatation of the follicles and thickening of the Malpighian layer. There is small cell infiltration in the corium, about the bases of the hair follicles, glands and blood vessels, in consequence of which these structures atrophy. Commonly the disease occurs in two stages—the inflammatory and the keratization stages. In the kerosene eruption the first stage is short and runs quickly into the second; in the machine oil variety the first stage is longer and merges only gradually into the second. The inflammatory infiltration from the petroleum is generally superficial, but that from machine oil is deep seated and essentially chronic. In either case the appearance is that of an extreme acne, in the former the lesions being typically nodular while in the latter they are more flattened.

Turpentine produces first a diffuse eczema which later becomes circumscribed, a typical trade eczema, and if it continues long enough produces a wide variety of lesions. The entire thickness of the skin is usually affected and there follow keratization, accumulation of cutaneous plugs and atrophy of the glandular elements.

Itching is usually absent in the mineral oil eruptions, but abrasions and fissures are troublesome. The turpentine lesions itch greatly and also crack and fissure.

Predisposition has considerable to do with the causation of the disease. Women are more commonly affected than men and most of the cases occur in those between the ages of 20 and 30. The eczematous affections caused by oils occur during the dry months, from fall till spring; the turpentine is most injurious during the hotter months from spring till fall, when the sweating is more profuse. The amount of oil used has some influence, also the susceptibility of the skin to its effects. There seems to be a sort of cumulative effect of the irritant. In 65% of the turpentine cases the lesions began within a month, and 70% of the cases of mineral oil eczema occurred within 50 days. With kerosene the trouble appeared within a few days and often gradually wore off.

The hair is frequently lost owing to the diminution of nourishment due to the alterations in the skin and the effect of the frequent washing and scrubbing. Non-hairy portions were affected only by the turpentine.

The heavier forms of petroleum produced more inflammatory lesions, while those of simpler composition manifested themselves more by hyperkeratosis.

A piece of good rubber tubing 2 feet long is bent upon itself at a point 6 inches from the end, the air squeezed out and then tied firmly with strings in 3 places an inch apart, and beginning an inch from the doubled end. For use the free end is placed about the arm at the desired place, drawn through the slit nearest the center and the proper degree of tension applied. The appliance holds when a kink is produced in this free end by being drawn through the slit farthest from the center. For release, all that is required is to pull this out of the slit and it will loosen itself. The simplicity of the device, and the ease of application and release, thus dispensing with an assistant, are the points to which the writer desires to call attention.


On the basis of 13 cases occurring in the author's practice he finds that the disease in adults begins in the feet and that in babies it starts about the lips. He does not believe frambesia is to be regarded as a venereal disease, because of the social status of these particular patients, but he thinks flies are the probable insect vectors. The spirochetes may have gained entrance to the feet through scratches, for his patients were all barefooted.


The patient, a male Japanese of good health otherwise and negative history, noticed one day a raised line on the breast near the nipple. This gradually spread in length, in circles, loops, and various curves until it had covered a considerable portion of that breast. The point of advance was reddish or slightly brownish, and the color gradually changed to dark brown in the older portions. The line was about the size of a match stick, a little raised, and often nodular in character, although all the spots were directly in line. Itching was somewhat annoying. Unfortunately, the patient refused to have a bit of tissue excised for examination. The lesion cleared up under an antiseptic ointment.


Dr. Sakurane, on hearing the above report at the meeting of a Dermatological Society, recited a similar case in which the abdomen was affected. He stopped the trouble by excising the tip of the advancing line and the remainder healed up readily. He reports nothing about the findings from the histological examination of this piece of skin if any examination was made. The progressive nature of this disease reminded him of a case in which he had removed a Ligula parasite from a moving swelling on the abdomen of a Japanese woman. He introduced this worm into the stomach of a dog by means of a catheter and killed the animal after the finding of some eggs in the stools. One parasite, an adult "worm" two metres long, was found in the intestine of this dog, which had been fed entirely on milk presumably free from parasites. The improbable nature of this report and the lack of anything definite in figures or descriptions greatly discredits it in the mind of the reviewer.


Idiosyncrasy to shrimp and crab meat is found among the Japanese and has led the author to investigate the prawn and the Ise shrimp to see if any toxic substance could be found in the muscles, liver, or eggs of these forms. These portions were dried separately, ground up, emulsified, finally filtered, and the fluid used for injection. One part was heated to 60° C. and another part to 100° C. to imitate the forms of cooking used with these shell fish. The figures are not given, but in the summary the statement is made that the extract of these crustaceans, especially the liver of the shrimp, is rather toxic to mice in unstated doses. Similar extracts of liver, muscle, lungs and spleen of a rabbit were used as a control for the effects of simple protein injection, but with no harmful results. "Garneelen" is the name given to this toxic substance, whatever it may be. The prawn is Penaeus canaliculatus Oliver, and the Ise shrimp is the spiny lobster, Palinurus japonicus Gray.

Herman Bryan, M.D., Demonstrator of Anatomy, Pennsylvania Medical School, Shanghai.

As post-mortem examination and dissection of the human body is now permitted by the Chinese Government*, a description of the embalming methods and formulae in use in the Pennsylvania Medical School, Shanghai, may be of service to those connected with hospitals and medical schools who desire to avail themselves of this permission.

In North China bodies should be injected within 12 hours after death in the summer, and 24 to 36 hours after death in the winter. The sooner after death the better. In the South, as in Canton, from 8 to 18 hours is the safe limit.

The embalming fluids are many. The one we use is as follows:

- Alcohol ... ... ... ... 6,000 mils.
- Carbolic acid ... ... ... ... 1,000 ,,.
- Glycerin ... ... ... ... 1,000 ,,.
- Formalin ... ... ... ... 100 ,,

This formula is applicable for all purposes, whether for dissection, operative surgery on the cadaver, or for burial purposes, but it is expensive.

The solution is put into a two-gallon bottle. The outlet tube connects with four tubes; two of these tubes should be put into each of the common femoral arteries, one tube going upward and the other into the same opening but pointing toward the feet. For pressure a bicycle foot-pump is attached to an intervening tank, the pressure is raised to about 20 lbs. and air is let into the bottle gradually. Nearly the whole of the air under pressure is used before all the fluid runs into the body, but only turn in one or two lbs. at a time. A greater pressure will burst rubber tubes which have a lumen of \( \frac{1}{2} \) inch or less in diameter. Glass tubes should be about the size of a lead pencil where they enter the artery, with points slightly smaller, and the tubes should have necks so that ligatures can be tied tightly around them. After the fluid is all in, clamp the main tube and let the body lie as it is for 24 hours.

While injecting, one must watch to see that the fluid is flowing through all the tubes freely. If there is any stoppage the fluid may

EMBALMING APPARATUS. (Photo by Mr. Wong.)

S. Air pump connected with air tank; Y. Embalming solution; X. Tube leading from the bottom of Y; T. A glass T. tube; A. and O. are tubes which connect the two glass tubes in the same opening of the left femoral with another T. tube that is connected with the first T. tube. The "fig leaf" of cotton obstructs the view of the tubes entering the right common femoral artery, but the points cross each other like the letter X and enter the same as on the left side through a common opening.

fill the abdomen and none go to the legs, with the consequence that later the tissues of these parts will decompose; the arms also will be deprived of the proper amount of fluid, but they absorb sufficient from the storing solution of carbolic acid to prevent decomposition.

In dissecting out the femoral arteries great care should be taken not to cut a branch of either the artery or vein. If cut, it must be ligated or else it will leak tremendously. Rub with a towel and knead the body while the fluid is running in. Stop the mouth, nose, and throat with cotton before beginning the injection. Tubercular subjects leak badly at the mouth.

After 24 hours, or two days, the following solution may be injected to color the blood vessels. Take powdered Prussian blue, one ounce, and add powdered shellac, two ounces. Rub until extremely fine in a mortar, then put the powder into 1,000 mils of alcohol. Do not put Prussian blue into the alcohol and shellac, but rub the substances together first. Pour the solution into the two-gallon bottle, then inject in the same manner as the embalming solution, but keep shaking the bottle to keep the Prussian blue from settling at the bottom. The
arteries will be blue and the veins reddish because when a man dies the blood collects in the veins and the arteries are empty.

An assistant withdraws one tube at a time and the artery is tied. When all vessels are tied the wound should be closely sutured. A label should be tied on the toe, the particulars being written not with ink but with a lead pencil, as ink changes color. The body is then deposited in a tank of 3% carbolic solution, or 5% if crude carbolic is used.

After one month the body can be removed to the dissecting table after being greased with vaseline and wrapped in bandages, but it is better to let it stay 3 to 6 months in the tank. The tank should be lined with lead, but this is not absolutely necessary; a tight wooden trough or tank will do. An ordinary Ningpo varnish table is good for dissection purposes, but not if formalin is used to embalm, as this fluid causes the varnish to come off a little. After the work of each day the skin should be laced up over the dissected part, and an old sheet, wrung out in 5% formalin, placed over the body and tucked in. A rubber sheet or oiled-silk sheet should be tucked in over the first sheet. This keeps the body from becoming dry between dissecting hours.

By this method bodies will keep on the dissecting table for months at a time in winter, and for six to eight weeks in summer, without being put back into the tank. We never put a body back while dissecting, unless dissection stops for more than a month. In Hongkong University the bodies between dissecting hours are put into a cold storage room kept at 40° F.

The Prussian blue is made by dissolving ½ lb. of ferric chloride with ¾ lbs. potassium ferrocyanide, straining and drying the precipitate. The Prussian blue, alcohol, and shellac should be made at least 24 hours before use, and should be shaken occasionally during that time.

If it is desired to color the blood vessels red instead of blue, proceed as follows: Take red lead ¾ lb. and powdered starch 1½ lbs; shake through a sieve; add one gallon of hot water just bearable to the finger. Add the water slowly at first. It is better to wait several days before injecting, because so much fluid would be hard to inject soon after the embalming solution.

Bodies kept in the carbolic solution are all right for dissection even after two years; but as a rule it is better to finish the dissection within a year or 18 months.

If a cheap method is required just to preserve a body for a few days or months, use a pound of formalin to two gallons of water, to
which is added an ounce of borax. The borax prevents the tissues from turning ashy grey, and preserves the formalin in the solution, if it is not used, for a couple of years. This method has the disadvantage of making the bodies too stiff, either for dissection or for operative surgery on the cadaver. It is cheap, costing about a dollar, whereas the carbolic method may cost from $5.00 to $20.00 dollars, depending on war-time prices. The glycerin in the carbolic method keeps the bodies pliable and prevents rapid drying out.

