CASES OF ANTEPARTUM HEMORRHAGE IN A CHINESE HOSPITAL.*

CLARA B. WHITMORE, M.D., Shanghai.

The following is a report of all cases of antepartum hemorrhage which have occurred in the Margaret Williamson Hospital, Shanghai, during the 4½ years I have been connected with it.

The total number of births during this period was 2,000.

The total number of cases of antepartum hemorrhage, excluding abortions and minor hemorrhages, was sixty-five. Of this number, fifty-four were cases of placenta praevia, and eleven of accidental hemorrhage (placenta abruptio).†

Placenta praevia is the development of an abnormally placed placenta in the area of dilation of the uterus. The cause of this low implantation of the ovum is the abnormal vascularization of the decidua, whether it be increased in the form of endometritis, or decreased in the form of defective vascularization growing out of inflammatory and atrophic changes. Whatever favors these changes is a contributing factor. Accidental hemorrhage is generally understood to mean hemorrhage which occurs from the separation of a normally situated placenta, in contradistinction to the unavoidable hemorrhage of placenta praevia. As said by a leading obstetrician, these terms may be considered misnomers, as not unfrequently the etiology is almost the same.

In the 65 cases of antepartum hemorrhage here referred to, multiparity, rapidly repeated and multiple pregnancies, subinvolution, syphilis, and nephritis have been chiefly responsible for the ever-present endometritis.

*A paper read before the Conference of the C.M.M.A., held in Peking, 1920.
†According to the “Standard Nomenclature of Diseases and Pathological Conditions, Injuries and Poisonings,” issued by the U.S. Government, 1919, the terms for antepartum hemorrhage should now be (1) Hemorrhage from Placenta praevia; (2) Hemorrhage from Detachment of Placenta, Accidental.—Ed.
THE ADMINISTRATION BUILDING, WEST CHINA UNION UNIVERSITY, CHENGDU, SZECHWAN.
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FREQUENCY OF ANTEPARTUM HEMORRHAGE.

Does one attack of hemorrhage predispose to another? Yes, because the same cause operates the second time that was active the first, and the third time that was active the second time. Of the sixty-five patients, five were primiparae and sixty were multiparae.

The number of hemorrhages occurring in the different decades for the two varieties of antepartum hemorrhage are as follows:

<table>
<thead>
<tr>
<th></th>
<th>15-25 yrs</th>
<th>25-35 yrs</th>
<th>35-45 yrs</th>
<th>45-55 yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Placenta praevia</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>= 54</td>
</tr>
<tr>
<td>Accidental hemorrhage</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>= 11</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>22</td>
<td>30</td>
<td>6</td>
</tr>
</tbody>
</table>

When it is considered that the greater number of births normally occur between the ages of 25 and 35 years, the much smaller ratio of cases of antepartum hemorrhage in this period compared with the cases which occurred between the ages of 35 and 45 years, is very significant.

In placenta praevia the average number of labors for each woman was 6 2/11, and the average age, 36 years.

In accidental hemorrhage the average number of labors for each woman was 6 2/11, and the average age, 32 7/11 years.

A study of the series showed that the occurrence of placenta praevia is not only favored by the frequency of child-birth but also by the rapidity with which labors have occurred. It happened in six women at the 8th labor; in three at the 9th; in five at the 10th; in five at the 12th; in four at the 13th; in three at the 14th labor.

One woman, whose 14th labor was rendered difficult by this complication, previously had placenta praevia of the central variety five times in 4 ½ years and is still living. Another woman had three labors in 4 ½ years, one of which was complicated by placenta praevia of the central variety. Another, married at 37, had borne twelve children normally, two multiple pregnancies included, but at the age of 48 with the 13th child, she had placenta praevia.

Four patients gave no definite history of previous disease; four gave a history of malaria and cough; twenty-six of nephritis; thirty-one of syphilis; and fifty-seven of endometritis. A number have suffered both from syphilis and nephritis.

There are three varieties of placenta praevia: marginal, the partial, and the central. So far as was demonstrable in these cases, the age, the number of pregnancies or the previous diseases seemed to have no influence in determining the variety.
### Table II. Mortality due to Placenta Prævia.

(Chinese Hospital.)

<table>
<thead>
<tr>
<th>Type of Case</th>
<th>Number of Cases</th>
<th>Maternal Mortality</th>
<th>Fetal Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marginal variety</td>
<td>13</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Partial</td>
<td>8</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Central</td>
<td>33</td>
<td>4</td>
<td>32</td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
<td>5</td>
<td>44</td>
</tr>
</tbody>
</table>

This gives a mortality rate for mothers of 9.2%; and for the children, 81.1%. As these figures are for the Chinese only and under the conditions peculiar to China, it is interesting to compare them with those of other countries.

### Table III. Comparative Statistics of Mortality due to Placenta Prævia.

<table>
<thead>
<tr>
<th>Hospital</th>
<th>No. of Cases</th>
<th>Maternal Mortality</th>
<th>Fetal Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>McPherson Lying-in Hospital, New York</td>
<td>250</td>
<td>45 = 18%</td>
<td>142 = 57%</td>
</tr>
<tr>
<td>De Lee, Chicago</td>
<td>7</td>
<td>3 = 4%</td>
<td>47 = 56%</td>
</tr>
<tr>
<td>Moscow Maternity, Moscow</td>
<td>480</td>
<td>56 = 11%</td>
<td>277 = 58%</td>
</tr>
<tr>
<td>Treub</td>
<td>120</td>
<td>14 = 11.7%</td>
<td>66 = 55%</td>
</tr>
<tr>
<td>Hammerschlag, Germany</td>
<td>101</td>
<td>7 = 6.3%</td>
<td>161 = 84%</td>
</tr>
<tr>
<td>Füth</td>
<td>726</td>
<td>143 = 19.7%</td>
<td>617 = 85%</td>
</tr>
<tr>
<td>Hantel</td>
<td>123</td>
<td>12 = 10%</td>
<td>106 = 87%</td>
</tr>
<tr>
<td>Margaret Williamson Hospital, Shanghai</td>
<td>54</td>
<td>5 = 9.2%</td>
<td>44 = 81.1%</td>
</tr>
</tbody>
</table>

In the Margaret Williamson Hospital, the specific causes of the deaths of the mothers were: sepsis, one; hemorrhage and shock, three; rupture of uterus, one; total, five. The causes of the fetal mortality were: prematurity, thirty-one; inspiration pneumonia, one; asphyxia, nine; version and birth injuries, three; total, forty-four.

The prematurity was as follows: birth at 5½ months, one; at 6 months, twelve; at 7 months, sixteen; at 7½ months, two; at 8 months, nine; at 8½ months, three; at the beginning of ninth month, one.

Of the 54 cases of antepartum hemorrhage, only three showed any trace of sepsis. One patient came in with an infectious fever, and her temperature was 105°F. For the eight days she remained in the hospital her temperature never fell below 104°F. at any time, and two weeks later she died at home. In the other two cases the temperature never exceeded 101°F. and then for only two days, indicating absorptive fever rather than puerperal sepsis. However, there are certain facts to be remembered in connection with possible sepsis in cases of placenta prævia: (1) the blood vessels have a greater absorptive power owing to their emptiness after a hemorrhage; (2) the proximity of the placenta site to the external unclean parts; (3) the tendency of the
placenta to adhere in small bits around the edge of the cervix and lower uterine segment; (4) the greater necessity for packing the uterus owing to its lack of tone; (5) the injury resulting from hasty manipulation and instrumental interference.

In every case of placenta prævia the hemorrhage was unaccompanied by pain. No cause for the hemorrhage was given by any of the patients. In 42 cases the hemorrhage occurred while the patient was quietly sitting, or while lying in bed. In 12 cases it occurred while at stool. Fourteen cases had but one hemorrhage; five had two distinct hemorrhages; thirty-five had from three to an indefinite number of hemorrhages, covering from one day to one month. In five cases the amount of blood lost was small; in two, it was medium in quantity, and in 47 cases a large quantity was lost.

Nothing definite characterized the hemorrhage belonging to any particular variety of placenta prævia, but in general we may say that in the central variety the hemorrhage came on earlier, at the sixth month of pregnancy or soon after. The first hemorrhage was usually small. The hemorrhages may be repeated until finally the amount is large and the loss dangerous to life. In partial placenta prævia the hemorrhage is usually later, and it may occur during labor. In the marginal type it may not come on till the middle of the 9th month; or it may not occur until after the first stage of labor is over, thus favoring the life of both mother and child. The hemorrhage may come from the sinuses of the placenta site; from the intervillous spaces of the placenta; from the circular sinus of the placenta; or, in case of interference, from the villi, i.e., the fetal blood vessels.

Of the cases of placenta prævia centralis there were four patients who had one hemorrhage; four who had two; seven who had three; and eighteen who had four hemorrhages or more, to an indefinite number.

Of placenta prævia partialis, there were five patients who had one hemorrhage; three patients who had three; one, who had four, and four who had five hemorrhages.

In all the 54 cases the hemorrhages were external. In no case has there been internal hemorrhage.

In what percentage of cases has hemorrhage been present during delivery, and in what percentage has postpartum hemorrhage followed? During delivery, 53 cases were free from hemorrhages; one case only was attended by hemorrhage. Postpartum hemorrhage occurred in two cases; in one case, two hours after delivery, in the other, the second day after delivery. Packing the uterus was the preventative measure used.
Cases of Antepartum Hemorrhage.

What percentage of cases have been attended by shock at time of delivery, or after delivery? Sixteen patients suffered from shock during delivery, but recovered and were not troubled by it after the child was born. Seventeen patients suffered from shock after delivery, but were free from it during delivery.

As to the symptoms present on entrance, in all the fifty-four patients the hemorrhage was more or less profound. In fifty-three the abdomen was soft and the foetus palpable. In one patient the abdomen was tense and hard, foetus not palpable, due to accompanying edema. In 53 cases, the bag of waters was soft; in one case the membranes had already ruptured. In 13 cases, the foetal heart sounds were heard, and in the same number of cases there were movements of the foetus. Of these 13 children ten escaped injury and survived. In three cases the children were born alive, but died within two hours after birth from the effects of version and birth injuries.

In how many cases had labor begun before instrumental interference? Of the 54 patients with placenta prævia four had distinct labor pains before interference. In 50, there were aching, heaviness and distress, but labor had not begun. The four cases in which there were labor pains were all of the marginal type.

How many cases were there of malposition or malpresentation? One, with presentation of the shoulder. The remaining 53 were normal presentations for the time of delivery.

What plan of treatment was followed? The plan which met the indications in the given case. The first and most urgent measure was to stop the hemorrhage; the second, to empty the uterus; the third to render hemostasis secure. In 47 of the 53 vertex cases we performed dilatation and version and there was spontaneous delivery, and in six there was vertex delivery.

<table>
<thead>
<tr>
<th>No. of Cases</th>
<th>Variety</th>
<th>Period</th>
<th>Delivery</th>
<th>Mother</th>
<th>Child</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>marginal</td>
<td>9 months</td>
<td>spontaneous</td>
<td>Lived</td>
<td>Died</td>
</tr>
<tr>
<td>1</td>
<td>central</td>
<td>7</td>
<td>craniectomy &amp; forceps</td>
<td>Died</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>partial</td>
<td>8½</td>
<td>spontaneous</td>
<td>Died</td>
<td>Lived</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>9</td>
<td></td>
<td></td>
<td>Died</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>9½</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>8½</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

One of the mothers died and five of the children.

Only when the previous hemorrhage has been moderate, and labor pains regular with the head able to control the hemorrhages, is vertex delivery chosen. If the head is not engaged, version and spontaneous delivery have better results.
ACCIDENTAL HEMORRHAGE (PLACENTA ABRUPTIO).

The cases of accidental hemorrhage have already been partly considered in connection with the cases of placenta praevia, as the etiology is much the same.

The differential diagnosis rests upon the following symptoms. Accidental hemorrhage is characterized by a sudden onset, severe pain and severe hemorrhage, either internal or external, while unavoidable hemorrhage is a painless, causeless hemorrhage, always external. In accidental hemorrhage, we find clinically that the abdomen is distended, tense, and painful to touch. The fetus cannot be felt; the fetal heart tones are absent; when the os uteri admits the finger, instead of the rough spongy placenta the smooth membranes are felt; the bag of waters is tense, allowing the head to be easily felt. In placenta praevia the abdomen corresponds to the period of pregnancy, is soft, sometimes a fetal heart tone is present and the placenta is palpable in the isthmus uteri.

Of the eleven patients with the complication of accidental hemorrhage, one was a primipara and ten were multiparae. All gave a history of either nephritis or syphilis, or both. Nine gave a history of rapidly repeated pregnancies, and four ascribed the hemorrhage to injury. As a matter of fact, the hemorrhages would have occurred even if there had been no injury.

In none of the patients did hemorrhage occur before the 8th month. Its onset was in every case accompanied by agonizing pain and there was both external and internal hemorrhage. Eight mothers died out of the eleven, giving a death-rate of 72.7%. Nine babies out of the eleven died, giving a death-rate of 81.8%. In one case the uterus was ruptured and the child was in the peritoneal cavity.

Premature separation of the placenta, whether accidental or unavoidable, is one of the most dangerous conditions met with in obstetrical practice.

Blood Transfusion in Obstetrics.—Loosee (Med. Record, January 14th, 1920) records thirty-nine cases, with three deaths, of blood transfusion for acute hemorrhage—for example, placenta praevia, postpartum hemorrhage, ruptured ectopic gestation—and twenty-nine transfusions with no deaths for anemia secondary to postpartum hemorrhage, with localized pelvic sepsis. The blood was usually obtained from professional donors. The transfusion sometimes amounted to 1,000 c.cm. Unmodified blood was employed in preference to citrated. The successful results included cases in which, when the transfusion was begun, no heart sounds were audible, respirations were as few as six per minute, and the median basilic vein was empty. Loosee believes that many lives were saved which would otherwise have been lost, and says that obstetric institutions should be prepared to perform the operation instantly and at any time.
Kala-azar in North China.

KALA-АЗАР IN NORTH CHINA.*

J. H. WYLIK, M.D., Paotingfu.

During the past two years we have admitted into the wards of the Paotingfu Hospital 35 cases that were diagnosed as kala-azar. But as it was not our general practice to perform a splenic puncture in every case and examine a smear microscopically, we cannot say that all were, without question, cases of kala-azar. We do say, however, that all presented the clinical picture of this disease.

ETIOLOGY.—We have not attempted to make any study of the mode of transmission of the disease, or of the nature of the Leishman-Donovan bodies. All the patients were males between the ages of 4-30 years. Classed according to decades they were as follows: 10 years and under, 13 (37%); 11 to 20 years, 15 (43%); 21 to 30 years, 7 (20%).

There is good reason to believe that a very much larger number of cases occur in the first decade of life than is here indicated, because parents were often unwilling to leave very young children in the hospital. Then, too, most of the small children go to the Women’s Hospital where many of these cases are seen every year. Furthermore, in many of these small patients it was very difficult to give tartar emetic injections owing to their small veins, and when too difficult the children were not encouraged to enter the hospital.

A large proportion of the patients came from three districts (hsien) southeast of Paotingfu. We have had no cases from the west and only one or two cases from the north of our center. The section from which these patients came suffers from floods in the rainy season. One village has sent us six cases, and three or four more have come from nearby villages. Of course it may be that only in certain districts do they know that we are treating this particular disease.

SYMPTOMS.

ONSET AND DURATION.—Most of the patients had been suffering from the disease for from one to three years before admission. They were therefore decidedly chronic cases. The shortest term of duration was one month; the longest was eight years. The usual description was, that it began with an attack of malaria, which was soon followed by abdominal pain and the appearance of a large mass in the abdomen.

*A report presented to the Conference of the C. M. M. A., held in Peking, February, 1920.
Upon admission, the patients were usually emaciated; the skin presented a dry, glossy, greyish appearance; the mucous membranes were pale, and small ulcers on the lips and about the teeth were not uncommon. The temperature usually varied from 100° F. to 102° F.

**Spleen.**—There was in every case a markedly enlarged spleen. It often extended downward and to the right as far as the umbilicus; in several patients it crossed the midline. In one case the spleen reached the right iliac fossa so that the lower edge could not be felt as it was behind the ilium. The diagnosis was verified in this case by splenic puncture. As a rule, the spleen was smooth, hard, and not tender. The liver was palpable in about 50% of the cases, for from 2-8 cm. below the costal arch.

**Blood Picture.**—There was a marked leucopenia in all the uncomplicated cases in which the blood was examined. We have records of 22 patients whose blood was examined from one to five times and in only one patient did the white cell count reach 6,000. This last patient had a severe pneumonia to which he succumbed a day or two later. His blood showed 11,000 white cells per cmm. The average count was from 1,500 to 3,500. There was always considerable diminution of the polynuclears and decided anaemia. The haemoglobin was usually below 50% and the red cells below 3,000,000 per cmm. When the finger is pricked, the blood which comes out is thin, watery, and pale in appearance. It does not stand up, as blood usually does, but spreads out flat on the skin and clots slowly. So far, we have not been finding Leishman-Donovan bodies in the peripheral blood.

**Epistaxis.**—Bleeding from the nose, also from the gums, is almost a constant symptom. There are often necrotic or ulcerated areas about the teeth.

**Respiratory System.**—Respiratory complications have been frequent, and were the immediate cause of death in 70% of the patients who died since coming under our care.

**Gastro-intestinal Complications.**—These were also common. Many of the patients suffered from a troublesome diarrhoea.

**Cancrum Oris.**—This was a complication in one case which ended fatally.

**Diagnosis.**

The diagnosis was based upon the blood examination, bleeding of the nose and gums, ulcers and gangrenous areas in the mouth, irregular fever, enlarged liver and spleen, and the finding of the Leishman-
Douovan bodies in the splenic pulp. In fifteen cases the diagnosis was verified by the finding of the Leishman-Donovan bodies in the splenic pulp. As stated above, we did not make it a routine practice to do splenic punctures for several reasons. In the first place, as we have not been giving an anesthetic for this procedure, we did not feel that it was wise to attempt splenic punctures on patients we were not sure could be controlled. Hence several of the smaller patients were not thus examined. Secondly, some of the patients were admitted in such bad condition that it was thought wise to omit the splenic puncture. Thirdly, in the rush of work it was impossible to do all the punctures we would like to have done.

The patients were always prepared for the splenic puncture by giving them calcium chloride two or three days beforehand. As far as we know, we had only one bad result, and that occurred in the case of a boy who had been prepared for operation and was given a puncture before going to the operation room. He struggled during the procedure and, upon laparotomy an hour later, he was found to have about one-half pint of fresh blood in the peritoneal cavity. As a rule, however, our splenic punctures have been uneventful.

**PROGNOSIS.**

Of the 35 cases admitted to the hospital in 1918 and 1919, we have heard from 16 patients during the past two weeks. We know that ten died either while in the hospital or after leaving us. The other nine patients have not been heard from; we therefore report them according to their condition on discharge.

- Cured: 11 (31%)
- Improved: 6 (17%)
- Unimproved: 8 (23%)
- Dead: 10 (28%)

These figures do not represent the real results of our work, however, for they include several cases that we never had a chance to do anything with. For a more detailed discussion all the patients are divided into three groups.

**Group 1.** This group includes seven cases treated surgically by splenectomy. The operations were all done in the summer of 1918, just after we began to give especial attention to this work. One of the patients developed a pulmonary complication while in the hospital and died shortly after his discharge. We diagnosed his case as tuberculosis; but as he coughed very little and did not raise any sputum we were not able to find the tubercle bacillus. It may have been Kalar-azar in North China.
broncho-pneumonia of a low grade. The other six cases improved rapidly after operation and were discharged in good condition. Two of them died some months after their return home, probably of influenza. They were said not to have had a return of their former symptoms. Two others have been heard from lately and are said to be cured. One returned to the hospital about eleven months after his discharge, with a complete return of all of his symptoms, nose bleeding, fever, etc. His liver was greatly enlarged, and there was a marked leucopenia. Following treatment by injections of tartar emetic, the liver has diminished in size, all the symptoms have abated, and the patient is now in good condition. The remaining case was heard from a few days ago. He has a large mass in the right side (evidently the liver), is running a temperature, and says that he is no better than he was before the operation. In these seven patients with kala-azar upon whom splenectomy was performed, the result after a period of eighteen months is as follows:—

- Dead ... 3 (43%).
- Cured ... 2 (28 1/2%); one was not seen by the physician and the cure verified by personal observation.
- Relapsed ... 2 (28 1/2%); one has since improved under tartar emetic.

Group 2. In this group are ten patients, one of whom was in the hospital for 18 days, another 16 days, and the rest for less than 11 days. One died with cancrum oris and three with pneumonia within the first few days after admission. Two patients came to the hospital for diagnosis only and were discharged without treatment. The other four remained only for a few days and were discharged unimproved or but slightly improved. Of the four who died, two received no tartar emetic. One received a single dose of 2 cgm. The other received four doses amounting to 8 cgm. The administration of tartar emetic cannot therefore be a factor for or against the mortality.

Group 3. In this group are eighteen patients who remained under treatment for periods varying from 30 to 200 days and therefore gave us a chance to see what could be done by medical treatment. The following is, as far as we know, their present condition:—

- Cured (patients reported within the past few days) ... 8 (44%).
- Improved (do. do.) ... 2 (11%).
  .. (when discharged) ... ... ... ... 3 (17%).
- Unimproved (do.) ... ... ... ... 1 (5 1/2%).
  .. (patient reported within the past few days) 1 (5 1/2%).
- Died (in the hospital) 1; (after discharge) 2; = 3 or (17%).
This group shows therefore marked improvement or cure in 72%, and a mortality of 17 per cent. I have myself seen only two or three of the patients cured. The other cures were reported by our country evangelist or by some member of patient’s family.

**TREATMENT.**

Here I wish to refer to a little book on kala-azar recently published by Muir of India. His suggestions are very full and complete and I would advise every one who has to deal with this disease to read what he has to say. Had I seen his book earlier, I am sure that my report to-day would have shown better results. He describes his treatment under four heads.

1. **Production of Leucocytosis.** Up to the present we have made no attempt to do this. But along this line it is interesting to note two or three cases. We had come to the conclusion that a secondary infection, if it did not kill the patient, was on the whole beneficial. Dr. Wang, of our hospital, who had never used tartar emetic, had made this observation and he said this fact was well-known to the Chinese laity. The cure of one patient was, I think, materially aided by a cancrum oris which involved the palate and right superior maxilla. In another patient, who had pneumonia and recovered, the spleen diminished noticeably during the attack. There is a teacher in a neighbouring school who is said to have had large spleen during boyhood, and who recovered from this malady after having a secondary infection in the form of cancrum oris which took away a large part of his upper lip. Muir recommends the intramuscular injection of the following solution to increase the leucocytosis. He calls it the TCCO mixture.

   | Ingredient | Quantity |
---|------------|----------|
| Turpentine | 10        |
| Camphor    | 10        |
| Creosote   | 10        |
| Olive oil  | 25        |

Begin with five drops injected simultaneously on both sides of the body, and repeat as soon as the soreness and swelling have disappeared. Muir usually injects into the buttocks.

2. **The Destruction of the Parasites.**—It is in this direction that we have put forth our greatest effort, by the intravenous injection of potassium antimonyl tartrate. We have used a 1% or 2% solution in normal saline. Following the suggestion of Neiva and Barbara we have tried to avoid boiling the solution after the tartar emetic was added. We sterilized the saline in a bottle, and added the tartar emetic just as the saline was being taken from the instrument sterilizer; by the time the solution cools it is practically sterile and yet has not been subjected to the heat of boiling. Muir simply
adds the antimony salt to distilled water and boils for half an hour. In his opinion the boiling does not injure the strength of the solution, but he thinks the solution should always be freshly prepared, as, if it is not, the solution may become toxic on standing, due to some obscure change in the salt. He also insists that only the heavy salt of antimony be used. Recently, Muir has begun the use of sodium antimonyl tartrate, as he believes the medical properties of this substance are almost the same as those of potassium antimonyl tartrate and it is not so toxic. There are some cases, however, in which he still has to use the potassium salt.

We usually begin with two mils of 1% solution, injecting on alternate days and increasing one mil (1 cgm.) each time until we are giving 6 or 8 cgm. to children under 15 years of age, and 10 to 15 cgm. to adults. The solution is very irritating to the tissues and must be carefully injected intravenously. Great care must be taken not to let any escape into the tissues. We use an all-glass 5 or 10 mils syringe with a fine needle and inject into either vein at the bend of the elbow or into the external jugular. At first it is often very difficult or impossible to inject into the veins of small children and emaciated patients. Muir suggests the use of digitalis to improve the circulation. I often let the patient's arm hang over the side of the bed for a little while before giving the injection, or hold the hand in hot water. Skill in intravenous injection is very much to be desired and should be practiced with salt solution in the needle until one is able to do it quickly and accurately.

In injecting tartar emetic there are danger signs that must be kept in mind. Vomiting, coughing, sweating, or dizziness, immediately after injection indicates that the dose has been too large; a smaller dose should be given the next time. Muir increases the strength of the dose more slowly than we have been doing, as he increases it only 1 cgm. per week.

In the 18 patients of Group 3 who were treated with tartar emetic for a longer or shorter time, the maximum dose by intravenous injection varied from 5 to 15 cgm., and the number of injections for each individual varied from 6 to 55. Concerning the patient who received only six injections it was almost impossible to get the needle to enter the veins; we used 10% antimony ointment inunctions in his case, but without any very encouraging results. The average amount of drug given to each patient was 1.28 gms. (potassium antimonyl tartrate). The maximum amount given was 3.93 gms. in 39 doses; other patients received as follows: 3.28 gms. in 55 doses; 3.05 gms.
in 47 doses; 2.01 gms. in 51 doses; and 1.77 gms. in 42 doses. In general it may be said that the patients who received the greatest number of injections, and therefore the largest amount of the drug, showed the best results.