Tubes should be made of thick walled rubber, as weaker tubes burst easily if over 20 lbs pressure is applied. It is not necessary to withdraw blood from veins before injecting.

Two gallons of embalming fluid is sufficient for a large adult body; a small cadaver requires less.

In embalming for burial purposes only, one should stop before the face gets puffy or the relatives may not recognize the body. In bodies preserved for dissection this puffiness goes away after a month or two.

It is not necessary to inject the arteries with coloring matter for operative surgery work, but it is better to do so because the coloring is a help in finding the arteries for ligation.

Gravity pressure to run fluid into bodies is only suitable in cold climates where bodies will keep for several days without decomposition setting in, as it sometimes takes that long to inject by gravity only.

The usual method of embalming followed by Prof. Digby, of the University of Hongkong, is as follows: Mix 1 lb of formalin (about \( \frac{3}{4} \) pint) with 2 pints of water. Inject into left common carotid by means of a T shaped canula, injecting the fluid upward into head and down into body. Leave in situ. Two days later, mix red lead \( \frac{3}{4} \) lb and powdered starch \( 1\frac{1}{2} \) lbs. Shake through a sieve. Add, slowly at first, one gallon of hot water (just bearable to the finger). Inject as before.

Dr. Digby says this plan does very well for the Hongkong climate. For embalming with arsenic he advises as follows:—White arsenic, 1 lb; common washing soda, 1 lb; water, 1 gallon. Add the water cold; bring to boil in a large pan and boil for one hour. Do not stay in the room for fear of arsenical poisoning. Inject into the femoral artery.

For operative surgery Prof. Digby recommends: Glycerin, 10 ounces; carbolic acid (1:20), 20 ounces; alcohol, 1 gallon.
Medical 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.]

Report of the Temple Hill Hospital, American Presbyterian Mission, Chefoo, China, 1917.

Hospital Staff:—Oscar F. Hills, M.D., Robert W. Dunlap, M.D., Chen Hsioh Ling, M.D.; Dr. Djang Shu Giang, Pharmacist; Liu Gien Bang, Dispensary Assistant.

This report raises several interesting questions. For instance, how far can a hospital in China be made self-sustaining while conforming to the highest standard in every one of its departments? As the amount of charitable work that must be done by medical missionaries makes it almost impossible for a mission hospital to be entirely independent of financial gifts, should mission boards be asked to make an annual grant sufficient to meet all expenses comfortably, or should the money needed be obtained from private sources, by public subscription, or by increasing the charges to patients who can afford to pay more? Or is it better to close the hospital temporarily as soon as there threatens to be a financial deficiency?

The Temple Hill Hospital has from the first set its standard high, and its charges, somewhat greater than in most mission hospitals, are as follows:—First Class: Chinese food, laundry, medicine, per day, $1.50; Foreign food, laundry, medicine, per day $3.00; Operative fee, $20.00.

Second Class: Chinese food, laundry, medicine, per day, Cash 350; Operative Fee $5.00.

Third Class: Any patient unable to pay 350 cash in full, or unable to pay anything at all, is provided for in this class.

The daily cost of each patient to the hospital is Mex. $2.09.

The total expenditure for the year apart from the salaries of foreign workers, amounted to Mex. $19,872.51. Dispensary receipts, donations from Chinese and fees from all sources amounted to Mex. $10,061.71, leaving a deficiency of $9,810.80. It is not surprising to learn that early in the year it was voted to close the hospital for a period of three months owing to lack of funds. Fortunately,
a generous donor connected with the hospital gave $7,648.50 to meet the deficiency, the Mission Board contributed $753.70, and donations from other foreigners amounted to $1,163.53. These sums, with the balance from the previous year of $753.70, enabled the hospital to close the financial year with a balance on the right side of $488.37.

In the case of hospitals unable to obtain such generous help how is the financial problem to be solved? This question is the more important as no one can foretell what effect the present great war will eventually have upon the income of missionary societies.

The difficulties of the Temple Hill Hospital, however, seem to be only temporary; at any rate, there is little or no anxiety concerning the next few years. "We rejoice to be able to announce that the China Medical Board of the Rockefeller Foundation have come to our assistance in a very substantial way. Early in the year they made grants of three-fourths each, of one doctor's salary and one nurse's salary for a period of five years. Now the word has just come that they have made an additional grant of three-fourths of $3,000 gold annually for five years toward increased running expenses. Also a grant of three-fourths of $1,200 gold for installation of electricity. The generosity of the China Medical Board in making these grants is appreciated beyond the power of words to express. And the courage and faithfulness of our own Mission Board in accepting the grants, involving the assumption of one-fourth of the sum named in each case, is the more keenly appreciated inasmuch as they are seriously embarrassed to obtain funds for the ordinary budget.

"Mrs. John S. Kennedy has added to her many benefactions by coming to the rescue at this time and providing the one-fourth of the $3,000 gold grant for 1918 and also the one-fourth of the $1,200 gold grant for the electrical installation.

"When it was announced that the hospital was to be closed for a time, a number of Chinese friends headed by Mr. John Wanamaker Yu, an elder for many years in the Temple Hill Church, subscribed $2,100 Mexican to the expenses of operation during 1918. So that we now look forward into the coming months with hopefulness, believing that our work can go forward for another year without interruption. This gift from the Chinese is the first indication in a large way of their interest in the institution. It was entirely unsolicited on our part and has therefore given us the greater pleasure."

As compared with previous years there is a steady increase in the number of in-patients and out-patients, and the number of serious surgical operations performed has also increased.
Medical Reports.

Report of Annie Gillespie Memorial Hospital, Kwanchengtzu, Manchuria, 1917.

The work of the Women's Hospital, under the charge of Dr. Margaret E. McNeill, has been conducted as usual during the year, the number of in-patients being above the average. The out-patient department is rather small, partly owing to the large number of medicine shops in the town, and partly to the fact that the place is one of the largest business centres of Manchuria and not a residential town. Fees and donations from patients and friends are almost sufficient for the upkeep of this hospital.

During Dr. Gordon's absence of more than two years on account of ill-health, the Men's Hospital has been closed. However, largely owing to the exertions of Dr. Woo, a Christian worker in railway employment, arrangements are being made for re-opening the hospital. Its support will come from local funds, but the management is to be in the hands of the mission and friends of the mission. The way in which the first money came for the undertaking is interesting. A police official in the employment of the Chinese Government Salt Administration was discovered smuggling opium into the town. For this he was fined one thousand dollars. A good friend of the hospital, Mr. Palmer, an American at the head of the Salt Administration for the two northern provinces of Manchuria, obtained $650 of the fine as a gift from the Government to be used for re-opening the hospital.

Annual Report for 1917 of the Hangchow Hospital and Medical Training College in connection with the Church Missionary Society.

Foreign Staff:—D. Duncan Main, F.R.C.P. and F.R.C.S. (Ed.); Arthur T. Kember, F.R.C.S. and L.R.C.P. (Ed.); S. L. Lasell, M.D.; C. F. Strange, M.R.C.S. and L.R.C.P. (Lond.), (absent); Mr. S. Duncan Main, Secretary and Business Manager; Mrs. Main, Mrs. Kember, Nurse Emily, Nurse Bally, Nurse Curtis.

Chinese Medical Staff:—Six Chinese doctors and six assistants. Connected with the various departments, 16 other trained assistants, 20 nurses, and 40 servants.

Departments of Work:—Out-patient Department; Men's Hospital; Lock Hospital; Women's Hospital; Maternity Hospital; Children's Home; Men's Leper Refuge; Women's Leper Refuge; Consumptive Home; Incurable Hospital; Convalescent Home for Foreigners;
Convalescent Home for Women; Medical Training College; Pharmacy Training College; Maternity Training School; Men Nurses’ Training School; Women Nurses’ Training School; Works Department.

The report of the Hangchow work forms a handsome, illustrated booklet of 100 pages, entitled “Love in Action.” With mingled good humour and wisdom Dr. Main ranges over a great variety of subjects connected with medical and evangelistic work.

The present war by reducing the staff and lessening the income has added greatly to the difficulties of the various enterprises, but so far no department has been closed for want of support. In January last over fifty medical students who had graduated in medicine received diplomas sealed by the President of the Board of Education. When the war is over, it is hoped to re-open the Medical School with a greatly increased staff and all necessary equipment. The number of out-patients treated during the year was 26,213; in-patients 2,272; operations under anaesthesia, 855. The total expenditure was Mex. $25,425.00. In the limited space at our disposal it is not possible to give an adequate summary of the work done in the numerous departments. But the report will no doubt be forwarded with pleasure to those interested in the unique work which has been carried on for so many years in Hangchow by Dr. Main and his able assistants.

London Mission Hospital, Taku Road, Tientsin, Report for the Year 1917.

Under the care of E. C. Peake, M.D., Ch.B. (Edin.). House-Surgeon: Dr. Lei.

In the out-patient department there has been a decrease in the total number of patients attended, caused partly by the floods of last year, and partly by the closing of a branch dispensary owing to the death of the Chinese worker in charge. The increased cost of drugs and surgical dressings made it necessary to increase the out-patient fees to ten cents for the first visit, and five cents for each subsequent visit. Contrary to expectations this did not affect the daily attendance.

The in-patients numbered 429 as against 367 for the previous year. As usual the bulk of the work has been surgical. The operation list includes operations on necrosed bone and tubercular joints, amputations of limbs, removal of tumours, empyema, trephining of skull, hydatid cysts of the liver (one of the cysts contained 180 ounces of fluid), liver abscess (a rare condition among the Chinese), hernia, suture of intestines, and one Cæsarian section (both mother and child did excellently).
On the medical side the chief feature of interest has been the discovery of the new parasitic blood disease which Dr. Peake has recently described in the Journal.

The hospital premises are old and without those conveniences which make it easy to furnish patients with everything necessary for their comfort and cleanliness, but bathing facilities have been provided, and every patient is given a completely new set of hospital clothing. During the year examination was made of 7,312 coolies who had offered for service in France; of these, no less than 3,795 were rejected.

Report of the Kwong Tung Kung Yee Medical College and Hospital and Training School for Nurses, Canton, China, 1916 and 1917.