Of the three patients who died, one received 0.37 gms. in 24 doses; the second 0.44 gms. in 12 doses; and the third, 1.06 gms. in 24 doses. This last patient, eighteen years old, had mitral insufficiency and decompensation. One day he suddenly fell to the floor and when picked up was dead. The largest dose that he received was 0.06 gms; during the two days which immediately preceded his death, he received no tartar emetic. Whether or not the drug had anything to do with his death I do not know. Hereafter, in a similar case I would give smaller doses and watch the blood pressure more closely. Of the two cases discharged unimproved, one received 0.22 gms. in 6 doses and 44 inunctions of antimony ointment. The other received antimony ointment only. The ointment was used because we could not give the drug intravenously.

3. Complications.—Pneumonia is very much to be feared; it was the immediate cause of death in 70% of the deaths in our series. Tartar emetic is an irritant to the respiratory tract in large doses. This irritation, with the lowered resistance due to leucopenia, makes it all the more imperative that the lungs should be closely watched and that the tartar emetic be stopped should any unfavorable signs appear. Tartar emetic was not a factor in the deaths here stated, as the patients died either before the treatment was begun or after they left the hospital and treatment had been discontinued. Diarrhoea was noted in 5 of the 18 cases, and the tartar emetic was probably a factor in causing it. This drug is a stimulant to the digestive tract in small doses and an irritant in large doses. Its stimulating effect is shown by the enormous appetites which these patients develop after treatment has been begun. This appetite is dangerous, however, as it is apt to lead to digestive disturbances due to the fact that the intestinal tract is not able to digest the large quantity of food which the patient eats, and because the diminished leucocytosis renders the body less able to cope with infection. The diet should therefore be carefully guarded. Diarrhoea is an indication to stop giving tartar emetic, but the TCCO mixture may be continued. A low blood pressure is also an indication for care. These cases need digitalis.

4. Tonic Treatment.—We have been using Blaud’s Pills, and a pill recommended by Dr. Hsueh, of Shuntefu, containing strychnine, quinine, and arsenic.
Muir recommends the following mixture:—Ferri et quinine cit., grains 5; Quin. sulph., grains 4; Magnesium sulph., dram 1; Acid nitro-hydrochloric, minims 6; Liq. arsen. hydrochloric, minims 3; Syrup aurant., minims 20; Aq. q.s. Give three times daily after food.

The histories of the three patients present are as follows:—

Case t. 18/439. Tang, male, aged 14 years. Admitted to hospital, May 16, 1918. Duration of disease, one year; w. b. c. i,6co; r. b. c. 2,610,000. Spleen markedly enlarged; bleeding from nose and gums; splenic puncture, positive; splenectomy performed; recovery uneventful; received 8 inunctions of 10% antimony ointment during convalescence. Discharged, June 15, 1918.

The patient was again seen on November 19, 1918. No return of symptoms; he returned again to clinic on February 20, 1919. Reported bleeding from nose; patient not strong; liver becoming enlarged. Readmitted to hospital on April 29, 1919. Temp. 99-100 °F.; liver, palpable 9 cm. below costal margin in right mammary line; w. b. c. 16,750; polymorphonuclears, 42%. He was given 41 injections of tartar emetic, amounting to 2.9 gms., injecting every second day. Patient now (February 10, 1920) has 22,000 w. b. c. There is no fever, or other unfavorable symptom. The liver is palpable 5 cm. below costal margin. Patient says he is cured.

Case 2. 18/483. Kuo, male, aged 17. Admitted 5/1/18. Anaemic; large spleen; hemorrhage from nose; gangrenous area in front part of hard palate. Patient stayed one night and was discharged.

The patient returned on May 29, 1918. The gangrenous area in hard palate had increased and now involved the right side of palate and right superior maxilla. Right side of face badly swollen; marked exophthalmus; right eye, blind. Patient looked hopeless but he remained ten days. Was given mouth-washes, and injections of tartar emetic were begun. He was discharged, but came daily to the clinic for 6 or 8 weeks; at the end of this time a large sequestrum of the superior maxilla was removed, after which the treatment was continued for three weeks and then he discontinued his visits to the clinic.

On February 24, 1920, the patient returned again, having been without treatment for 18 months. His temperature is normal and the spleen is only 2 cm. below costal margin. W. b. c. 6,000, with 66% polymorphonuclears; r. b. c. 6,000,000. Dr. Li reports total optic atrophy in right eye.

Case 3. 19/335. Peng, male, aged 13. Admitted May 12th, 1919. W. b. c. 3,000; Hb. 38%. Spleen extends to midline above the umbilicus; liver palpable 3 cm. below costal margin. Patient remained in the hospital 96 days, during which time he received 26 inunctions of antimony ointment, and 16 injections of tartar emetic amounting to 0.66 gms. Readmitted, November 10, 1919. Spleen slightly less enlarged than at first; w. b. c. 5,800; Hb. 50%. Patient remained 108 days and received 31 injections of tartar emetic amounting to 2.39 gms. of the drug. During this period he had an attack of pneumonia. At present (February 10, 1920) the patient has no fever, and no epistaxis; w. b. c. 6,300; polymorphonuclears, 76%. Spleen is still enlarged but much smaller than before, being now 9 cm. from midline. Liver still palpable.

In addition, I wish to report three other cases. Unfortunately, the patients are unable to be present.

Case 4. 18/878. Chao, male, aged 22 years, merchant. Admitted to hospital, November 11, 1918, complaining of mass in left side of abdomen. History of
fever, loss of strength, epistaxis. On admission, spleen extended to within 2 cm. of umbilicus and to a horizontal line 2 or 3 cm. below umbilicus; r. b. c. 2,850,000; w. b. c. 4,000. Spleen puncture, positive. A brother had died with large spleen and after frequent attacks of epistaxis. Patient's temperature rose daily to 99 °F.—100 °F. As he was a good, strong adult, he was given daily injection of tartar emetic, beginning with 2 cgm. and increasing up to 15 cgm. The injections were usually given every other day. On days when he did not get tartar emetic by injection, he received an inunction of 10% antimony ointment. Discharged on December 30, 1918. In hospital, 49 days. Received 21 inunctions and 21 injections of tartar emetic totalling 2.15 gm. At that time the spleen was 6½ cm. from umbilicus and 5½ cm. from midline, and the lower edge was about level with the umbilicus.

The patient was readmitted February 11, 1919. The spleen had continued to diminish and was now 7 cm. from midline and reached to line on a level with the top of umbilicus; w. b. c. 5,000; r. b. c. 4,100,000. He was given 19 injections, averaging daily 10 cgm. each, 1.95 gms, in all. Discharged March 6, 1919. Spleen was 9½ cm. from midline.

The patient was seen again 4 or 5 months later and was in splendid condition. There had been no return of symptoms and the spleen could just be felt about 2 cm. below costal margin on deep inspiration.

Case 5. 19/305. Hao, male, aged 15 years. Admitted to hospital, 5/7/19. Lower edge of liver, palpable; spleen, 4 cm. to right of midline; w. b. c. 4,600; Hb. 38%; albumin in urine; abdomen distended; irregular temperature, rising to more than 100 °F. at times. Remained in the hospital 37 days. Received 18 inunctions of antimony ointment and 18 injections of tartar emetic, totalling 0.92 gm. tartar emetic. The patient improved and was discharged, but came to clinic and received injections on alternate days for about two weeks, after which he returned home. I saw him on February 10, 1920, and found him free from all symptoms of the disease. The liver and spleen were just palpable on deep inspiration. Pronounced cured.

Case 6. 19/259. Male, aged 17 years. Admitted to hospital, April 19, 1919. In the hospital 48 days. Spleen 7.5 cm. to right of midline; liver, palpable; temperature, occasionally to 102° F; w. b. c. 1,420; r. b. c. 2,280,000; Hb. 40%. Inunctions of antimony ointment, 15; tartar emetic, 13 injections, totalling 1.12 gm. When patient was discharged the spleen was 1 cm. to right of midline. He was much improved in appearance. Appetite good; no epistaxis. Seen again on February 10, 1920. Liver not enlarged; spleen palpable just under costal margin. No other symptoms. Patient pronounced cured.

New Treatment of Kala-azar.—In The Lancet, 1919, i, 505, Sir Leonard Rogers records a trial of Colloid Antimony Sulphide intravenously in kala-azar, the new preparation having been made for him by F. L. Usher. It is best used as a 1-500 pink solution, made isotonic with 5 per cent glucose, and ½ per cent carbolic acid is added as a preservative. Tests on animals showed it to be very much less toxic than sodium or potassium antimony tartrate, a rabbit standing nearly the dose required for a man. Ten cases treated with this preparation were all cured, and, on comparing the results with those obtained by the same observer with the two antimony tartrate salts, the duration of the fever was much shorter, and the gain in weight was twice as great under the colloidal preparation, while toxic symptoms were nearly absent, so that the new drug appears to have great advantages over the formerly-used very toxic salts of antimony. The method of preparation is given.
ON THE RARER FORMS OF ADENOMYOMA.*


The subject I have chosen for our consideration to-day, the rarer forms of adenomyoma, is one which is becoming of increasing importance and cases of the kind that are about to be discussed are certain to occur from time to time in your practice here. While at home in England I saw an interesting case which came from China. It has been known for several years that tissue having the structure of uterine mucosa sometimes appears in abnormal places; but the credit of bringing this matter to the front belongs in great part to Cullen, of Baltimore, and to Von Recklinghausen. From 1894 onwards, diffuse growths have been found in the uterine wall, attended with definite symptoms amongst which menorrhagia and dysmenorrhoea were the most pronounced. These growths on microscopical examination proved to be due to the invasion of the uterine wall by the uterine mucosa. Cullen proved the continuity of this mucosa with the endometrium and the true name for these adenomyomata ought to be endometric fibromyomata.

The next development was the recognition of the fact that tumours composed of uterine mucosa, fibrous tissue, and smooth muscular tissue, were occasionally found in other situations such as the recto-vaginal septum, the vaginal wall, the round ligaments, both inside and outside the internal abdominal ring, the Fallopian tubes, the ovary, the umbilicus, and the post-peritoneal tissues. A varying amount of fibrous and myomatous tissue is combined with the uterine mucosa. The main symptoms in all these cases are the presence of a tumor, which is not always large, however, and pain at the menstrual period. These tumours usually occur in middle-aged females from 30 to 50 years of age. Superadded to the symptoms mentioned there may be small cysts filled with altered menstrual blood; these are seen well especially when situated in the vaginal wall and they sometimes project as small polypi into the vagina.

* A paper read at the Conference of the C.M.M.A., held in Peking, February, 1920.

NOTE.—Before reading his paper, Dr. Maxwell announced that at the Union Medical College Hospital, Peking, it was hoped to open a pathological laboratory in connection with the Obstetrical and Gynecological Department in which specimens could be collected and preserved. Its success would depend a great deal upon the amount of co-operation received from doctors throughout China. Specimens of all kinds were desired, particularly teratomata, monsters, etc. Those in charge will be very glad to render any service possible to physicians in China, especially in the way of pathological diagnosis.
The growths are in one sense non-malignant, for if removed completely they do not recur and they do not metastasize. In another sense they are malignant, for they infiltrate and invade surrounding tissues and it is this which constitutes the main danger. Not only may they invade the rectal wall, but they may also strangulate the parts in close conjunction with them. For instance, they may surround and compress the ureter to such an extent as to bring about urinary obstruction, pyelitis, and death from uræmia. It is well, therefore, to be on the watch for such cases, as in the early stages operation is comparatively easy, whereas in the late stages it may become practically impossible. One requires also to bear in mind the extent to which the tumours are non-malignant, as patients have been deemed to be the subjects of malignant disease when such was not the case and most gloomy prognoses have been given, which fortunately were not fulfilled.

I am glad to be able to show to you this afternoon sections from growths situated at the umbilicus, in the vaginal wall, and in the abdominal wall. The former are from the Gynecological Laboratory at Johns Hopkins Hospital, Baltimore, and the latter is a specimen from a patient operated on at the Mayo Clinic, Rochester, Minn.

I am indebted to Dr. Broders for the section which I now show you. The patient was a woman on whom had been performed the operation of abdominal fixation. Since the operation she had suffered from great pain at the periods, there was a certain amount of menorrhagia, and there was a hard lump to be felt in the middle line in the position of the scar. Dr. Judd operated and found the uterus had been sewn to the abdominal wall with non-absorbable sutures, and in this position an adenomyoma had developed. In this case it is possible that the preceding operation had transferred uterine mucosa into the abdominal wall, but this is by no means certain. The uterus itself was little enlarged. In dealing with the recto-vaginal growths care had to be taken not to perforate the rectum; on the other hand, it was necessary completely to remove the growth. Frequently, after having freed the uterus behind and at the sides (for it is almost always necessary to do a total hysterectomy) it is well to work down in front, cut across the vagina, and then peel the growth upwards off the part of the rectum affected. During the operation the diagnosis may generally be confirmed by the visible presence of small blood cysts containing menstrual blood.