The work of the Kwong Tung Kung Yee Medical College and Hospital Society is an effort on the part of certain Chinese and foreigners to co-operate in providing a plant and conducting a thoroughly efficient Medical College and Hospital.

The Society is composed of men who are elected to membership because of their special interest in this line of work and who are willing to contribute an initial amount of $100.00 with the understanding that they either contribute or get others to do so when special funds are needed for buildings, etc.

The College was first opened in the year 1909 in a rented building on 13th Street, Canton.

The Society’s Hospital was first opened on August 8th, 1911, in a building erected by the Society near the centre of the city.

The property of the Society now consists of this central plant on the Bund which has been used as a general hospital and dispensary. It contains two offices, a waiting room, a dispensary, a small operating theatre, sterilizing room, 21 private rooms, general ward space for 42 patients, chapel and laboratory, besides five rooms which are occupied by doctors and nurses. The building is supplied with electric lights, city water, and has flush closets with a modern drainage system. The School work since 1911 has been conducted in a rented building adjacent to the Hospital.
The new College and Hospital buildings which are situated on the hills just outside of the East gate are about two miles from the central hospital. These buildings have just been completed at a cost of about $180,000 (including furnishings and equipment), and will be occupied immediately.

The complete plans will provide for 400 patients and 200 students.

As soon as the new buildings are occupied the wards on the ground floor of the central City hospital will be emptied and these rooms fitted up for out-patient work. The central hospital will be used for a receiving hospital, emergency work and City dispensary. The two hospitals will be connected by ambulance service.

In the College during 1916, 113 male students and 20 female students registered. In the preceding December, 29 male and 9 female students graduated. After careful consideration it was decided to close up the Women's Medical College, and devote the whole strength to the work for men. College expenditure during 1916, $21,392.25.

In 1917, there was a registration of 77 male students and 6 female students. Twenty-two men and four women were recommended for graduation. College expenditure during 1917, $16,312.45.

In the Hospital during 1916, the total number of in-patients was 1,217, and the total number of out-visits, 6,236. The hospital expenditure during the year, including the purchase of land, etc., amounted to $46,179.13.

In 1917, the total number of in-patients was 1,401; out-patient visits, 9,599. Expenditure during the year, including disbursements on new buildings, etc., $59,100.64.

The past two years have been especially interesting professionally because of the fact that the surgical cases have been of a better class, that is, they were cases in which definite and good results could be expected from one operation, such as ovarian cysts, operations for displacements of the uterus, placenta previa, stone in the bladder, gastroenterostomy, removal of tonsils, hernia, etc.

Not the least satisfactory have been the diphtheria cases which numbered 46, with 8 deaths. Almost an equal number of out-patients had the same disease, but with a lower mortality because the disease was not so far advanced when the patients were brought to the hospital.
Shanghai Municipal Council, Annual Report of the Public Health Officer, Dr. Arthur Stanley, for the Year 1917.

STATISTICAL SUMMARY.

SITUATION: Latitude 31° 15' N.; Longitude 121° 29' E.

ELEVATION: Approximately sea-level.

AREA WITHIN MUNICIPAL LIMITS: 5,584 acres or 8\frac{3}{4} sq. miles.

DENSITY OF POPULATION: 119 persons per acre.

NUMBER OF INHABITED HOUSES: \{ Foreign 3,760 \}
\{ Chinese 58,308 \}

POPULATION: \{ Foreign 19,750 \}
\{ Chinese 644,580 \}

DEATH-RATE: \{ Foreign 20.7 per 1,000 \}
\{ Chinese 14.9 per 1,000 \}

TOTAL RAINFALL: 42.46 inches.

MEDICAL REPORT.

The following extracts are taken from the Public Health Officer's Report.

Smallpox after a long period of comparative absence again showed signs of prevalence which increased markedly toward the end of the year. It is advised that babies should be vaccinated within six months of birth. There is no contraindication to vaccinating soon after birth. If infants do not take they should be vaccinated with freshly obtained vaccine every month until they do. Subsequently vaccination should be repeated every three years.

Though specially feared and prepared for no cases of cholera occurred. Both typhoid and para-typhoid fevers showed a somewhat increased incidence. Scarlet fever also showed increased prevalence, recalling the epidemic of 1902. As would be expected with a recently introduced disease, against which evolution has afforded no natural immunity, it has been of virulent type among the Chinese. It is probable that the passage of the disease through the susceptible Chinese has led to an intensification of the virus, so that it is more fatal to foreigners also. The average case-fatality among 68 foreign cases admitted to the Isolation Hospital from 1905 to 1917 was 18.2%. The general case-fatality of scarlet fever in England was in corresponding years below 5. The tendency in the home countries is for the type to become less virulent, with a case-fatality approximating to 3%. But scarlet-fever is characterised by an exceptional variation in virulence...
and in epidemics the case fatality may vary from 30% to nothing. In Shanghai there is no indication yet of any general diminution in virulence of type either among foreign or Chinese cases. On the other hand in Japan the fatality appears to be reverting to the English and American type of low severity.

There have been in Shanghai curious groups of cases of "mild sore throat," without the characteristic signs of scarlet fever, accompanying typical cases. Such "mild sore throats" appear to have occasionally carried the genuine infection and produced typical cases of scarlet fever. Some of these must be regarded as atypical cases of scarlet fever. Others as cases of tonsillitis, septic, follicular and catarrhal, often accompanied by an evanescent eruption which does not desquamate; and so common as to be likely to be a usual accompaniment of outbreaks of scarlet fever and difficult, sometimes impossible, to distinguish from cases of atypical scarlet fever. This points to the necessity of isolating all "sore throats" during an outbreak of scarlet fever of virulent type; but to keep cases not definitely diagnosed as scarlet fever separate from typical cases. As pathogenic organisms may be considered as true to type there seems to be no good reason for thinking that ordinary tonsillitis may develop into scarlet fever, nor that throats susceptible to tonsillitis are ipso facto susceptible to scarlet fever.

There were no fatalities from diphtheria. The incidence of amoebic dysentery was marked during August, September, and October. In practically every case investigated after notification obvious breaches of the Public Health Notice were found which might have led to the conveyance of infection.

Attention is drawn to the fact that servants with chronic dysentery are numerous and are carriers of infection by finger infection of food. A house-boy, for example, with chronic dysentery, cutting bread and butter, is practically certain to pass on the infection to the consumer. Such chronic cases may pursue their usual avocations so that it is advisable to have any house-boy, cook, or coolie, who appears to be getting thin, pale, or weak, seen by a doctor and his faeces examined for dysentery amoeba so as to ensure the safety of the household.

There was an entire absence of plague both in man and rats. Tuberculosis heads the list of fatal diseases both among foreigners and Chinese. There were no deaths from hydrophobia. Beri-beri is now a frequent cause of death among foreigners on account of the increased Japanese population. In the Municipal Gaol the year has been marked by an unusual outbreak of this disease, the number of cases occurring being the largest for 15 years. Since 1899 the number of cases of
beri-beri among prisoners in the Gaol in sequence of years was 27, 34, 134, 0, 0, 2, 2, 1, 5, 78, 16, 7, 0, 2, 13, 0, 6, and 124 during the year under review. No one definite factor could be given as the cause. The diet has been unchanged; the process of vermin-proofing the cells has been nearly completed; overcrowding, said to be an accessory factor favouring beri-beri, has been continuously increasing, so that in many instances there are four prisoners in a cell originally intended for one. It is significant that no case of beri-beri has ever occurred in the Reformatory where the diet is the same as in the Gaol but where there is no overcrowding. This evil will shortly be remedied to a great extent by the opening of a new block containing 960 cells. Plans for a new hospital accommodating 300 patients are also being made. Of the 124 cases occurring, 69 came from the East Block (partially vermin proof) and 55 from the West Block (wholly vermin proof). The case fatality was 30%. 21 prisoners showed definite or suspicious signs of the disease on admission to the Gaol; the rest, except 8, were long sentence prisoners of one year and over. The disease showed a maximum incidence in October and November. In accordance with the dominant view of vitamin insufficiency in food as the cause of beri-beri, prisoners, suffering from the disease, or with suspicious signs, were fed on unpolished rice, with an addition of two ounces of rice polishings daily to their diet. A number of early cases quickly recovered. Unpolished rice is also being introduced into the Gaol to replace the partially polished rice hitherto used.

In Shanghai the general method of disinfecting in a house after a case of infectious disease is first to remove to the Station everything that can be disinfected by steam; then to spray and wash walls, floors, fittings and furniture with disinfecting solution (cyllin). Fragile and delicate articles, such as bonnets, books, and photographs, are disinfected by formalin. In many cases, such as after typhoid fever or diphtheria, disinfection of walls, etc., is not considered always necessary, the washing with disinfectant being then limited to articles that have been actually in contact with infected material. Prior to disinfection each disinfecter puts on a sterile overall. After disinfection, painting or colour washing of walls and ceiling is advised to be done by the occupier before the room is again occupied.

It is proposed to have a health museum in the new Municipal Building, where lantern slides, pictures, and models may be prepared and kept; and where lectures and demonstrations will be given and lecturers trained for Branch Health Office work.

In considering this subject it is assumed that the requirements of the patient are paramount and that all other questions are of secondary importance. The choice of an anaesthetic is, in a measure, a matter of sentiment, and sentiment is created at the larger surgical centers. Whereas it is the custom of surgeons to limit the use of local anaesthesia to the cases in which general anaesthesia is contra-indicated, it is the author's belief that the reverse should be true and that general anaesthesia should be resorted to only when local anaesthesia is contra-indicated. The toxicity of novocaine is dependent upon the strength of the solution rather than upon the total amount used and its comparative safety makes possible the use of the drug in large quantities. When so used in conjunction with ample incision, careful manipulation, vertical retraction, and an appropriate position of the patient, its scope is greatly broadened. Perfect anaesthesia results in negative intra-abdominal pressure, producing postmortem-like repose which permits optical examination which is, of course, preferable to digital.

The contra-indications to local anaesthesia are largely limited to:

1. psychic incompatibility, a small percentage of cases, not excepting children on this account;
2. pathological adhesions to the posterior parietal peritoneum;
3. adherent malignant disease; and
4. very high-lying gall-bladders.