In conclusion, may I beg of you always to regard with suspicion a patient who develops painful menstruation when well on in life, bearing in mind the possibility of the case being one of the kind described.
DISLOCATION OF ULNA ALONE.

F. J. WAMPLER, M.D., Pingtingchow, Shansi.

Dislocation of the ulna alone is of rare occurrence and some surgeons have believed it is impossible unless there is rupture of the interosseous ligament and of the ligaments uniting the lower ends of the bones, and of such rupture of ligaments there is no clinical evidence. This erroneous belief in the impossibility of the occurrence without the extensive lacerations mentioned, arose apparently from a failure to consider the effect of a change in the relation of the axes of the arm and forearm; for while the occurrence of an isolated dislocation of the ulna backward and upward might be impossible while those relations remained unchanged, yet if, the joint being extended, the forearm is adducted, turning upon the head of the radius as a centre, the olecranon must necessarily move upward behind the humerus; or, the joint being flexed at a right angle, the same movement of adduction or the equivalent outward rotation of the humerus will displace the olecranon backward. (Stimson, Fractures and Dislocations.)

Because of this comparative rarity of dislocation of the ulna alone, I report the following case that came to the Brethren Hospital at Pingtingchow, Shansi, on June 8, 1920.

The patient was a Chinese farmer, aged 35. The cause of the dislocation was a fall upon the extended left hand. He thought he had broken his arm and went to a shepherd who attempted to reduce and set the injury. The arm did not get any better, so the patient came to our dispensary, twenty-three days after the accident. The signs of backward dislocation were very evident. The olecranon was prominent and above a line joining the two condyles. The diameter of the elbow was enlarged, and there was a prominence in the curve of the elbow over the ulnar side which proved to be the internal condyle of the humerus. The forearm was semi-flexed and could be moved very little either in flexion or extension. Lateral motion was hypernormal. The hand was held in a position midway between supination and pronation. There was shortening of the ulnar side of the forearm. The head of the radius could be felt to rotate in the proper position. Without an X-ray examination it was impossible to determine whether the coracoid process was fractured or not.

The reduction under an anaesthetic, twenty-five days after the accident, was easier than we had expected. An assistant steadied the lower end of the humerus, the forearm was extended as far as possible,
and then gentle forward traction, gradual flexion, with rotation at the wrist to the supine position, brought the bone back into place. The arm and forearm were put up in an angular splint and in eighteen days passive motion was begun. In twenty-five days the splints were removed and the patient returned home with only a slight limitation of the normal range of motion at the elbow.

TREATMENT OF MYOPIA.

Calvin C. Rush, M.D., Canton.

In listing the causes responsible for probably two million or more cases of blindness in China, trachoma would head the list. Gonorrhoea would probably follow as a close second, with syphilis third, and myopia fourth. Few cases of blindness are due to accidental causes as the industries of China are not yet developed, so there is a comparative scarcity of machines.

My attention has been particularly called to myopia on account of its great prevalence and the careless manner in which it is regarded by the Chinese.

As one of the physicians connected with a school of six hundred students, I have been called upon during the past year to examine sixty-four members of the student body because of errors of refraction. Including students from other schools, ninety-six were examined.

The different errors of refraction found to be present were as follows:

<table>
<thead>
<tr>
<th>Type of Myopia</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple hyperopia</td>
<td>2.1%</td>
</tr>
<tr>
<td>Simple myopia</td>
<td>10.4%</td>
</tr>
<tr>
<td>Simple hyperopic astigmatism</td>
<td>11.4%</td>
</tr>
<tr>
<td>Simple myopic astigmatism</td>
<td>4.2%</td>
</tr>
<tr>
<td>Compound hyperopic astigmatism</td>
<td>23.9%</td>
</tr>
<tr>
<td>Compound myopic astigmatism</td>
<td>43.8%</td>
</tr>
<tr>
<td>Mixed astigmatism</td>
<td>4.2%</td>
</tr>
</tbody>
</table>

From this it is seen that the different forms of myopia were found in 58.4% of the students examined, a percentage approximately 4½ times greater than would be found in an American college.

Of the myopic cases which had been examined before coming to us, not more than one out of four wore an astigmatic correction and an even smaller number had been examined under a cycloplegic.

The great prevalence of myopia in China must be due in large measure to the insufficient lighting in homes, schools, and shops.
Studying in a dark room, the little student must bend his head down close to his work to see the characters which he is making or the book which he is reading. Whether due to congestion or muscle pressure or other cause, the myopic condition is started, and being increased by darkness and unchecked by a proper selection of glasses, it progresses to the severe forms. Such cases are all too numerous in China.

The physician who is not satisfied with helping the individual patient, but who wants an ever-widening influence, should not become discouraged in urging the reform of better lights in homes and schools. Every physician should feel it his duty to see that the students in the neighboring schools and colleges are taught the proper methods of lighting school-houses and homes, and the proper position of holding one's work in relation to the light.

Such propaganda would, no doubt, far outweigh the good that one may do in refracting individual cases, especially since the prevention of myopia is usually easy and its cure impossible.

Every physician, whether he prescribes glasses or not, should be familiar with the rules for the care of the eyes and all other measures which are best calculated to stay the forward march of the disease.

We usually give near-sighted students the following advice:

1. Do not hold your book nearer to your eyes than is necessary to see the print.

2. Do not read or do other close work unless you have a good light. Avoid especially reading by twilight or in a dark room.

3. Do not read or work facing the light. Let the light fall from over your shoulder upon your book. If you are writing, the light should fall over your left shoulder so that the shadow of your fingers does not confuse the eyes.

4. Do not read a book the type of which is very small or written on either cheap or shiny paper.

5. Do not continue to read if doing so causes pain or discomfort. Stop reading for awhile and bathe the eyes with cold water until relief is obtained.

6. Look squarely through the centre of the lenses and do not permit the frames to become twisted out of shape.

Patients with a high grade of myopia should not be permitted to take full school work and the eyes should be examined under atropin every year to be sure that the myopia and attendant astigmatism are properly corrected. If, in spite of this, the myopia is found to be progressive, the patient should be taken from school.
The examination of myopic patients should be made under atropine except in cases of advanced age or increased tension.

The physician who examines a myopic patient under forty years of age without using a cycloplegic should not accept a fee for his services.

The presence of astigmatism should be earnestly sought and corrected. It is generally accepted that the astigmatism, which as a rule accompanies myopia, unless corrected may be an important factor in causing an increase in the myopia.

The question of whether full correction should be given in myopia is one on which ophthalmologists do not agree; but the preponderance of opinion among experienced men favors a full correction in lower degrees and approximately two-thirds correction in higher degrees, the prescription varying with the kind and amount of muscle imbalance, the progressiveness of the condition and the strength of the ciliary muscle. If you under-correct, the patient may increase his correction to suit himself by looking obliquely through his glasses—a pernicious habit, because in so doing he looks through a cylinder as well, thus giving the eye a temporary astigmatism. This habit may be a potent factor in increasing the myopia.

The prejudice against giving the full correction in myopia is, no doubt, due to the fact that unless the ophthalmologist is on his guard, the patient will usually select a higher myopic glass than his full correction.

Suppose in testing a patient you find that with a —2.00 sphere he has 6/6 vision. If now you place a —2.25 sphere before his eye he will probably select it as the better glass. The increased brightness pleases him. If, however, he cannot see more letters with the —2.25, one is not justified in prescribing it.

In examining the eyes of a patient, especially if he has a high grade of myopia, one should be careful to place the lenses as near the eyes as possible without touching the lashes; otherwise, if tested with the lenses farther from the eyes, the patient accepts too strong a glass with injurious results.

Spectacles, not eye glasses, should be uniformly prescribed to myopic patients.

Removal of Lens in High Myopia.—In myopes of over 20 D, where vision cannot be much improved by glasses, extraordinary improvement of vision has been obtained by removal of the crystalline lens. The operation for soft cataract is performed, but the posterior capsule should not be needled, lest the vitreous be involved. Only one eye should be done, and then only where the fundus is healthy, for there is some evidence that the operation increases the liability to detached retina. (Harman, Ophthalmology, p. 133).
HERMAPHRODITISM IN CHINA.

True hermaphroditism consists in the development and persistence of testes and ovaries in the same individual. It is of rare occurrence in man; according to Pick (Archiv. f. mikr. Anat., Bd. 84, 1914), there are only four authentic cases on record. The condition is not uncommon in the lower vertebrates, and is the normal condition in many invertebrates (earth-worms, snails, etc.). In cases of human hermaphroditism of this type, the secondary sexual characters are usually intermediate between the male and female, tending now one way, now the other. The external genitalia show a small penis with hypospadias, cryptorchism, or small vaginal opening.

Pseudo-hermaphroditism is characterized by the presence of genital glands of one sex in an individual which exhibits more or less marked secondary characters and genitalia of the opposite sex. In masculine hermaphroditism an individual possesses testicles, but the external genitals (by retarded development) and secondary sexual characters are like those of the female. In feminine hermaphroditism ovaries are present, but the other sexual characters (e.g., abnormally developed clitoris) are male. (Prentiss and Arey, Text-book of Embryology).

These derangements in the normal development of the genital organs and their functions are of wider scientific interest than may be supposed owing to their possible dependence on some disorder of the endocritic system, and because "in the study of hermaphroditism, in all its varieties, lies our hope of discovering the factors concerned in the determination of sex in the human subject subsequently to fertilization." (Blair Bell, The Sex Complex, 1916, p. 129.)

The photograph here reproduced depicts one of the forms of pseudo-hermaphroditism. The subject is a little girl, Chinese, aged six years. Dr. Nathaniel Bercovitz, of Hainan, who sent the photograph, states that the clitoris has the size and proportions of a penis two inches long. Such cases are of curious interest to the Chinese and, judging by their literature, give rise to the belief in sex transformation and other strange notions.
In a recent article entitled "Sex Transformation and Hermaphrodites in China" (Amer. Jour. Phys. Anthropol., 1920, Vol. III, No. 2, p. 259), Berthold Laufer has collected from Chinese records, chiefly the official historical annals, all the allusions he can find to cases of these physical abnormalities. The greater part of his article follows.

Sex 'transformations' in human beings must have been observed by the Chinese at an early time. King Fang, a philosopher of the first century B.C., who made a special study of the ancient book of divination, the Yi king, indulged in some philosophical speculations on the subject and regarded it as a foreboding of evil; thus the transformation of a woman into a man augurs that worthless creatures will become kings. The following eleven cases are on record.

In the thirteenth year of King Siang of Wei (306 B.C.), a woman became transformed into a man. During the period Kien-p'ing (6-2 B.C.) of the Emperor Ai of the Han dynasty, there was a man at Yü-chang (Kiang-si Province), who changed into a woman, was married to a man, and gave birth to a son. In the seventh year of the period Kien-ngan (A.D. 202), there was a man in Yüe-swi (Se-ch'wan Province), who became transformed into a woman.—Ts'ien Han shu, Ch. 27 B, p. 23; Hou Han shu, Ch. 27, p. 4 (Annals of the Former and Posterior Han Dynasties" respectively).

In the beginning of the period Ning-k'ang (A.D. 373-376) of the Emperor Hiao Wu of the Tsin dynasty, a woman, née T'ang, of Chou-ling (Hu-pei Province), was gradually transformed into a man.—Sung shu, Ch. 34, p. 29b ("Annals of the Liu Sung Dynasty").

In A.D. 886, a girl who had not yet her teeth, in the district of Mei, prefecture of Fung-siang (Shen-si Province), was transformed into a male. She died after ten days.—T'ang shu, Ch. 36, p. 22b.

In 1512, there was in a village of Shen-si Province a woman, who was transformed into a man and grew a beard. Subsequently she brought forth two sons.—Shen-si l'ung chi ("Gazetteer of Shen-si Province").

In 1547, there was in the prefecture of Ta-t'ung (Shan-si Province) a woman who became transformed into a man.—Shan-si l'ung chi ("Gazetteer of Shan-si Province").

In 1620, a man of Kwang-chou (in Ho-nan Province) Wu Lo by name, married a woman of the family Ch'en; after several days she changed into a man and grew a little moustache.—Ju-ning fu chi ("Gazetteer of the Prefecture of Ju-ning").

In 1625, a woman, née Ma, of T'ung Ch'eng (Ngan-hwei Province) changed into a man at the age of seventy.—Kiang nan l'ung chi ("Gazetteer of Kiang-nan").
In 1631, a woman, née Li, of Hwa-t'ing (prefecture of Sung-kiang, Kiang-su) changed into a man.—Ibidem.

In 1638, a poor woman, née Sun, in the Home for the Old at Loyang (Ho-nan Province), at the age of over seventy, grew a moustache.