With this method abdominal packs are not needed except to prevent soiling, orientation being obtained by the negative intra-abdominal pressure, vertical retraction, etc. It has the advantage of avoidance of the immediate and remote dangers of general anaesthesia, excellent exposure and perfect repose of the viscera, greatly reduced trauma, and a very marked decrease in such postoperative discomforts as gas, nausea, and vomiting with the resultant wound strain, in addition to the avoidance of loss of consciousness to which most people object. Children of all ages lend themselves especially well to the method.

The time required for the administration of local anaesthesia is greatly reduced by the use of the pneumatic injector, two to five minutes being all that is necessary with proper technique, and the operation may be begun at once. The author has performed practically every abdominal operation by this method, some operations hundreds of times, and prefers it to all others. If the anaesthesia becomes inadequate for any case, general anaesthesia may be resorted to at any stage in the operation.


In 11 cases of renal tuberculosis, the tubercle bacillus was demonstrated in 10. Unfortunately the
other case did not show any leuco-cytic degeneration, nor were red blood cells seen in one examination.

Acid-fast bacilli have not been found in any case of non-tuberculous pyuria, although numerous smears have been examined carefully. In all, 72 cases of pyuria were noted, in 27 of which the possibility of tuberculosis could not be positively eliminated, and these cases have not been tabulated. The majority of these patients were not under observation long enough to be thoroughly studied.

The table includes 11 cases of renal tuberculosis, for which nephrectomy was performed, 15 cases of non-tuberculous pyuria in which the possibility of tuberculosis was definitely eliminated by operation or autopsy, and 20 cases in which there was no operation, but the clinical picture and results of treatment rule out tuberculosis.

The voided urine from five patients contained well-preserved leucocytes, whereas in the catheterized specimens there were no leucocytes.

Degenerated leucocytes in the urine are not pathognomonic of tuberculosis of the urinary tract, but a marked degeneration is strongly suggestive of this disease. The absence of degeneration of leucocytes does not eliminate tuberculosis. The cytological study of the urine cannot replace the demonstration of tubercle bacilli or animal inoculation as a means of diagnosis; at best it offers presumptive evidence.

Cancer Decalogue.—The following Cancer Decalogue was recently prepared by the Standing Committee on the Control of Cancer of the Massachusetts Medical Society for publication in the Boston Medical and Surgical Journal:

1. The classical signs of cancer are the signs of its incurable stages. Do not wait for the classical signs.

2. Early cancer causes no pain. Its symptoms are not distinctive but should arouse suspicion. Confirm or overthrow this suspicion immediately by a thorough examination and, if necessary, by operation. The advice "Do not trouble that lump unless it troubles you" has cost countless lives.

3. There is no sharp line between the benign and the malignant. Many benign new growths become malignant and should therefore be removed without delay. All specimens should be examined microscopically to confirm the clinical diagnosis.

4. Precancerous stage. Chronic irritation is a source of cancer. The site and the cause of any chronic irritation should be removed. All erosions, ulcerations, and indurations of a chronic character should be excised. They are likely to become cancer.

5. Early cancer is usually curable by radical operation. The early operation is the effective one. Do not perform less radical operations on favorable cases than you do on unfavorable ones. The chances for a permanent cure are proportionate to the extent of the first operation. Make wide dissections; incision into cancer tissue in the wound defeats the object of the operation and leads to certain local recurrence.

6. Late cancer is incurable though not always unrelievable. Radium x-rays, ligation, cautery, or palliative operations may change distress to comfort and may even prolong life.

7. Cancer of the breast. All chronic lumps in the breast should be removed without delay. Benign tumors can be removed without mutilation. Examine all specimens microscopically. An immediate microscopical examination is desir-
able since, if positive, it permits a radical operation at the same sitting. A radical operation performed ten days after an exploration is almost never successful in curing cancer of the breast.

8. **Cancer of the uterus.** Any irregular flowing demands thorough investigation. Offensive or even very slight serous flows are especially suspicious. Curette and examine microscopically. Amputate all eroded cervices which do not yield promptly to treatment. Do not wait for a positive diagnosis.

9. **Cancer of the digestive system** is difficult of early diagnosis and therefore unfavorable in prognosis. All persistent and recurring indigestions (more especially if attended by change of color and loss of weight) and any bleeding or offensive discharges demand prompt and thorough investigation. Do not wait for a positive diagnosis.

10. **Cancer of the skin.** Any warts, moles, or birthmarks which enlarge, change color, or become irritated, should be removed promptly. They are likely to become cancer. Do not wait for a positive diagnosis.

This decalogue is an admirable summary of the whole subject and it is recommended by the Cancer Society to all medical journals for publication as often as possible.

**Internal Medicine.**

E. H. Hume, M.D., Changsha, Hunan.

A Report on 112 Cases of Cerebro-spinal Fever.—In the course of an article in the United States Naval Medical Bulletin for October, 1917, Miller and Martin give this advice:

Prophylaxis: Avoidance of overcrowding and dark, damp living quarters and prompt attention to colds and coryza are important. Swabbing with weak solution of iodine in glycerin of the nasopharynx of not only contacts but all persons in the epidemic area is a good practice and has been carried out at this hospital. All persons should be examined for carriers, and when found to be such should be treated. A 2-per-cent solution of chloramine in oil of eucalyptol has been found efficacious. Prophylaxis by means of vaccines was not attempted. Isolation was strictly practised.

Curative Measures: Diet should be light but nourishing during the acute stage, but should be increased as soon as appetite returns, as emaciation and prostration tend to become extreme.

Lumbar Puncture: This is put down as a treatment in itself and not merely as preparatory to the administration of serum, for it is the opinion of the writers that it is a very important, if not the most important, part of the treatment. The relief is frequently instantaneous, and cases in active delirium have become rational in a few hours. Several cases received early were treated by this method only and convalesced quickly and uneventfully. Early diagnosis is most important, as a few hours' delay may change a mild case easily handled into a most grave or even fatal one. In all cases of doubt a lumbar puncture should be done immediately. Evidently a number of medical officers do not appreciate the necessity for prompt action, as cases are sometimes kept aboard ship without lumbar puncture but "under observation" for twenty-four hours or more when cerebro-
spinal fever is suspected. Certainly every ship should be furnished at least the needles necessary for a lumbar puncture.

General anesthesia was not used, but ethyl chloride as a local anesthetic was employed as a routine measure and gave satisfaction. All spinal punctures were performed with patient lying on right or left side. The following position was found most convenient and satisfactory: Patient on side with back well over edge of bed, with an attendant who has back well up to abdomen of patient and with one arm firmly grasping patient's knees and the other under patient's shoulders, carefully avoiding head and neck. This effectually prevents the struggling of a delirious patient and possible injury by breaking of needle.

Tincture of iodine painted over site of puncture was used as a routine measure, and no local infection resulted in any case. The third lumbar interspace was the point of election, but the fourth and second were used in a few cases for irrigating purposes.

Administration of antimeningococcal serum, when of sufficient degree of polyvalence, has given good results. Undoubtedly the disappointment experienced by some has resulted from the use of a serum in preparing which too few strains of meningococcus have been used. A polyvalent serum made from about 80 different strains of meningococci by the Rockefeller Institute was used and gave good results. It is given in this manner: In very acute cases from 20 to 40 mils according to the amount of spinal fluid withdrawn, are given every twelve hours until three doses have been injected, then every twenty-four hours, not only until the fluid is negative for meningococci, but for at least several days longer or until there is marked improvement in the patient's condition. It is most important to give this serum in less quantity than the fluid withdrawn; also to obtain the best results the canal should be drained thoroughly—i.e., until the fluid ceases to run faster than normal (one drop every four seconds). It is equally important not to drain too rapidly, as this causes intense headache and increases the tendency to hemorrhage.

From this time lumbar puncture is done daily until the fluid becomes clear and there is no pressure. Frequently after active treatment has stopped it becomes necessary in a few days or even a week or more to tap to relieve pressure. Irrigation of the spinal canal with normal saline solution has been found of benefit in those cases with purulent fluid and in the long-continued cases. Morphia for the relief of pain and insomnia is required. Careful watch on the excretions is necessary, as retention of urine may occur. They conclude as follows:

1. The necessity of an early diagnosis with prompt institution of treatment.
2. Importance of thorough drainage of canal, done slowly, and of the introduction of serum, being careful not to administer as much and never more serum than fluid withdrawn.
3. Proper position of patient in bed must be obtained.
4. Always administer serum at body temperature.
5. Irrigate canal thoroughly with normal saline solution in cases where the spinal fluid is markedly purulent and those that have a recrudescence.
6. Employ careful swabbing of all contacts.
7. Watch for retention of urine.
8. Institute prompt treatment on the return of symptoms.
9. Isolate all cases.
The Face Mask in Preventing Infection.—George H. Weaver (Journal A. M. A., January 12, 1918) points out that only in smallpox, typhoid, and diphtheria are specific measures available for preventing the spread of the diseases. In all other infectious diseases, including pneumonia, meningitis, and poliomyelitis, mechanical measures and antiseptics must be depended upon. In an extensive experience with various infectious diseases, brief isolation without an effort to prevent aerial convection, but with the frequent use of soap and water, the employment of separate gowns for each type of disease by both nurses and doctors, the proper disposal of excreta, and heat disinfection of bedding and clothing, there was almost no intramural transmission of the diseases. Even with diphtheria only thirteen per cent of the nurses contracted the disease although greatly exposed. Since the introduction of the Schick test and the immunization of susceptible nurses the proportion fell to less than three per cent. The occurrence of carriers ran at about twenty-three per cent among the nurses until the wearing of face masks was introduced when it promptly fell to only eight per cent. The masks used were made of two layers of gauze and shaped to fit snugly over the mouth and nose. The masks were never worn twice until sterilized and washed and were always replaced when evidently contaminated or when they became moist. The wearing of these masks by both nurses and doctors during an epidemic of meningitis entirely eliminated the development of nasopharyngeal carriers among both groups. The value of the use of masks is established, and it is suggested that they be used also in the presence of pneumonia and poliomyelitis.

Gynecology and Obstetrics.

Margaret H. Polk, M.D., Shanghai.


Among the 100,000 confinements in the New York Lying-in Hospital premature separation of the placenta took place in 254 cases. The incidence of this complication was noted in the ward service once in every 175 confinements, whereas in the outdoor department which more nearly represents the conditions in ordinary practice, it occurred once in 1,085 confinements. The diagnosis of accidental hemorrhage is made only when the symptoms are severe enough to require treatment. It is interesting to observe that the accident occurred twice as frequently in multiparae as in primiparae. In the 152 instances of marked hydramnios, premature separation of the placenta occurred but three times: four times in 1,078 cases of twins; twice in 29 cases of triplets; six times in 650 cases of toxemia of the eclamptic type. In five instances there was evidence of antenatal infection with elevation of temperature and a foul odor of the uterine contents when delivered. External trauma was a feature in 15 cases, fibroid in 3, and a short cord in 2.

Twenty-two deaths occurred in the 254 cases, a maternal mortality of 8.66 per cent. The mortality was considerably higher in the concealed hemorrhage cases, amounting to 25 per cent. No matter what the type of cases, the amount
of placental separation, or the method of delivery, with certain reservations, the same conditions apply as in placenta previa, those who lose much blood die; and those whose blood loss is conserved do not die. There were 133 stillbirths, a foetal mortality of 50.8 per cent in the 262 babies born. Thirty infants died in the first ten days, making a total foetal and infantile mortality of 62.2 per cent. In the concealed hemorrhage group, the only child that survived was delivered by Cæsarean section.

Of these 254 cases of accidental hemorrhage, 68 delivered themselves spontaneously after simple rupture of the membranes, with two deaths resulting, both due to infection; 27 spontaneously after vaginal pack, with no deaths; 8 spontaneously after the use of a Voorhees bag, with one immediate death due to hemorrhage and eclampsia. Version was performed 81 times with ten maternal deaths. It was done 14 times after cervicovaginal packing, 22 times after manual dilatation of the cervix and 20 as part of an accouchement force. Breech extraction was done 19 times. Vaginal Cæsarean section was done 5 times with one death. Abdominal Cæsarean section was done 7 times with no maternal death. The highest mortality occurred in those cases in which version was done after forcible or instrumental dilatation of the cervix.

In the opinion of the author the following indications would be proper in the treatment of accidental hemorrhage:

- The progression of spontaneous delivery when the patient in the first or second stage of labor begins to bleed moderately or profusely;
- if with slight bleeding labor pains subside;
- if with slight external bleeding symptoms develop of concealed hemorrhage.

Cervicovaginal packing with two per cent iodoform gauze:

1. in a case of moderate hemorrhage with cervix closed or dilated less than three fingers;
2. if rupture of membranes fails to institute strong pains;
3. if bleeding continues after rupture of the membranes: pack for four to six hours to hasten dilatation of cervix and to control bleeding by pressure on uterine vessels.

Forceps to hasten labor in the second stage if bleeding continues, or if the foetal heart shows signs of danger impending to the child.

Version only in cases with cervix fully dilated, with head above brim and uterus not tonic. The Braxton Hicks version is not of value as in placenta previa.

Manual dilatation of the cervix, which is generally dangerous and only to be employed to ream out the remaining rim of a fairly well-dilated cervix before proceeding with version, but never employed in the form of an accouchement force in a cervix of three fingers' dilatation or less.

Cæsarean section, in a case of concealed hemorrhage with closed cervix, the child either dead or alive; especially in the cataclysmic disruptive cases occurring before the onset of labor.

Hysterectomy only in cases of accompanying rupture of the uterus.

Postpartum packing of the uterus to control further hemorrhage after delivery in every case of accidental hemorrhage with symptoms pronounced enough to clinically identify it as such.

In brief, the author recommends, in the treatment of accidental hemorrhage, rupture of the membranes in the very mild cases, rup-
The China Medical Journal.

ture of the membranes and the use of the cervicovaginal packing in the more severe cases, reserving abdominal Cesarean section for grave concealed hemorrhage cases with closed cervix, and doing a hysterectomy only when there is accompanying partial or complete rupture of the uterus.

Parasitology.

Infection with the Roundworm Ascaris.—The usually accepted conception of the origin of ascariasis, or eelworm infection, in man and the pig, attributes it to ingestion of the egg of the parasite Ascaris lumbricoides. Stiles stated ten years ago that the eggs escape in the feces, and slowly (in from one to several months, according to conditions) develop embryos. No intermediate host is believed to be required, at least for Ascaris lumbricoides or the canine eelworm Toxocara canis, as it is in the case of certain other well known zoonoparasitic infections. It was maintained that when the developed eggs are swallowed, either in contaminated food or in water, or from hands soiled with dirt containing the eggs, the embryo develops directly to the adult stage. Drinking water and fruits, especially, are blamed for carrying the parasite to man. Stiles states that he has bred common house-flies in a dish containing eggs of the eelworm of hogs, a parasite closely allied to that of man, and later found the eggs in the intestine of the adult flies. According to Stiles, therefore, it would seem that flies, by breeding in privies, might act as disseminators of the lumbricoid worm in man.

In a series of notable papers on the life history of Ascaris lumbricoides, the common intestinal roundworm of man, and the closely related if not identical parasites (A. suum or A. suilla) occurring in the intestine of pigs, Capt. F. H. Stewart of the Indian Medical Service has come to a conclusion somewhat at variance with current opinion. He failed in his attempts to infect pigs, but found that if rats or mice were fed Ascaris eggs, the eggs hatched in the alimentary tract, and the embryos migrated to the liver, spleen, and lungs. In the course of their migrations they increased in size and passed through certain developmental changes, many of them finally reaching the alimentary tract again by way of the lungs, trachea, and esophagus. The young worms that succeeded in regaining the alimentary tract did not continue their development, and soon passed out of the body in the feces, so that rats or mice surviving the pneumonia commonly caused by the invasion of the lungs became free of the parasite as early as the sixteenth day after infection. Stewart concluded that it is necessary in the life cycle for the eggs to be swallowed by rats or mice, and that in these animals the embryos hatching from the eggs undergo certain migrations and developmental changes, after which they

* Stiles, C. W.: Osler's Modern Medicine, 1907, i, 597.
may be transferred in the feces or saliva of the rats or mice to food or other materials likely to be ingested by human beings or pigs, and thus ultimately reach their final hosts.

The importance of an accurate understanding of the mode of infection with *Ascaris* is obvious. It is one of the most common parasites of man, and may occur at any age. A repetition of the essential features of Stewart's work has been undertaken in the Bureau of Animal Industry at Washington by Ransom and Foster.* They, too, find that the development of *A. lumbricoides* and closely related forms is direct, and that no intermediate host is required. The eggs, when swallowed, hatch out in the alimentary tract; the embryos, however, do not at once settle down in the intestine, but migrate to various other organs, including the liver, spleen, and lungs. Within a week, in the case of the pig *Ascaris*, the migrating larvæ may be found in the lungs, and have meanwhile undergone considerable development and growth. From the lungs the larvæ migrate up the trachea and into the esophagus by way of the pharynx, and this migration up the trachea may already become established in pigs, as well as in artificially infected rats and mice, as early as a week after infection.

On reaching the alimentary tract a second time after their passage through the lungs, the larvæ, if in a suitable host, presumably settle down in the intestine and complete their development to maturity; if in an unsuitable host, such as rats and mice, they soon pass out of the body in the feces. Heavy invasions of the lungs by the larvæ of *Ascaris* produce a serious pneumonia which is frequently fatal in rats and mice, and apparently caused the death of a young pig one week after it had been fed with numerous *Ascaris* eggs.

Ransom and Foster venture to believe, further, that ascarids are frequently responsible for lung troubles in children, pigs, and other young animals. The fact that the larvæ invade the lungs as well as other organs beyond the alimentary tract and can cause a serious or even fatal pneumonia indicates that these parasites are endowed with greater capacity for harm than has heretofore been supposed.

The relative greater frequency of *Ascaris* infection in childhood and youth is well known. The susceptibility greatly decreases as the host becomes older, so that in adult man the infection is comparatively much rarer.—*Journal of American Medical Association*. February 16, 1918.

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**Report of the Amoy Health Campaign**, by Dr. S. M. Woo.—The campaign began on the afternoon of December 17th, 1918, and lasted one week. The audiences were divided into different sections, such as the local gentry and officials, native doctors, college students, high school students, primary school students, business men, women, girl students, and labourers.

The meetings began at 9 o'clock every morning. The first one hour and a half were devoted to seeing the exhibits and the second one hour and a half to the lectures. And on every evening moving pictures on "The Trail of the Germ,"
"War on Mosquito," "Fly," and a few other reels inserted for a change, were shown to the people. The subjects of the lectures were as follows:—Public Health, Personal Hygiene, Infant Hygiene, Home Sanitation, and Water.

Besides lectures given by us, there were three other illustrated lectures delivered at the different sections of the city by the local men on Fly, Plague, and Tuberculosis.

The exhibits were displayed in the school adjoining the church which was used for the lecture hall. We divided the exhibits into 15 sections: Tuberculosis, Fly, Communicable Diseases, Public Health, Plague, Apparatus, Infant Hygiene, Personal Hygiene, Home Sanitation, Patent Medicine, School Hygiene, and several rooms for the triangular lanterns, post cards showing sceneries of American cities and the microscope. About 60 students volunteered as explainers, and though they did not all eventually come, they did help a great deal in making the exhibits more vital to the audience.

The moving pictures, which were made even more interesting through explanation, were by far the most popular feature as well as the most instructive. People leave the exhibits forgetting most of what they saw; but they leave the moving picture hall with a very vivid mental picture of the subjects presented. We had only one reel belonging to the Joint Council; the others were all borrowed from the Y. M. C. A. Science Department, and from a friend in Amoy.

It will be highly helpful if we can obtain a good many more reels on public health topics, not only for our own use but that we may lend them to other people interested in public health.

Owing to the fact that the church used for lecturing was very small, seating only about 500 to 600 men, the audiences were much smaller than they would have been otherwise. Still, altogether about 13,000 people attended the exhibits, lectures, and moving pictures.

After the campaign a number of the educators and business men as well as the Y. M. C. A., men of Amoy gave Mr. Han and myself a reception, and then and there signed their names to organise a Public Health Association of Amoy. The purpose was to secure a great many members so that they might utilize the membership fees to employ a full-time man to continue the public health education, and, if possible, to start some health propaganda, such as, the destruction of rabid dogs, which are exceedingly prevalent in Amoy, vaccination, etc.