In regard to hermaphrodites, the following four cases are on record. In A.D. 306 a son was born to Sie Chen of Wai-ki (prefecture of Shao-hing Che-kiang). He had a large head covered with hair, and the two soles were turned up. In the upper part of the body he was shaped like a male and a female. At the hour of his birth he possessed the voice of a male. At the end of a day he died.—Tsin shu ("Annals of the Tsin Dynasty").

At the time of the Emperors Hwi and Hwai (A.D. 290-312) of the Tsin dynasty, there was in the capital Lo (in Ho-nan Province) an hermaphrodite (literally, "one in whom the body of a man and a woman is united"). He was capable of having sexual intercourse as a man or a woman, and was inclined to excesses. This is the result of a disturbance of the vital forces.—Sung shu, Ch. 34, p. 276 ("Annals of the Liu Sung Dynasty").

In the first year of the period Yüan-hi (A.D. 304), under the Emperor Kung of the Tsin dynasty, a man of Kien-ngan (Fu-kien) had no glans on his penis; it was straight and flat. From below his trunk he had the shape and body of a woman.—Ibid., Ch. 34, p. 296.

In A.D. 1436 there were in T'ai-ts'ang chou (Kiang-su Province) two hermaphrodites; people called them "the double-shaped."—T'ai-ts'ang chou chi ("Gazetteer of T'ai-ts'ang chou").

In the modern written language, the term for hermaphrodism is yin-yang ("combination of female and male elements"); also tse hiung ti'ng ti' ("body in which male and female traits are united"), and liang sing ku' yu ("being possessed of a double nature"). The hermaphrodite is accordingly styled yin yang jen or yu yin yu yang ("man with female and male qualities"), and pan nan pan nü jen ("an individual half man, half woman"). In the colloquial language of northern China we hear er wei-tse ("one with two tails"); in Amoy (in southern China), people speak of a liang kung dzin ("man of two shapes"), poan-ts'i-hiong ("half-female-male"), or yu si ts'i hiong ts'i dz'in ("individual who can pose as a female or male"); the Cantonese say pan nam nü ke yan ("half-man-woman-individual") or yam yeung ping yau tik ("one who unites in himself female and male qualities").

H. Ramsay (Western Tibet, p. 61) states that hermaphrodites are not known in Ladakh. Ladakhis think ill luck is caused by human
Stone: ATYPICAL MALE SEX-E-ENSEMBLE IN THE GOAT.

Fig. 3. Photograph of anus and external genitals. The hind legs are spread apart and the scrotum forced somewhat caudal.

Fig. 6. Photograph of the left side of a dissection of the internal genitals.
monstrosities, and it is therefore probable that these are killed as soon as they are born.

Hermaphrodites, as far as I know, have never found expression in Chinese art as in Greek sculpture (cf., for instance, S. Reinach, Hermaphrodite, in his Cultes, Mythes et Religions, II, pp. 319-337; M. Houel, Pièces d'hermaphrodites conservées au Musée Dupuytren, Bull. Soc. d'Anthr., XIV, 1881, pp. 554-556). Chinese art is asexual and anti-sexual.

In the European literature on China I have not been able to find any allusion to the two subjects here treated. In India hermaphrodites seem to be better known. Thevenot (Travels, part 3, containing the Relation of Indostan, p. 23, London, 1687) writes that for the first time he saw hermaphrodites at Surat in India. "It was easy to distinguish them, for seeing there is a great number in that town, and all over the Indies, I was enformed before hand, that for a mark to know them by, they were obliged, under pain of correction, to wear upon their heads a turban like men, though they go in the habit of women."

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**ATYPICAL MALE SEXE-ENSEMBLE IN THE DOMESTIC GOAT.**

ROBERT S. STONE, B.A., Anatomical Department, Peking Union Medical College, Peking.

In the literature dealing with hermaphroditism and pseudo-hermaphroditism in man there are over two thousand cases reported. But the record of each new case, whether in man or other mammals, may add a little more to our understanding of this complex problem and at least presents one more variation for consideration.

The congenital malformation forming the subject of the following description may perhaps be most accurately defined as a case of atypical male sexe-ensemble. The goat was examined first alive, then killed, injected with formalin and dissected. I wish here to express my thanks to Dr. R. W. Dunlap of Temple Hill Hospital, Chefoo, China, by whose courtesy this interesting material was obtained.

Rickards in a publication describing a pair of twin goats, somewhat similar to the one described below, mentions the case of a celebrated he-goat that sired eleven kids in one season and all were hermaphrodites. Similar phenomena may occur in China where the breeding of milch goats is becoming increasingly important. It is
hoped that the publication of this paper may arouse interest in the subject and lead to the recording of further cases. In such records special attention should be paid to the pedigree and life habits of the malformed animals.

**DESCRIPTION OF SPECIMEN.**

*External Genitalia:* (Figs. 1, 2, 3, and 5).

The anus (An.) was normal in position and size. A median raphe (Ra.) extended ventrad from the ventral border of the anus for 4.5 cms. Two ridges passed 2.5 cms. ventrally from the ventral end of the raphe enclosing a narrow shallow groove (Gr.) between them. The cephalic wall of the dorsal half of this groove was formed by a mucous membrane. A probe could pass directly dorsad from this groove through an aperture (Apertura urogenitalis, Ug. ap.) into the urethra. The urethra seemed to be just under the skin.

Ventral to the above mentioned groove was a round, red glans penis (Gl.) which appeared to be in a permanent state of turgescence. It was grooved on the left side. The resulting sulcus passed cephalad into a blind sac about 1.5 cms. deep. The sac was formed by a thick fold of skin (Pr.) which was dependent from the abdominal wall and resembled a preputium clitoridis. The anterior preputial muscles were well-developed as in the male.

Lateral to the folds surrounding the urethral aperture were two swellings (Sw.) one on each side, which felt hard at all times. These were due to bends in the corpora cavernosa penis. The corpora cavernosa (Cor. cav. p.) extended on the cephalic side of the urethra from the posterior edge of the symphysis ischii as far as the glans with which they were united. They had the characteristic S-shape of a ram’s penis but were rotated so that the bend was lateral instead of dorso-ventral and an extra bend was present. They were in a permanent state of turgescence. The mm. ischio-cavernosus (M. isc.) and retractor penis (M. ret.) were present. The sphincter ani externus muscle sent a large bundle of fibers ventrally to attach to the fibrous sheath of the corpora cavernosa. This bundle corresponded somewhat to the bulbo-cavernosus muscle.

Anterior and ventral to the prepuce was the scrotum containing two large, well-developed testicles, in normal position. From the anterior end of each testicle a fairly large spermatic cord (Fig. 4, Sp. cd.) could be palpated up to the ventral abdominal wall in the inguinal region.

Anterior and slightly lateral to the scrotum were two teats, one on each side, rather more developed than is usual in the male. Under
Fig. 1. Diagrammatic sketch of the connections of the internal genitalia as seen from the left side. Broken lines indicate that one duct is in the wall of another. Bl., bladder; Cor. cav. p., corpora cavernosa penis; Ej. d., ejaculatory duct; Ep., epididymis; Fis., fistula between the ejaculatory duct and the vagina; Gl., glans penis; M. d., Müllerian duct; Os. ut., os uteri; Pr., prepuce; Sem. ves., seminal vesicle; T., testis; Ug. ap., urogenital aperture; Ur., urethra; Ut. s., Uterus; Vag., vagina; W. d., Wolffian duct.

Fig. 2. Camera lucida outline of anus and external genitals: about 2/5 the natural size. The tail was removed along the line at the top of the drawing. An., anus; Gl., glans penis; Gr., groove between ventral thirds of inner genital folds; Pr., prepuce; Ra., raphe formed by fusion of upper two-thirds of inner genital folds; Sw., swelling due to lateral bend of the corpora cavernosa; Ug. ap., urogenital aperture.
Fig. 4. Camera lucida outline of medial surface of the left testicle, about 4/5
the natural size. Cap. e., caput epididymis; Cau. e., cauda epididymis; Gab.,
region of attachment of the gubernaculum; M. d., Müllerian duct; Sp. cd.,
spermatic cord, the leader points to the collection of blood and lymph vessels
and nerves; T., testis; Tu. vag., tunica vaginalis; W. d., Wolffian duct; Wed.,
edge-shaped mass of tissue extending from the end of the Müllerian duct;
x., approximate position of the end of the lumen of the Müllerian duct.

Fig. 5. Camera lucida outline of a dissection of the internal genitals, about
1/2 natural size. The cephalic surface of the corpora cavernosa and the ventral
surfaces of the other organs or parts of organs are shown. The structures dorsal
to the m. ischiocavernosus are bent dorsally at an angle of 90 degrees. Bl.,
bladder; Cor. cav. p., corpora cavernosa penis; Ut. s., Left cornu uteri; Lig.
att., ligamentous attachment to posterior edge of symphysis ischii; M. isc.,
ischiocavernosus muscle; M. ret., retractor penis muscle; M. ur., urethral muscle;
Pre. s., cephalic wall of the preputial sac; Sem. ves., Seminal vesicle; Ur.,
urethra; Vag., vagina; W. d., Wolffian duct.
each was a small mass of gland tissue. In the formalin fixed material a milky fluid could be expressed through the teat.

**Internal Genitalia:** (Figs. 1, 4, 5 and 6).

A testis (T.) and epididymis (Ep., Cau. e. and Cap. e.) were represented on each side. The ducti epididymidium on either side were very much swollen in many places, making the epididymides much larger than the testes. The arterial supply was normal on both sides. The lymph vessels leading from both testicles were much enlarged.

Both spermatic cords (Fig. 4, Sp. cd.) were attached to the testicles in a normal way. In addition to the usual blood and lymph vessels, nerves and vas deferens, there was incorporated with each cord a second duct which was identified as a Müllerian duct (oviduct, M. d.).

The Müllerian ducts (Figs. 1 and 4, M. d.) of both sides were similar. Each duct took its origin in a wedge-shaped mass of tissue (Wed.) which extended from between the testis and cauda epididymis near the point of attachment of the gubernaculum, along the ventromedial aspect of the vas deferens as far as the cephalic end of the caput epididymis. The distal blind end of the Müllerian duct reached this point. From here each duct with its patent lumen passed in the spermatic cord up to and through the inguinal canal, and from thence in the free edge of the broad ligament to join with and open into the cornu uteri of its own side.

The uterus (Figs. 1, 5 and 6, Ut. s.) was nearly normal in appearance. The two cornua joined to form a short corpus uteri which opened caudad through a dilated os uteri (Os. ut.) into a very much distended and thin-walled vagina. The latter organ communicated with the urethra by a short and very narrow canal extending from its ventral surface near the caudal end to the summit of the colliculus seminalis.

The left Wolffian duct (vas deferens) (Figs. 1, 4 and 6, W. d.) was continuous with the vas epididymis at the cauda epididymis. In the spermatic cord it was in close contact with the Müllerian duct. From the internal abdominal ring to the lateral end of the left cornu uteri it was intimately associated with the caudal surface of the Müllerian duct. In the next part of its course it was bound down first to the dorsal surface of the cornu, then to the lateral surface of the corpus uteri. At the level of the orifice of the uterus it entered the lateral wall of the vagina between the layers of which it passed caudad. At the junction of the caudal and middle third of the vagina the left Wolffian duct joined the duct from the left seminal vesicle to form the left
ejaculatory duct (Ej. d.). This duct also lay within the vaginal wall from its origin almost to its termination in the urethra on the left side of the hillock. There was a small round fistula (Fis.) just caudad of the origin of the ejaculatory duct directly connecting the lumen of that duct with the cavity of the vagina.

The right Wolffian duct was similar to the left one except that there was a small round opening between the former and the cavity of the vagina just cephalad of the termination of the duct. This fistula was similar to the one between the left ejaculatory duct and vagina. The right ejaculatory duct was plugged with a white, cheesy substance.

The seminal vesicles (sem. ves.) each consisted of a mass of small round nodules on either side of the vagina. The duct from the ventral end of the seminal vesicles was entirely in the wall of the vagina as was also the ventral end of the gland. The greater part of the gland, however, was closely bound to the lateral surface of the vaginal wall.

The uterus and vagina were greatly distended with a fluid which was apparently a mixture of urine with a white substance of a nature similar to that found in the right ejaculatory duct. The presence of urine was evidently due to the fact that the openings of the ejaculatory ducts and the vagina into the urethra were not held closed.

The kidneys, ureters, and bladder were normal in structure and relations. The urethra (Figs. 1 and 5, Ur.) passed caudad from the bladder (Bl.) to the posterior end of the symphysis ischii. In this region it formed a geniculate ventral bend caudad of the corpora cavernosa penis and extended to the urogenital aperture (Figs. 1 and 2, Ug. ap.). The colliculus seminalis was partly under a fold of the mucous lining of the urethra. As described above, the vagina opened on the summit of the colliculus and the ejaculatory ducts on either side. From a point slightly cephalad of the colliculus to a point just cephalad of the ventral urethral curvature, the ventral wall of the urethra was covered by a thick muscle, the urethral muscle. The dorsal wall was composed of dense fibrous connective tissue. Distal to the ventral genu the urethra was surrounded for an indeterminate distance with a spongy erectile tissue, evidently the corpus cavernosum urethrae.