After the Amoy campaign, a rich man, Mr. Chen, invited us to give a two-days campaign in his village about seven miles from Amoy. Subjects on School Hygiene, Infant Hygiene, and Rural Sanitation were presented. Part of our exhibits was displayed. Some 3,000 peasants attended the lectures and exhibits. Their keen interest and warm reception of the campaign were most encouraging. Mr. Chen agreed to improve the rural sewage disposal as well as the water supply.

Health Work in Honan.—The Honan Public Health Association is still making satisfactory progress. The annual meeting was held in the theatre this year. A large attendance encouraged the promoters of the gathering. The annual report is to be published in Chinese and English. The Governor, who is a patron of the Association, was asked to present his photograph with a view to having it printed in the report. To the letter conveying this request and thanking him for his support he sent the following reply:
I am in receipt of your letter the contents of which have been noted. The enthusiasm of your Association has for a long time been appreciated by myself. Now on the occasion of the anniversary of your association a report is being published with the purpose of conveying information to the general public so that the importance of sound health rules in order to the prolonging of life may be fully realized.

I heartily approve your compassionate (heart) feelings and the earnestness with which you have voiced these matters. Herewith I send a copy of my photograph for insertion at the close of the report as a memento of the occasion.

With compliments, etc., Chao T'i.


To physicians in China the writings of Sir Patrick Manson must always possess a special interest, for it was during the years he spent in Amoy that he began his pioneering investigations of tropical diseases. His Manual, first published nearly twenty years ago, at once became one of the most popular and authoritative works on the diseases of warm climates. Since then it has gone through ten reprintings and six revisions. The present edition is marked by various improvements. As there is no longer any contention about the main facts the section on malarial disease has been abbreviated, though it still occupies one-sixth of the volume, while the rest of the book has been expanded so as to include a further description of other tropical diseases and to incorporate recent discoveries.

Quite properly, everything new must be proved up to the hilt before it can be accepted by the author. In the chapter on sprue, for instance, no mention is made of the work of Bahr and Ashford, who seem to have proved that the disease is due to invasion of the gastro-intestinal tract by a species of yeast. The author simply says: "Of course, micro-organisms, and especially yeast fungi, abound in the fermenting stools; but hitherto no bacterium or protozoon which could be regarded as specific has been found in connection with this disease." So with beri-beri and some other diseases. But in these days when so many discoveries are being made, and new opinions as to the causation and treatment of disease are constantly being put forward, it is well to have the veteran who can sift all the facts with a wise caution. Notwithstanding the growth of our knowledge, the author has managed to adhere to his original intention of providing a well-illustrated manual of handy size. It contains adequate information concerning all the important diseases of warm climates, and the illustrations, colored and plain, are well selected. It should be in the library of all physicians practising in the East.


As this text-book is now in its thirteenth edition it is evident that it steadily meets the needs of both students and practitioners. It is comprehensive and carefully compiled. Many diagnostic tables are given to aid in the differentiation of diseases, and full directions are given for their treatment. This last feature is
doubtless highly valued, for it is rather disappointing in the large number of
diseases for which there is no specific remedy simply to be given the direction that
the disease or its symptoms must be treated on general principles. While fully
appreciating how often the practising physician is placed in a position in which he
is compelled to form a therapeutic judgment for himself, the author has introduced
into the text numerous formulæ which his experience has shown to be possessed of
real therapeutic importance. In this new edition various subjects have been
rewritten and much new matter added, an article on "Febris Wolhynia" showing
that the volume has been brought well up to date. There are several illustrations,
some of them colored. Among the many American text-books on medicine this
one deservedly holds a leading place.

AN INTERNATIONAL SYSTEM OF OPHTHALMIC PRACTICE. Edited by Walter L.
Pyle, A.M., M.D., Medical Ophthalmology. By Arnold Knapp, M.D., with
Co., Walnut Street, Philadelphia. 1918.

In ordinary works on ophthalmology, a detailed description is given in
anatomical order of every disease and abnormality of the eye, its pathology,
diagnosis, and treatment, the whole subject being arranged as a distinct and
separate branch of medical science. The present work goes beyond this, as its
aim is to give the essential of what is known concerning the relations, more or less
remote, which ophthalmology has with other branches of medicine. After an
introductory chapter on the anatomy and physiology of the eye and the topographi­
cal diagnosis of visual path lesions, numerous diseases are given, including
those of the skin, in which the eyes are involved, the particular ocular disease or
abnormality being specified, but treatment does not come within the scope of this
particular volume of the series. The toxic amblyopias such as those due to
alcohol, nicotine, quinine, etc., are fully considered. The concluding chapter is
on hereditary diseases of the eye, including refractive errors. As the number of
Chinese with myopia is disproportionately large as compared with the peoples of
other countries, the author’s statement is interesting that as the result of a great
day of investigation on the heredity of near-sightedness, it has been shown that a
certain definite percentage (30 per cent) of myopes show a distinct inherited
tendency which has favored the development of this defect. The descent is
nearly always direct, and the influence of the father is greater than that of the
mother. If acquired characters were inherited we might suppose that in the days
when classical learning led to positions in the government service, the incessant
reading of complicated Chinese characters by multitudes of scholars of all ages
may have contributed to the development causing the eyes of these descendants were influenced in the same direction; but as acquired characters are
not inherited, it is difficult to explain why myopia is so common among the
Chinese. The eye-specialist should certainly possess this volume, and the general
practitioner particularly interested in eye-diseases will also find it useful.

HANDBOOK OF OPERATIVE SURGERY. By William T. Wheeler, B.A., M.D.,
F.R.C.S.I. With an introduction by Surgeon-General Sir Alfred Keogh,
Tindall & Cox, Covent Garden, London. 1918.

Originally this book was intended for those taking a course of practical
surgery for the first time and attention was chiefly focussed on operations as
performed on the dead subject. The plan has been changed as, in consequence of
the great war, medical students as soon as the final examinations are over, are
now rushed into the service of the army or navy and often burdened with heavy
surgical responsibilities. In the present edition, the author provides an introduc­
tion to the type of operation which may confront the inexperienced practitioner,
special attention being given to the changes which recent experience has suggested.
Although the ligation of arteries and the various forms of amputations occupy
nearly one-third of the book, adequate description is given of abdominal opera­
tions, the excision of joints, and other operations likely to come within the range
of the young surgeon at home or at the Front. Short reference is also made to
such subjects as local anaesthesia; the direct transfusion of blood; tendon trans­
plantation; the commoner deformities of the legs and feet, etc. The author's
purpose to furnish a working manual for the young surgeon has been well accom­
plished.

This is a very convenient and well arranged handbook called forth by the necessities of the great war. It is intended for the use of medical officers and others who must superintend the hygienic and sanitary arrangements made for troops in camp or field. Among the subjects considered are military hygiene and sanitation, personal hygiene, the marching of troops, selection of camp sites, messing of troops, the water supply, camp diseases, and illustrative regulations are given concerning camp hygiene and sanitation. Many illustrations are employed in order to give clear ideas of the sanitary apparatus used in different armies. We wish that this book and others of its kind could command a large sale in China as it would indicate a discipline of the soldiery and a regard for camp sanitation and hygiene which, speaking generally, are lamentably absent at the present time.


The author gives expression to an experience with which nearly all medical men can sympathize when he states that on beginning the practice of medicine, although moderately well equipped in the diagnosis and treatment of diseases which he seldom encountered, he was disconcertingly ignorant in those matters about which he was most frequently consulted. He searched for a book to enlighten his darkness, but found it not. Hence the writing of the present work as a help to others who may be in the same predicament. The subjects dealt with are coughs, colds, and sore throats; indigestion; constipation, diarrhoea, vomiting, and giddiness; rheumatism, neuralgia, headache; goutiness; minor glandular insufficiencies; general health; old age; some drugs and their uses; insanity. Many valuable diagnostic and therapeutic hints are found in every chapter. It is regrettable that proprietary medicines are recommended, even when substances of the same composition, though under another name, are in the national pharmacopoeia. Young practitioners, and not a few with more experience, will find the volume of great assistance in the treatment of the minor maladies described.


The value of administering scopolamine and morphine to women in childbirth in order to produce "twilight sleep" during which the pains of labor are not felt, has been the subject of sharp controversy. In this book the author presents all the arguments for and against the procedure. His own conclusion, based on personal experience, is strongly in favor of the induction of twilight sleep, provided the Freiburg technique is carefully and faithfully followed. He contends that the cases in which mother or child have suffered have been those in which the drugs were administered to the mother by men inexperienced in the Freiburg technique, or else by experienced men who had not the time or patience to use the memory test every half-hour. But he does not agree with the Freiburg post-partum treatment during the first few days after confinement. A special plea is made for the introduction of the method to India and other parts of the East, on the ground that a manumission of the women of the East must come, and as they progress they will claim all the benefits enjoyed by their Western sisters. The book is perhaps all the more interesting as it is not written in the severely restrained style which usually characterises scientific medical works. Useful specimen charts for recording cases are appended.


That the "Nauheim" treatment of diseases of the heart and circulation is in many cases decidedly beneficial is beyond question. In this work the author
describes the methods of its administration in such detail that medical men who have had no previous knowledge of it may, by carefully following the directions given, undertake the Naunheim treatment of their patients at home instead of sending them to the spas of Germany and Austria. A full description with twenty-seven photographs is given of the resistance exercises which are of use as an adjunct to the baths. The effect of the treatment upon cardiac conductivity is fully illustrated by numerous polygraphic tracings. In this edition special chapters have been added on arterio-sclerosis and high blood-pressure; angina pectoris; valvular disease and fatty heart; influenzae myocarditis and toxæmia; soldier's heart and heart-strain; irritable heart and Graves' disease. To general practitioners, more especially to those particularly interested in the treatment of cardiac diseases, this work is commended as it will enable them to avail themselves of a very valuable therapeutic agent.


A dictionary of handsome appearance that opens easily, has large clear print, gives accurate and sufficiently full definitions of all medical words and their correct pronunciation, and which contains all the additional information indicated on the title page, leaves little to be desired. In this, the ninth edition of Dorland's Dictionary, over 2,000 new words have been added, some of them having been very recently introduced into medical literature by the war. The illustrations are numerous and very good. The present writer finds the work indispensable and therefore is able to commend it sincerely to all who are in need of a good medical dictionary.


As stated by the author, this little book is designed to serve the needs of the medical student preparing for examination, and for the practitioner of medicine who desires to acquaint himself with the principal facts of the rapidly growing science of bacteriology. A great deal of information is compressed into a small space and the illustrations are numerous and good. This compend is one of the best of the series.


This small booklet, the amplification of lectures delivered before a mixed audience and therefore popular in style, contains the essentials of what everyone should know who is obliged to live for awhile beyond the range of municipal health departments and consequently must look after his own health and perhaps that of his companions also. The information is thoroughly sound and given in a very interesting manner. In the absence of medical men, all who live a life in camp, whether they be soldiers, boy scouts, or the less pretentious dwellers in caravans, should certainly obtain a copy or become familiar with its contents.
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.

difficulties of staining on Japanese slides.

To the Editor, C. M. J.,

Dear Sir,—I wonder if any of your readers have had the same difficulty I have had in trying to stain blood smears made on Japanese slides. I find that they will not take Wright or Leishman's stain, but stain blue, showing none of the red or purple elements. They are practically useless. Doubtless the glass is alkaline.

I have found that sometimes the specimens may be resuscitated and present a fairly good appearance by the following procedure. After examining with oil immersion lens and finding the color bad, wash the oil off with xylol. Then wash freely with distilled water and much of the blue element can be washed off, leaving often a fairly good slide. The rationale of the procedure is not clear but it often works. However, prophylaxis is, as usual, better than cure and the moral is, use American or English glass.

Yours truly,

Samuel Cochran.

Shantung Christian University, Tsinanfu.
April, 1918.

The Plague Prevention Service: A Correction.

To the Editor, C. M. J.,

Dear Sir,—Kindly allow me to correct a slight mistake made by you in the last number of the China Medical Journal. Last January I resigned from my post as one of the three anti-plague commissioners in Shansi, not from that of Director of the Manchurian Plague Prevention Service, which I have held since its inception. Your readers will also be pleased to hear that we have completed the plans for the establishment of a new laboratory and hospital at our headquarters in Harbin, which will cost over a hundred thousand roubles.

Fraternally yours,

Wu Lien Teh.

Harbin, April 23rd, 1918.

"... The mistake, due to an imperfect newspaper report, is regretted and we hope it has caused no trouble to Dr. Wu. It gives general satisfaction to know that he is still the Director of the Manchurian Plague Prevention Service.—Ed.

What is "Bipp"?

To the Editor, C. M. J.,

Dear Sir,—In the last section of the Journal, in the section on Surgery in Medical and Surgical Progress, mention is made of a substance called "Bipp" which is said by Crile to be used with good results in those cases of military surgery where the Carrel-Dakin treatment cannot be used. Can you give the formula of this antiseptic, and oblige,

Yours truly,

Antisepsis.

"Bipp," a word evidently formed from the initials of the names of the substances composing it, is an ointment devised by Prof. Morison (British Medical Journal, October 20, 1917) consisting of Bismuth subnitrate, 220 gms.; Iodoform, 440 gms.; Paraffin, 220 gms. The bismuth and paraffin are sterilized by dry heat at a temperature of 120° C. for thirty minutes. The bismuth, after cooling, is mixed with the iodoform in a mortar which has been sterilized by boiling water and formalin. The paraffin is added to the mixture at a temperature of 60° C. In the treatment of wounds it is used as follows: First cleanse with 5% sol. carbolic acid, and then under anaesthesia open the wound freely, if possible with sufficient thoroughness to enable the bottom of the cavity to be inspected; cleanse the cavity with dry sterile gauze and remove all foreign bodies; mop the skin and wound with methylated spirit and dry; rub the whole wound with Bipp and remove the excess. The wound may be at once closed with silk-worm sutures. A dry dressing is put on which is not removed for two weeks. At the second dressing, a week later, the wound will have healed and the stitches are then removed.—Ed.

Giddiness as Complained of by Chinese.

To the Editor, C. M. J.,

Dear Sir,—Some time ago I sent you an article on "Giddiness as complained
of by the Chinese," which has not yet been published. In it I mentioned how puzzled I often was as to its cause. Quite apart from the ordinary causes of giddiness such as eye strain, nasal (turbinai) disease, alimentary canal affections such as worms, hepatic affections, dyspepsia, constipation, and circulatory diseases such as anaemia, or organic heart disease, I said there was another quite distinct disease with giddiness as a prominent symptom. In this disease the giddiness is associated with low blood pressure and with gastro-intestinal symptoms such as anorexia and flatulence, and I thought the condition was due to the absorption of a toxin from the gastro-intestinal tract, and that this toxin had a powerful depressing effect on the blood pressure. Whether it acted as a vasodilator or as a myocardial poison, and whether the results were temporary or permanent I could not say. In all these cases it was necessary to remedy the gastro-intestinal conditions first, and then if the low blood pressure and giddiness still persisted, to give the patients cardiac tonics.

These are the cases I referred to in my last letter (C. M. J., 1918, p. 94), which cannot stand tonic treatment, i.e., Iron and Acid Mixture. The Chinese believe in our surgical work, but for the treatment of purely medical diseases believe more in their own native physicians. Have we got to the root of what they try to express by "cooling and heating" medicines and articles of diet? I think that much of our failure in the treatment of gastro-intestinal complaints is because we do not yet understand the condition of the Chinese alimentary canal. We treat the Chinese as if they were Westerners. How many of these cases, for instance, are chronic dysenteric cyst carriers?

From the protozoological findings in the stools of over 2,000 men, chiefly of the Mesopotamian Field Force, examined in India by MacAdam and Keelan (Indian Journal Medical Research, 1917, pp. 239-272), it was evident that at least 33% of the troops in Mesopotamia were "healthy," or "unhealthy" Entamoeba histolytica carriers. Further, it is disquieting to find that there is a fallacy in concluding from protozoological examination of the stools in hospital that the patient is clear from infection. In hospital the possibilities of intestinal irritation are reduced to a minimum; but when the patient is discharged, coarse food, excessive exercise and fatigue, and the lack of hospital discipline, will all tend to repeat the irritation. I think that an iron and acid mixture may do the same.

In a recent copy of the British Medical Journal, November 17, 1917, an interesting paper appears on the "Detection and Treatment with Emetine Bismuth Iodide of Amoebic Dysentery Carriers among Cases of Irritable Heart." These patients were among those who had returned from the Mediterranean Expeditionary Force. 55% of such cases treated showed a conspicuous improvement of the cardiac condition, as tested by the increased ability to do work. "The removal of a co-existing infection may lead to the alleviation of symptoms of irritable heart."

It would be interesting to know if it is simply the removal of a co-existing infection or the removal of toxine action, and also if an amoebic infection is not at the root of the "giddiness" so prevalent amongst the Chinese here in the South.

R. CHALMERS.

Leper and Insane Asylums.

To the Editor, C. M. J.,

DEAR SIR:—I wish very much to obtain full and accurate information concerning the number of Leper Asylums and Refuges in China and the number of lepers, approximately, who are under treatment. As far as I know, the only institutions of this kind are in Canton, Foochow, Hangchow (Dr. Main), and Hsiaokan (Dr. Powler). Also the number of Asylums for the Insane, with number of patients. Of these institutions I know only of the Asylum in Canton (Dr. Seiden) with 500 patients; and a small institution in Shanghai with 20 patients, under the charge of Roman Catholic sisters. I shall be very much obliged to those who will kindly give me this information.

Yours truly,

Wu Lien Teh.

Shanghai, April 22, 1918.

A Letter from Dr. Venable.

The many friends of our former President of the C. M. M. A., will be glad to learn from the following letter that he appears to be making satisfactory prog-
Dear Beebe:

Your letter of January 14th reached me some days ago. The new Union Missions Building that has been promised will certainly be fine for unifying mission work in China.

I am anxious to be in the thick of the fight again. It is hard lines to be tied up here as I am, but I hope I am learning the lesson of patience.

I was in a Sanatorium here for two months, but we have now rented a cottage and are keeping house. My case has never been a severe one. I have run a normal pulse right along and my temperature has never been above normal, though it is sometimes subnormal. On the whole I feel remarkably well. My cough is about the only thing I have to remind me that I have real trouble, and even that is much better now.

I am simply waiting for my lesion to fibrose. The specialists here in giving a prognosis deal in huge tracts of time, something after the manner of geologists, so I am tempted to take what they say cum grano salis. They seem to think it makes little difference to a patient whether he must stay here six months or 2 or 3 years, waiting for the accommodating leucocytes to build a barricade between him and the enemy.

Still, I am hoping that I shall be back in China some time next year.

Yours most sincerely,

W. H. Venable.

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NEWS AND COMMENT.

BIRTHS.

KING.—At Lanchowfu, on January 5, 1918, to Dr. and Mrs. G. F. King, of the China Inland Mission, a son (Raymond).

WASSELL.—At Wuchang, on February 5, 1918, to Dr. and Mrs. C. McA. Wassell, American Church Mission, a daughter (Ruth Helen).

DEATHS.

ALLAN.—At Chengtu, Szechwan, Stella Marian, aged eight years and ten months, daughter of Dr. and Mrs. F. F. Allan, C. M. M., of Chungking.

BAXTER.—On March 14, 1918, at Weihaiwei of typhus fever, Alexander Kidd Baxter, M.B., Ch.M., of the English Methodist Mission, and Medical Officer to the Coolie Depot at Kaolunation.

The War Office Emigration Agency at Weihaiwei and the British community as a whole have suffered a sad loss in the death before daybreak on Thursday, March 14, of Dr. Alexander Kidd Baxter, M.B., Ch.M., Medical Officer to the Coolie Depot at Kaolunation. Dr. Baxter was appointed Medical Officer in February, 1917, and his death (from typhus fever), incurred in the loyal discharge of duties directly connected with the prosecution of the war, entitles him to a distinguished place on the Roll of Honour of Britons domiciled in China who have given their lives for the cause of their country. A highly educated, deeply religious man, blending in a quite unusual and attractive way the qualities of missionary, scientist, and mystic, he has crowned a dedicated and active life with the supreme sacrifice of humanitarian and patriot.