No bulbo-urethral or prostate glands were found.

Microscopical Structure:

The testis was composed of seminiferous tubules, interstitial cells, and connective tissue. The bounding walls of the seminiferous tubules were greatly thickened by a layer of hyaline material devoid of nuclei,
inside the usual connective tissue wall. The majority, if not all, of the cells in the tubules were of a supportive nature. They had large clear nuclei poor in chromatin and long anastomosing processes which formed a syncytium that almost completely filled the lumen. An extensive search resulted in the finding of a few cells with clear protoplasm placed between the cells of Sertoli. These might be spermatogonia but no other evidence of spermatogenesis was found. No case of undoubted mitosis was seen.

There was a very large number of interstitial cells compared to the number present in the testis of most mammals. Further investigation is being done on this subject.

The wedge-shaped mass (Fig. 4, Wed.), described above as continuing the course of the Müllerian duct along the medial side of the testis, was largely composed of a tissue which reacted to differential stains like smooth muscle. In transverse section it closely resembled the large smooth muscle cells in the longitudinal muscle layers of the Wolffian and Müllerian ducts. There was a fibrous capsule on the two free surfaces of the wedge, from which trabeculae extended inward.

Nothing of further interest was found in the Wolffian and Müllerian ducts.

DISCUSSION.

In the study of any case of apparent hermaphroditism three problems arise: (1) the difference between hermaphrodite and pseudo-hermaphrodite forms, and along with this, especially in the case of human beings, the question of the sex of pseudo-hermaphroditic individuals; (2) the embryological significance of the malformation; (3) the possible causes underlying the malformation. In the following discussion these questions will be dealt with in the above order.

CLASSIFICATION BASED ON SEXE-ENSEMBLE.

A true hermaphrodite is an animal that has both ovarian and testicular tissue, whatever the structure of the remainder of the genital apparatus may be or whatever the secondary sexual characters. That definition naturally follows from the fact that the only criterion of sex is the nature of the sex gland. If the sex gland be a testis the animal is a male, no matter what the other structures of the body seem to be.

Dr. Berry Hart calls attention to the indefiniteness of the term "sex" as many use it. He suggests the use of the term "sex ensemble," after the French nomenclature, to describle both sex (the nature of the gonads) and the secondary sexual features. With this
term he devises the following simple and workable classification of all possible normal and abnormal bodily conditions connected with sex:

I. Typical Sex—(a) Normal Male Sexe-ensemble,
   (b) Normal Female Sexe-ensemble,

II. Atypical Sex—True Hermaphroditism,

III. Atypical Sexe-ensemble—(a) Atypical Female Sexe-ensemble,
     (b) Atypical Male Sexe-ensemble.

I. Typical Sex:—No discussion is necessary under this heading.

II. Atypical Sex:—Among mammals cases of true hermaphroditism are very rare. In some of the lower animals on the other hand it is the normal state.*

Gudernatsch reported a case in which he identified a little structure 3 mm. x 2 mm. in the testicle as ovarian stroma, but no follicles were present. The person posed as a woman, since there was a blind vagina and the penis was hypospadiac. Blair Bell has described a case but his original article was not available to me. Apparently he bases his decision on some epithelial lined tubules in the middle of an ovary. Middlemiss reports clinically of a case of a testis in the left outer genital (scrotal) fold of a patient, male in appearance except for the genitals. Patient said menstruation had occurred three times. This case cannot, however, be accepted in the absence of histological diagnosis. Whitehead reports finding a nodule of tissue in a testis, which might be ovarian. Danne reports clinically the interesting case of an individual that had no vagina, but claimed to menstruate through the urethra and at times had nocturnal emissions with sexual feeling. Nothing is known of the condition of the sex glands.

III. (a) Atypical Female Sexe-ensemble:—This class includes all those individuals who have ovaries and in addition some male characters either of the genitals or of the secondary sexual characters. Of the 2,000 odd cases of atypical sexe-ensemble that are recorded only about 10% had ovaries (Hart, l. c., supra). Psycho-sexual inversion has been observed in cases both of this type and of type III (b). Quinby gives a full account of a case of this type. The patient, ten years old, was always considered to be a boy and had the activities and habits of a normal boy. The external genitals were like those of

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* After this article was prepared for publication a very interesting paper by Carl R. Moore appeared in "Science," where he records the production of artificial hermaphrodites in mammals. His results definitely confirm the possibility of the two kinds of sex glands existing in the same animal. (Science N. S., Vol. 52, No. 1338, August 20th, 1920, pp. 179-182.)
Atypical Male Sexe-ensemble in the Domestic Goat.

a male with undescended testicles and hypospadiac penis. An opera­
tion revealed an infantile uterus with tubes and ovaries normal in
appearance. Glynn tabulates at least nine cases of atypical female sexe-ensemble. He considers that all of these cases are related in some way to hypertrophied adrenal cortex. This relation will be discussed more fully below.

III. (b) Atypical Male Sexe-ensemble:—Those animals who have
testes together with some female characters of the genitals or of a
secondary sexual nature are included in this class. The literature is
full of descriptions, mostly clinical, of cases of this kind. There is
usually what appears to be an enlarged clitoris with a urethral open­
ing at its base. Both labia majora and minora may be present and a
rudimentary vagina. Sometimes the testicles are in the labia majora.
Caturani reports an interesting case of this type where an individual,
thought to be a woman, had been married for some years. "She"
had no sexual desire but remained passive during coitus. She had
never menstruated but feigned this state to "her" husband. An
operation revealed a rudimentary uterus, but no uterine appendages.*
The vagina ended in a cul-de-sac. There was a testicle with semi­
erous tubules but no sign of spermatogenesis. Stein reports a
case which he diagnosed as "atypical male sexe-ensemble; rudimentary
penis, hypospadias, undescended testicle on the left side, descended
testicle on the right side, no internal female genitals present, absence
of prostate gland."

Goltman records clinically a case of atypical sexe-ensemble
which, as far as skin, voice, hair-growth and mammary glands are
concerned, was like a woman. "He" passed as a man. No prostate
could be felt. Manipulation of a blind vagina gave great satisfaction
and resulted in the emission per urethra of a few drops of fluid rich in
spermatozoa.

The goat described above belongs in this class, since it has testicles,
no ovaries, but oviducts, a uterus and a vagina besides other structures,
some approaching the normal male and others the normal female type.

EMBRYOLOGICAL SIGNIFICANCE OF MALFORMATION.

It will be advantageous to consider fairly fully this phase of the
discussion and in so doing I shall follow the terminology as defined by
Wood-Jones rather than that current in most text-book de­
scriptions.

* "Uterine appendages" is the term used by Dr. Caturani, evidently meaning
principally the oviduct and ovaries.
It will be recalled that the penile urethra is formed normally by a fusion in the mid-line of the inner genital folds. These folds only extend as far as the base of the glans penis region of the genital tubercle. The terminal portion of the penile urethra is formed by an epithelial ingrowth from the surface of the glans which later connects up with the other portion of the penile urethra and becomes perforated. In the present case the inner genital folds have fused for only a short part of their length. As in the development of the female these folds form the labia minora, without fusing, so it would seem that there is a tendency toward the female type in the goat described above. It is possible that the failure of the inner folds to develop in a normal manner and form their portion of the penis has mechanically kept the glans in its embryonic position. The corpora cavernosa penis appear to have attempted to grow to their normal length but since the ventral end was attached to the glans they became contorted.

Normally in the male goat, but not in man, the outer genital folds fuse over the inner, thus enclosing the penis in a fold of abdominal skin. In the female goat the outer folds form the boundary of the urogenital aperture. In the present case they appear to be entirely wanting.

The internal organs are so evidently the result of both the Müllerian and Wolffian duct systems developing instead of the usual almost complete Müllerian degeneration in the male that further discussion seems superfluous. Yet there are a few interesting points. Most textbooks are very indefinite in their descriptions of the development of the external opening of the vagina. They stop telling the story at the point in development when the vagina opens into the urinogenital canal. The region where this opening occurs corresponds to the vagina (uterus) masculinus* in the male urethra. It hardly seems possible that a process of évagination could bring an opening from so far up the urethra to open separately to the exterior.

According to Wood-Jones the opening of the utero-vaginal canal (fused Müllerian ducts) into the urethra is obliterated early in foetal life. A solid cord of epithelial cells grows caudad from the blind-ending uterovaginal canal and connects with the surface epithelium of the caudal end of the foetus. Late in foetal life this becomes canalized.

In the case in question, the opening of the fused Müllerian ducts into the urethra remained patent. The cord of epithelial cells apparently

* The fact that it is the vagina and not the uterus that opens into the urethra on the hillock in the case described, justifies the change that Felix suggests, i.e., vagina masculinus instead of uterus masculinus.
failed to develop. Hence there was no direct vaginal opening on the surface.

Cases of atypical male sexe-ensemble which have a vagina but no uterus are easily understood in the light of Wood-Jones' description of the development of the vagina. In such cases the cord of epithelial cells has developed while the Müllerian ducts have not. It would be interesting and elucidating to know whether there is a vagina masculinus between the ejaculatory ducts in such cases.

It will be recalled that the remains of the Wolffian ducts are often found in the wall of the uterus from the level of the internal os caudad and in the cephalic end of the wall of the vagina, where they are known as Gartner's canals. The present case exhibits such relations, except that the canals are fully developed.

POSSIBLE CAUSES UNDERLYING MALFORMATION.

Possibly the most puzzling problem which arises in connection with the study of an atypical sexe-ensemble is to discover the cause or causes of such an abnormality. The question as to when the sex of an animal is determined seems to be answered in different ways for different kinds of animals. There is evidence, according to Doncaster, to show that in some animals the sex is already fixed in the unfertilized egg; in other animals it depends on the spermatozoön and is fixed at fertilization, and in still different kinds of animals it is capable of modification during embryonic development. In man it is generally believed that the morphologically different so-called X-chromosomes, which are in only one half of the spermatozoa produced, control the sex. But it has also been found that influences which act only on the ovum may vary the sex. Hence Doncaster concludes, 'sex is dependent on a physiological condition of the organism, a condition depending on the interaction of certain chromosomes with the protoplasm of the cells and therefore determined, in the absence of other factors, by the presence or absence of these particular factors.'

But neither the secondary sex characters nor the genitalia seem to be directly controlled by the same factors that determine the sex gland. At one time it was believed that the internal secretion of the sex glands entirely controlled the other features common to the sex. Marshal reviews the known facts covering the interrelation of the sex glands and other sex characters. But at the present time there is much evidence to show that other factors enter into the control of the secondary sexual characters and the genitalia; for example, chicks with mixed
secondary sex characters were found to contain testes well supplied with interstitial cells (Boring²).

Recently much evidence has been accumulated to show the relations that exist between the sexual organs and the glands of internal secretion other than the gonads. Under- or over-development of the pituitary body or pineal gland, especially before puberty, has a marked effect on the sexual organs (Schäfer¹⁶). Glynn (l. c. supra) has shown that a close relationship exists between the adrenal cortex and the sexe-ensemble. This is of interest because of the fact that the adrenal cortex is developed from the same "ridge" of tissue as the sex glands. Some cases of atypical female sexe-ensemble are found to be accompanied by overgrowth of adrenal cortex. It is thus possible that the secretion of the suprarenal cortex influences the development of the male sexe-ensemble. When it is recalled that the adrenal cortex begins to differentiate in human embryos at the same time or perhaps earlier than the sex glands, it becomes evident that the development of sexual characters may be influenced by a precocious development of the adrenal cortex.

The foregoing observations may be conveniently summarized as follows: "There has been of late years an increasing amount of evidence, both experimental and clinical, tending to show that the proper development of those attributes which constitute the sexe-ensemble is dependent on normal activity of the endocrine system." (Quinby l. c. supra.) It is, therefore, evident that the exact cause of particular abnormalities cannot be known until the interrelation of the endocrine organs is more fully understood.

In human embryos the degeneration of the Müllerian ducts and the beginning of the differentiation of the genital tubercle to form the penis occur at about the same time. If this condition hold true in the goat it would seem that up to this period, or just at this period, for some reason a strong tendency towards the development of female characters existed and this influence persisted until a final state of typical male differentiation became impossible.

SUMMARY.

A case of atypical male sexe-ensemble occurring in a goat is reported. The abnormality consisted essentially of persistence and growth in this male individual of certain of the female genital ducts and of inhibition of development of the male external genitalia.

The abnormality was seen to be the result of unusual embryological development.
Atypical Male Sexe-ensemble in the Domestic Goat.

The cause probably depended upon some temporary derangement of the endocrine system during embryonic life, which gave rise to a physiological state favoring the development of female characters.

LITERATURE CITED.


EXAMINATION OF DOMESTIC SERVANTS FOR COMMUNICABLE DISEASES. (PRELIMINARY REPORT.)