The late Dr. Baxter was a member of the English Methodist Mission and the scene of his life's work was laid first at home, where he spent eleven years working amongst the poorest of the poor and then in China at Lao Ling Chu Chiai and Yang Ting Su, in Shantung Province. The hospital, which does so much good at the latter place, is almost wholly the result of his tireless energy and organization. He found it small and comparatively ill-provided; he left it vigorous, flourishing, and well equipped, a centre at once of physical and spiritual healing. For to the qualities of scientist Dr. Baxter added an intuitive knowledge of the hearts of men and all who met him on the via dolorosa and asked his help received it in abundance from brain and soul alike. Few men have loved better or been better loved. The deepest sympathy is felt for Mrs. Baxter and her twin son and daughter. Dr. Baxter was forty-nine years of age.
NEW BRANCH OF C. M. M. A.—The medical missionaries in Shansi have formed a branch association of the C. M. M. A. They met in Taiyuanfu during the Anti-plague Conference, which was the closing event of the Shansi anti-plague fight, and organized for mutual helpfulness.

The following doctors were present: O. G. Brubaker, M.D., Liaocho, Shansi; George K. Edwards, M.B., Ch.B., Taiyuanfu, Shansi; W. A. Hemingway, M.D., Taiku, Shansi; Stanley Hoyte, F.R.C.S., London, Pingyangfu, Shansi; Fred J. Wampler, M.D., Pingtingchou, Shansi. Dr. P. T. Watson, of Fenchoufu, Shansi, could not be present. Dr. Hemingway was elected president of the organization, and Dr. F. J. Wampler secretary. A number of questions relating to common problems regarding both hospital administration and treatment of cases were discussed. It was the expressed hope that the members might meet once a year for conference.

Nurses' Association of China.

Officers: —February 1918 to February 1920.

President: —Miss Baldwin, C. M. S., Foochow.

Vice-President: —Miss Hood, R.N., M. E. M. S., Soochow.

Treasurer, Mrs. Nicholls, A. C. M., Shanghai.

Gen. Sec., Miss Batt'y, C. I. M., Shanghai.

Ass. Sec., Miss Lenhart, A. C. M., Shanghai.

Edit. Sec., Miss Wells, A. C. M., Shanghai.

Registration Committee.

Mrs. Fryer, R.N., 4 Edinburgh Road, Shanghai.

Miss Wilson, M. E. M., Peking.

Miss Warner, University Hospital, Nanking.

Miss Warfield, Hunan-Yale, Changsha.

Mrs. Chai, C. M. S. Gen., Foochow.

Mrs. Bayard Lyon, Peiyang University, Tientsin.

Miss Mildred Wu, Hunan-Yale, Changsha.

Examination Committee.

Miss Hood.

Miss Haward.

ANTI-FOOTBINDING MOVEMENT IN SHANSI.—The anti-footbinding movement formerly was only existent in reports to the capital. During the past few weeks drastic measures have been adopted around Kiangchow. No small-footed women have been allowed at certain temple festivals, house-to-house visitation has been made in many places, and the village elders threatened if girls were found with bound feet.

HEALTH OF HINGI, KWEECHOW.—Measles have been, and are, raging in the city. We have had about six weeks of their presence now. A few cases of scarlet fever are also reported. Child deaths have been appalling. Almost every house in the city has had a case or two of measles. Non-recoveries have been very prominent. —N.C. Daily News, March, 1918.

CHINESE AND THE AMERICAN RED CROSS.—The suggestion to form a Chinese section of the American Red Cross, made at a meeting of the Society for Constructive Endeavour and then referred to the executive committee of which Mr. C. T. Wang is chairman, assumed definite form at a recent meeting of the society.

This movement, started as an expression of goodwill and sympathy by Chinese toward humanity and the philanthropic work of America, may well lead to the enrollment of several hundred thousand Chinese in the cause of Red Cross work in Europe through the American society.

In outlining the scheme Mr. Wang said that this movement in no way would interfere with the work of the Chinese Red Cross, the activities of which were limited to this country's needs. The constructive endeavours feel called to a duty to mankind as represented by the war sufferers in Europe and have elected to use the channel offered by the far-reaching American Red Cross organization.—North China Daily News.

SICKNESS IN SHAOHSING, CHE.—During March, local conditions were somewhat disquieting. The Chinese postmaster and his son both contracted scarlet fever. They were brought to the American Baptist Mission hospital before the nature of the illness was known, and the doctor had little option but to keep them, lest the fever should spread by means of the mail matter handled. There was also a large number of Chinese down with
diphtheria. A conservative estimate places the cases at 600, amongst whom the mortality has been very high, judging from the percentage of fatal cases brought to the mission hospital, generally when too late to render effective aid.

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**SCARLET FEVER IN HSUCHOWFU.**—Last year this dread disease swept over Hsuchowfu and it is said "invaded every yard." This spring it has gradually spread out from the city, sweeping through towns and country hamlets, and on the east of the city has travelled 50 miles. There has been a large number of deaths. Accurate statistics, however, are unobtainable. In one small village there were 40 fatal cases. In another hamlet that we know, there were only a few fatalities. We found newly-recovered cases in an audience where little scholars from three schools were assembled.

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**SALVARSAN, VERONAL, NOVOCAIN; CHANGE OF NAMES IN U S A.**—The Federal Trade Commission has issued licenses to three manufacturers to make salvarsan in the United States under the name of Arsphenamine, and has recently issued a non-exclusive license for the manufacture of Veronal under the name of "Barbital," this name to appear on the package together with the scientific name diethyl barbituric acid. The name veronal may also be used on the package in an explanatory sense. The commission has also issued licenses for the manufacture of novocain under the German patent, with the stipulation that it shall be designated as Procaine. The licensees are required to pay five per cent of their gross receipts to the Federal custodian of alien property. The commission reserves the right to fix the prices on these drugs if it should become necessary. These three synthetics are the first for which licenses to manufacture have been issued under foreign patents by the Federal Trade Commission, and physicians would do well to make a note of the new names assigned to the drug by the commission.

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**THE NEXT BIENNIAL CONFERENCE OF C. M. M. A.**—The following letter has been sent by the Executive Secretary to all members of the China Medical Missionary Association in China, accompanied by a postal card with certain questions so stated that they may be answered with the minimum of trouble.

Prompt replies are desired, so that the Executive Committee may be able to act without undue delay.

DEAR DOCTOR:—

The question of postponing the conference of the C. M. M. A. arranged to be held next January in Peking, has been suggested from several quarters and for three reasons.

First, because of the great war and the desirability of the closest economy that thereby we may do something to hasten the day of peace.

Second, because of the unrest and widespread disturbances in China.

Third, because the time fixed makes it peculiarly difficult for those in the South to attend a meeting in the North while the coldest weather is prevailing.

I have been asked by the local members of the Executive to secure an expression of opinion from the membership of the C. M. M. A. that the Executive Committee may later take the matter into consideration. Will you please indicate your opinion by placing x against the questions on the enclosed card and mailing it at your earliest convenience.

Thanking you for your kindness in replying,

I remain,

Sincerely yours,

ROBERT C. BEEBE,
Executive Secretary.

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**MURDER OF HOSPITAL PATIENTS IN YUNGKONG.**—During recent fighting between Northern and Southern Chinese troops in Yungkong, on the southwest coast of Kwangtung, soldiers entered the mission compound and started looting Dr. Ewers' residence. Dr. Ewers guarded the gate of the hospital to prevent more soldiers entering while another missionary got the looters out before they could reach the other residence. A non-commissioned officer, suddenly and without warning, murdered seven enemy soldiers who were lying wounded in the hospital, which was a Red Cross hospital.

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**MEDICAL MISSIONARIES FROM CHINA IN FRANCE.**—In a letter to Dr. Beebe from "somewhere in France," Dr. Freeman writes, "We are busy here as you may have heard. Dull, Stuckey, Mathews, Peardon, Auld, R. S. Struthers, E. B. Struthers, Reeds, Clift, Cooper, Bradley, Smith, Cox, Leslie, Leggate, Wills, and yours truly. The Chinese are making good."
The China Medical Journal.

American Red Cross Work in France.—Every one knows that the American Red Cross is spending hundreds of millions of dollars in France which are in large part furnished by the subscriptions and donations of American friends of France. They have supported the French military activities by the establishment of hospitals and ambulances, by sending surgical instruments, and by the organization of canteens and shelters in certain situations. They also have provided means to receive and care for orphans and children of refugees and repatriates; they have aided in rebuilding ruined cities, in reconstructing and again making useful agricultural districts, and, finally, they have inaugurated a more methodical and more effective campaign against tuberculosis.

Acting in behalf of the French writers, who are all particularly interested in the rapid reconstruction of all the creative forces of our country, the Society of Men of Letters tendered a reception recently in its quarters at Rouen to the directors and chiefs of services of the American Red Cross. All the members of the board of the Society of Men of Letters assisted at this reception. The president, M. Georges Lecomte, welcomed the delegates and spoke of the reasons why French literature must be profoundly sympathetic with the work that is being done by the American Red Cross and give full recognition to the devoted men and the generous donors whose valuable cooperation has made it possible to carry on this work successfully. Then, after stating that the delegation from the Red Cross was composed of representatives of the highest American individuality, prominent physicians and surgeons, professors from the most celebrated universities of the United States, and social organizers and workers, he expressed the hope that the bonds of literature and science uniting the intellectuals of the two republics would lead to still closer union between the Americans and the French. Homer Folks, in replying, gave expression to the sentiments of esteem and affectionate admiration with which the American Red Cross associates its efforts to the devoted men and the generous donors whose valuable cooperation is needed in this undertaking.

The Report for the months, October-December, 1917, on work for the eradication and control of Uncinariasis in Siam, including cumulative data for the year 1917, has recently been compiled and issued by Dr. M. E. Barnes of Chiangmai, Siam, representative of the International Health Board of the Rockefeller Foundation. Since the beginning of the work in Chiangmai, 10,518 cases have been examined of whom 7,750 were found infected with ringworm. These cases are analysed in various ways and the results shown in a number of interesting tables. By the treatment of individual cases, the proper disposal of night-soil, the use of latrines, by public lectures and house-to-house educational work there has been a very marked decrease in the percentage of infection which there is every reason to believe will be permanent. It is clearly evident that the absolute eradication and control of hookworm infection in this region is possible if all will cooperate in the effort to persuade each individual to be examined and treated if found infected.

Notice.—The Day Missions Library of Yale University wishes to secure the following numbers of the China Medical Journal:

Vols. I to VI inclusive and entire.
Vol. VIII. No. 3.
Vols. XII to XXIV inclusive and entire.

Anyone having these numbers to dispose of will please communicate with Dr. Robert C. Beebe, Executive Secretary, 5, Quinan Gardens, Shanghai.

Shanghai Museum.

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.