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

The present series of servants' examinations was undertaken (1) because of an increasing demand on the part of foreigners for an initial examination of servants prior to their employment, to rule out active venereal disease; (2) because of our desire to learn the incidence of communicable infections among the household servants of Peking. It was hoped by systematizing this work that it might be handled with but slightly greater expenditure of time than before and that it might give to employers as well as the medical profession much more complete information. To date 400 servants have been examined since the plan was adopted ten months ago. There has been a willingness to cooperate on the part of both employers and servants which has made the work pleasant, and it is felt that enough pathological material has been found to warrant a continuance of the examinations as a precautionary measure. A brief résumé of our methods and results may be of help to others who have carried on a similar work or are contemplating doing so.

METHODS.

At the outset, to give an official basis for a city-wide service, the Peking Branch of the China Medical Missionary Association proposed to undertake the work and authorized the writer to oversee it. Various members of the profession have since assisted in the routine work, but most of the examinations have been made by members of the staff of the Union Medical College Hospital. As the brunt of the work has fallen upon the bacteriological workers, the writer is particularly indebted to them.

In order to get in touch with the servants, the help of the Mothers' Club, containing a membership of about 75, was enlisted. This Club through its committee did much of the clerical work at first, and several of the members expressed their spirit of cooperation by dismissing from their employ all servants who refused to submit to the examination. Later, a committee representing three Women's Clubs aided in securing the help of other employers, and the clerical work was taken over entirely by the Union Medical College Hospital.

During the first weeks an illustrated lecture on hygiene, which included a full explanation of the purpose of the examinations, was
given by a Chinese member of the Union Medical College staff. This lecture was attended each week by those servants who were scheduled to be examined on the following day. No charge has been made for the first examination; in case of treatment the usual out-patient fees have been paid. Generally the employers have paid them.

For the permanent record of the data obtained at the examination the following form has been used.

**PEKING UNION MEDICAL COLLEGE HOSPITAL.**

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<tr>
<td>Glands</td>
<td></td>
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</tr>
<tr>
<td>Suboccip.</td>
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<td></td>
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<tr>
<td>Cervical</td>
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<tr>
<td>Axillary</td>
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<tr>
<td>Epitroch.</td>
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<tr>
<td>Inginal</td>
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<tr>
<td>Femoral</td>
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<td></td>
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<tr>
<td>Penis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other signs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wassermann test</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Gonorrhea</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Trachoma</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. B. Typh. (feces)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. B. Dys. (feces)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Ova (feces)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Meningoc. (naso-ph.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Pneumococ. (naso-ph.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. B. Diph. (naso-ph.)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Report sent to Treatment at from to O.P.D. No.
End Result Certificate Date Reservation
Prior to the examination, the following note of general information, along with test tubes and cathartic pills, was sent to householders whose assent to the plan had previously been obtained.

"In the examinations we expect to be able to show the presence or absence of some of the most common or serious of the infectious diseases, such as trachoma, tuberculosis, syphilis, gonorrhea, intestinal parasites; also carriers of dysentery and typhoid, and possibly carriers of throat infections. The object is not to pry into the servants' private affairs, but to make sure that they are free from any disease which may be given by them to members of their employers' households. Those who pass successfully this examination will be entitled to a certificate, dated and signed, which will be of real value to them if they seek other employment, and will be a satisfaction to their present employers. Those who are found to need treatment will be advised either directly or through their employer. The object is to have such a person treated, not dismissed from service.

"The night before the examination each servant should take two pills, which will be given him by his employer. In the morning he should collect a small portion of the morning feces in the test tube which will be given him and put his name on the label. He should bring this specimen with him to the East entrance of the Hsin Kai Lu Hospital, taking care to be at the Hospital promptly at ten o'clock (a late arrival means inconvenience to several members of the Hospital staff). The examination will usually be completed within one hour's time."

When all the laboratory reports have been handed in, certificates are then made out and sent to the employers. The employer retains the certificate until his servant leaves his employ, thus preventing unwarranted use of the certificate by other than its rightful owner. The form used is given below:

<table>
<thead>
<tr>
<th>Certificate No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>.................. was examined on the date given below, and with the exceptions stated, was found free from trachoma, pulmonary tuberculosis, intestinal parasites, syphilis and gonorrhoea, and was found not to be a carrier of diphtheria, typhoid, or dysentery.</td>
</tr>
<tr>
<td>Date of Examination</td>
</tr>
<tr>
<td>---------------------</td>
</tr>
</tbody>
</table>

**STATISTICS.**

Of the 400 servants examined, 328 were males and 72 females. There were 88 households represented, three of which provided 75
Chinese Servants and Communicable Diseases. 627

servants. So far no Chinese householders have sent servants, although several have been invited to do so.

PULMONARY TUBERCULOSIS. Of the 397 examined, 5 showed evidence of quiescent lesions; none seemed active.

SYPHILIS. Aside from glandular enlargement, physical evidence of active syphilis was lacking in all but 3 cases. The Wassermann test was done as a routine measure in 361 cases; 33 refused permission and the remaining 6 were excused. Of the 53 Wassermann tests showing some degree of positivity, 38 were + + + + , 4 + + + , 1 + + and 10 + . One serum was persistently anticomplementary. Eliminating all of the + + + , + + and + cases in whom there were no enlarged glands or penile scar there remain 2 of these groups which showed physical signs of syphilis. These added to the 38 + + + + cases, make the 40 positive Wassermann tests tabulated below.

<table>
<thead>
<tr>
<th>Table I. Percentage of positive Wassermann Tests.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No. of tests done.</strong></td>
</tr>
<tr>
<td>Both sexes, married and single</td>
</tr>
<tr>
<td>Married men</td>
</tr>
<tr>
<td>Married women</td>
</tr>
<tr>
<td>Single men</td>
</tr>
<tr>
<td>Married men working within 12 miles of home</td>
</tr>
<tr>
<td>Married men working farther than 12 miles from home</td>
</tr>
<tr>
<td>Cooks</td>
</tr>
<tr>
<td>Boys</td>
</tr>
<tr>
<td>Coolies, etc.</td>
</tr>
<tr>
<td>Amahs</td>
</tr>
</tbody>
</table>

The low incidence of positive Wassermann tests in women will be noted, also the relatively low percentage among those married men who work within 12 miles of their homes and can go home frequently. This latter is especially significant when we consider that the group whose homes are at a distance were mostly born and raised in rural districts, whereas those in the other group are in large measure a product of city life.

The relation of enlarged glands to positive Wassermann tests in this series is instructive and emphasizes their value as diagnostic aids in syphilis. Taking into account the suboccipital, cervical, axillary, epitrochlear, inguinal and femoral glands, and marking as positive those which showed more than a single set of glands enlarged, of the 40
patients giving positive reactions the glands were enlarged in 52.5%; among the 320 negative cases in only 15%.

Gonorrhea.—Active gonorrhea was demonstrated in only 3 of the 369 servants examined. The prostate was not massaged except in suspected males, and vaginal smears were not made in females where there was no leucorrhoea evident.

Trachoma.—In 45 out of 396 persons examined (11.3%) trachoma was distinctly present or suspected. Subacute and chronic conjunctivitis was noted in 72 or 18.1% additional. Of the 45 trachoma cases, 9 were amahs, 8 of whom were among the 25 wet-nurses coming from the Peking Orphanage. This leaves only one trachoma case among the remaining 48 amahs. The impression is gained that the incidence of trachoma in this series is low as compared with the incidence among school children in North China.

Intestinal Infections.—328 specimens of feces were cultured for B. typhosus and B. dysenteriae with no positive results. Intestinal parasites were present in many cases.

Table II. Incidence of Ascaris and Ankylostomum Infection.

<table>
<thead>
<tr>
<th>Specimens examined</th>
<th>No. examined</th>
<th>No. asc.</th>
<th>% asc.</th>
<th>No. ank.</th>
<th>% ank.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male and female...</td>
<td>... 328</td>
<td>159</td>
<td>48.4</td>
<td>6</td>
<td>1.8</td>
</tr>
<tr>
<td>Male</td>
<td>... 299</td>
<td>141</td>
<td>47.2</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Female</td>
<td>... 29</td>
<td>18</td>
<td>62.0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

The homes of all the males showing ankylostomum ova in their feces were on farms. The stools of one male also showed taenia ova.

Throat Infections.—In addition to 6 meningococcus carriers, 5 other servants not examined a second time were reported as suspicious. Laboratory difficulties made it impossible to group the pneumococci, so cultures of these organisms were discontinued after the first 253 examinations.

Table III. Incidence of Throat Infections.

<table>
<thead>
<tr>
<th></th>
<th>No. cultures</th>
<th>No. positive</th>
<th>% positive</th>
<th>No. confirmed by later examination</th>
<th>No. instances with two or more in same household</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meningococcus</td>
<td>... 343</td>
<td>6</td>
<td>1.7</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Pneumococcus</td>
<td>... 253</td>
<td>25</td>
<td>9.8</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>B. diphtheriae</td>
<td>... 335</td>
<td>4</td>
<td>1.2</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>
MEDICAL TREATMENT OF SERVANTS.

All patients reported as showing ++++ Wassermann test, trachoma, either positive or suspected, or ankylostomum ova, and all Meningococci and B. diphtheriae carriers were urged through their employers to return for treatment. The following table shows the moderate success obtained in this direction.

**Table IV. Number of Patients who returned for Treatment.**

<table>
<thead>
<tr>
<th>Test</th>
<th>No. found requiring treatment</th>
<th>No. reporting to O. P. D. for treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syphilis (+++++ Wassermann)</td>
<td>38</td>
<td>10</td>
</tr>
<tr>
<td>Gonorrhea</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Trachoma, positive or suspected</td>
<td>45</td>
<td>7</td>
</tr>
<tr>
<td>Ankylostomum ova</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Meningococci</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>B. diphtheriae</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>102</td>
<td>25</td>
</tr>
</tbody>
</table>

Thus only a bare 25% of these cases have come to us for treatment. Other hospitals have taken up the treatment of some, and it was understood that the eight cases of trachoma from the Peking Orphanage would be treated at that place.

CONCLUSIONS.

1. Enough evidence of communicable disease has been found in this series to warrant our recommending these examinations to the other employers of servants.

2. The servants examined, particularly those who do not return for the necessary treatment, should be reexamined at intervals.

3. Such examinations as these yield the four-fold value of (a) giving householders accurate knowledge of their servants’ physical condition as regards contagious diseases; (b) rewarding disease-free servants with certificates which make their present positions more secure and facilitate their securing other employment; (c) obtaining valuable data as to the incidence of certain communicable diseases among household servants in Peking; (d) lessening through subsequent treatment the danger of contagion from servants, particularly those having trachoma and those harboring Meningococci and B. diphtheriae.
THE SOCIAL EVIL IN CHINA.


Prostitution is often spoken of as the oldest profession in the world. According to Chinese tradition, the first prostitute was Hung Yai (洪涯) who lived in the mythical period of the three Emperors. In ancient times the words chi (妓), prostitute, and chi (技), art, were identical in meaning. A girl who was proficient in dancing and music was called 'chi.' The earliest report of prostitutes, however, was made in the Chow Dynasty (B.C. 650). It is recorded that Kwan Chung established 300 lu (闌) for the convenience of merchants. A lu is a district, still to be found in many modern cities, to which prostitutes confine themselves in carrying on their business. In the reign of Han Wu (B.C. 40), prostitutes were supplied to the camps for unmarried soldiers, and in the Tang and Sung dynasties brothels were licensed and given the name of chiao fang (教坊).

The courtesans of old occupied a somewhat higher social position than is held now by their successors, for many were educated and highly accomplished. Men sought their society, not solely for sexual gratification, but for their pleasant company, their lively conversation, ready wit and other reasons. Distinguished poets and writers like Li Pah, Tu Fu, Su Tung Po, Pak Loh Tien, etc., were friendly with this class and wrote poems for them.

But prostitution, even in the most favorable circumstances, has always been discountenanced and condemned in China. There is no difference of opinion on the moral question involved. Of the four vices it stands first on the list, the other three being drinking, gambling, and opium smoking. Prostitutes are branded as social outcasts. They are spoken of as "rotten or stinking goods." "You are a harlot," is the worst epithet one woman can hurl at another. In trade advertisements such passages as this are frequently seen: "Any person who forges this trade mark is a robber if a man, and a harlot if a woman." The sages ever exhorted men to keep away from the social evil. Confucius cautioned youths to be particularly careful of indulgence of this nature. Mencius taught that the best means to nourish the heart is to have few desires. A significant couplet by Chang Ma Lin is: "If you defile another's wife or daughter, your own wife or daughter will be similarly defiled."

In China, chastity is placed foremost in the list of woman's virtues. Unlike the Japanese, who consider it meritorious for a woman to lead
an immoral life if it is to support her parents, the Chinese have always condemned the evil whatever the circumstances may be. By them it is considered a great shame to live on the earnings of prostitution. The following quotation from Mencius brings out this point very clearly: "Of services, which is the greatest? The service of parents is the greatest. Of charges, which is the greatest? The charge of oneself is the greatest. That those who do not fail to keep themselves pure are able to serve their parents is what I have heard. But I have never heard of any, who, having failed to keep themselves pure were able notwithstanding to serve their parents. There are many services, but the service of parents is the root of all others. There are many charges, but the charge of oneself is the root of all others."

CAUSES OF PROSTITUTION.

In enquiring into the causes of prostitution it should be remembered that this question is very complicated and closely related to educational, social, and other problems. Here we shall only discuss some of the more apparent and immediate causes, of which the first and most important is slavery. By this is meant chattel slavery as well as economic slavery. This is responsible for 80% of the prostitution of China to-day. Owing to the dire poverty of the masses and the utter disregard of daughters by their parents, slave girls are bought and sold everywhere. Generally, they are not sold directly to a house of ill fame. They are bought first as servants, but after a time are sent to this ultimate destination. The owner of a brothel usually buys a number of young girls, and then rears and trains them until they are old enough to follow the profession. To supply the demand, girls are often kidnapped for this purpose.

The insignificant compensation awarded to female labour drives many girls and women into harlotry. Chinese women are not taught the practical business matters of life, and our social regulations unreasonably limit their industrial spheres. In consequence of this, few are able to earn enough to supply their wants, and when hard times come they have no other resources for subsistence.

Another important cause of prostitution is ignorance. The people do not realize the prevalence and awful significance of this traffic. It is tolerated, because many believe that it is a necessary evil and that it cannot be eradicated. Some hold that it is an important factor in increasing the trade of a locality, hence merchants utilize a brothel as a meeting place for business. The notion is also current that a young man has "to sow his wild oats" in order to be steadier. Of its terrible
physical effects on individuals, on their offspring, and on society, little is known by the people. Statistics are not available as to the percentage of the population suffering from venereal diseases. However, all doctors agree that the number of such patients is astonishingly large, and that it is rapidly increasing. Were these facts universally known decided measures would be adopted to combat this gigantic evil.

Again, parents or guardians not only are unaware of the moral dangers which beset their daughters or wards but oftentimes incredulously that such dangers do not exist. Even the daughter or ward herself, when informed of the great risks she runs, may scorn the idea that she is not able to look after herself and may resent what she considers an unjust estimation of her moral character. The reason for this ignorance is easy to understand, for the methods of the procurers and procurresses are so subtle and ingenious that no one—unless closely associated with the traffic—knows exactly how they do their work. Besides, if a girl has fallen a victim to the evil, her relatives naturally use all their influence to hush the whole matter up, and thereby they destroy one of the most effective means—publicity—of checking the traffic.

An idea of the extent of this evil may be gathered from the revelations in Shanghai in recent years of organized gangs, the sole object of which is to seduce innocent women and blackmail them. They are known by the name of Tsah Pah Tang (折白黨). Their favourite recruiting grounds are the theaters, tea-houses, amusement parks and other public places. The hotels are notorious hotbeds for immoral purposes. In fact, the ramifications of this awful traffic are found in all kinds of trades and professions. Many of the hotel boys, the theater ushers, the waiters in the restaurants, the flower girls, newspaper sellers, mafoos, maid-servants, and even ricksha coolies, are aiding and abetting this trade. The most dangerous of all, perhaps, are the women hairdressers and the sellers of jewelry, because they have easy access to the household and can exercise their pernicious influence freely.

Of the indirect causes of prostitution mention may be made of the unrestricted sale of obscene pictures, magazines and novels. The output of these articles has greatly increased during the last few years. It is estimated that 70% of the students have read these books or have such pictures in their possession, and we can well imagine the result of such baneful literature. The newspapers are responsible for the vulgar and suggestive advertisements which are found in glaring letters in every paper. It helps the sale of patent medicines and the practice
of quackery. With the introduction of "606" and such preparations, the condition has been rendered worse. It gives a false security to the people, making them more reckless. Consequently, the number of patients with venereal diseases is increasing instead of decreasing.

The above description only applies to cities, and especially to treaty ports. In the country, moral conditions are better. Indeed, immoral women are seldom tolerated there and when found are dealt with summarily.

CHINESE LAW AND THE SOCIAL EVIL.

In the Criminal Code of the Tsing Dynasty, the provisions directed against procurers, the keeping of brothels, etc., run as follows:

I. Any official, civil or military, who frequents a brothel shall be liable to be flogged with the bamboo, the number of strokes not to exceed sixty. To send for girls during a banquet shall be deemed evidence of guilt within the meaning of this act. Sons of officials committing same offence shall be dealt with accordingly. The procurer shall be liable to 50 strokes of the bamboo.

II. Any prostitute, actor, or singer who buys children from a decent family with the object of training them to follow the same professions or who adopts such as their own children, or who takes a respectable girl for wife or concubine, shall be liable to a sentence of 100 strokes of the bamboo. Any persons who knowingly sell or give their children in marriage to this class of people shall be similarly punished. The dowry and bargain money shall be confiscated and the children ordered to return to their own families. The procurer shall be liable to 90 strokes of the bamboo.

III. Any person who takes a girl from a respectable family as a concubine, or adopted daughter, or under other names, but abets or compels her to have carnal knowledge with any person, shall be liable to be cangued at his own door for a term of one month;

Whoever procures any girl from a respectable family to become a common prostitute shall be liable to be cangued for three months, flogged 100 strokes, and banished* for three years;

Whoever sells a girl with knowledge that she will be used for immoral purposes shall be liable to similar punishments. The middleman shall be liable to be flogged and the girl shall be restored to her parents.

* Banishment (徙) meant that the offender was sent to some city one or two hundred or more miles from his home where he stayed under official surveillance until the prescribed period of his punishment expired.—ED.
IV. A soldier, servant or other person in government employ, who keeps or shelters a prostitute, temporarily and for a short time, shall be liable to be cangued for three months and flogged 100 strokes; one who keeps or shelters a prostitute, continuously and for a long time, shall be liable to be flogged 100 strokes and banished for three years for the first offence, and to be flogged 100 strokes and banished for 3,000 li (1,000 miles) on a second conviction. Any person of this class, who lives on the earnings of prostitution, shall be deemed guilty of violating the law and shall be punished in proportion to the amount of goods or money received; or if he knowingly permits prostitution to exist in the neighbourhood, he shall be liable to 80 strokes of the bamboo. If the official in charge of the district fails to discover such offences within his jurisdiction, he shall be liable to be censored and punished.

V. Any person who keeps or assists in the management of a brothel shall be punished according to law; or a landlord, who knowingly lets his premises to be used as a brothel shall be liable to be flogged 80 strokes and banished for two years for the first offence; and given 100 strokes and exiled for three years on a second conviction, in addition to confiscation of the house; and whoever permits a brothel-keeper to be his neighbour shall be liable to 80 strokes of the bamboo.

The Law of the Republic on this subject is not so comprehensive and is less severe. Art. 283 reads:—"If any person abuses a child under twelve years of age he shall be liable to a sentence of imprisonment with hard labour, or to a fine not exceeding three hundred dollars." Art. 288:—"Any person who seduces and induces any girl to earn her living immorally shall be liable to imprisonment with hard labour, in addition to a fine not exceeding 100 dollars."

Conquest of Social Evil, A Moral and Spiritual Problem.—"The evils which lead to the spread of venereal disease are, in great part, due to want of control, ignorance and inexperience, and the importance of wisely conceived educational measures can hardly be exaggerated. If venereal diseases are to be stamped out, it will be necessary not only to provide the medical means of combating them, but to raise the moral standard and practice of the community as a whole. Such an improvement can only be brought about by closer co-operation between religious bodies, the teaching and medical professions, and education authorities.

"Though we are not unmindful of much excellent work that is being carried on, we are strongly of opinion that there is urgent need for more careful instruction in regard to self-control generally, and to moral conduct as bearing upon sexual relations throughout all types and grades of education. Such instruction should be based upon moral principles and spiritual considerations and should by no means be concentrated on the physical consequences of immoral conduct."—Report of Royal Commission on Venereal Diseases (Great Britain), 1916.
Dr. Wong's article on the social evil in China (ante, p. 630) directs attention to a reformatory task which has never yet been seriously grappled with by our Association, although as medical men and as Christian missionaries it concerns us very closely.

Outside our Association, however, something is being done. In Shanghai, where municipal licenses were granted to brothels on the ground that in the interest of law and order it was necessary that the police should have some kind of control over these establishments, reformers have compelled the Municipal Council gradually to withdraw these licenses and social conditions in the city are being systematically surveyed. In Hankow an association has been organized by the leading gentry the purpose of which is "to provide asylum for miserable prostitutes and concubines, and to ameliorate the conditions of the lower class of women." Doubtless similar associations exist in other Chinese cities or will soon be formed. And Shanghai has its well-known "Door of Hope." But all such measures, good as they are, do not go to the root of the evil.

All who have studied the subject know the tremendous difficulties in the way of reform; indeed, these are only too evident from the sad failure of the Christian Church in Western lands to eradicate the evil as a whole, though it has brought salvation to innumerable individuals. It has failed because, so far, it has not been able to influence our civilization through and through.
Human nature being what it is, the social evil exists in China as in other lands. Except in large cities such as Shanghai, it does not openly flaunt itself so much as in the West, yet it has its own peculiarly distressing features. The deep poverty of the great mass of the people and the low value set upon little female children lead many parents among the poor to sell their girls, often for a trifling sum. Eventually, some of the girls thus sold become wives or concubines, but probably most of them are re-sold to a life of open shame. It is these victims who are most to be pitied, as they had no influence whatever over the circumstances which decided their earthly destiny. In the British House of Commons it was stated recently that in Hongkong the law does not recognize domestic slavery, and it was suggested by the Secretary of State that the Governor of Hongkong should persuade prominent Chinese to form a society for the protection and improvement of these girl domestics. A reformatory movement of this kind is considered preferable to a system of compulsory registration which is regarded as impracticable in Hongkong.

To overcome the social evil it must be fought with all our strength. In the report of Flexner on "Prostitution in Europe," he writes: "Civilization has stripped for a life and death struggle with tuberculosis and alcohol and other plagues. It is on the verge of a similar struggle with the crasser forms of commercialized vice. Sooner or later it must fling down the gauntlet to the whole horrible thing. This will be the real contest,—a contest that will tax the courage, the self-denial, the faith, the resources of humanity to the utmost."

As missionaries in the service of Him who came to take away the sins of the world, we cannot but feel that only the redeeming power of Christianity is capable of coping effectively with the social evil in all its ramifications. But to all who are endeavouring to check it or mitigate its consequences, we should give our sympathy and support so far as we can conscientiously approve their plan of campaign.

It is interesting news, therefore, that the National Council (of Great Britain) for Combating Venereal Diseases, is sending a Commission to China. This Council, which has a bishop and several of the leading physicians and surgeons of England on its executive
committee, is recognized by the British Government, and has undertaken official work for a number of Government Departments during the War, and is now recognized by the Ministry of Health.

Its aims and objects are as follows:

1. To provide accurate and enlightened information as to the prevalence of these diseases, and as to the necessity for early treatment.
2. To promote the provision of greater facilities for their treatment.
3. To increase the opportunities of medical students and practitioners for the study of these diseases.
4. To encourage and assist the dissemination of a sound knowledge of the physiological laws of life in order to raise the standard both of health and conduct.
5. To co-operate with existing associations, to seek their approval and support, and to give advice when desired.
6. To arrange, in connection with such organizations, for courses of lectures, and to supervise the preparation of suitable literature.
7. To promote such legislative, social, and administrative reforms as are relevant to the foregoing aims and objects.

The Commission will reach Hongkong in January or February next, and may visit Shanghai. It is not able at present to give any address in China to which letters may be sent by those wishing to communicate with it, but if such letters are sent to the Journal they will be forwarded as soon as possible.

The announcement in the preceding issue of the Journal, that the China Medical Board of the Rockefeller Foundation had abandoned its project of establishing a hospital and medical school in Shanghai similar to its fine institutions in Peking, must have been received with regret, for several reasons, by many medical missionaries throughout China.

The object of medical missions, of course, is primarily to co-operate with other branches of mission work in winning the Chinese to Christianity, and as long as medical missionary work serves this purpose it will be continued. But it is inevitable that it should have a wider scope, and not only heal the sick in the hope that the patients will become Christians, but also relieve suffering out of sheer pity and the desire to help the Chinese for the sake of
our common humanity; it must also take a leading part in medical education, public hygiene, and sanitation, and other forms of medical and social service. To do all this imposes an extremely heavy burden on the missionary societies, which will not be eased until there is a native medical profession sufficiently strong to undertake the medical and surgical care of the Chinese people.

It is obvious that the missionary body by itself cannot train more than a small fraction of the medical men required by China, even if every one of its medical schools were crammed to the doors with students. Consequently, so far as non-missionary organizations open hospitals and medical schools in a spirit not inimical to Christianity, so far they are relieving the strain on Christian missions; when such organizations are very friendly to missions, the help they give is all the greater, and when they abandon plans for enlarging their sphere of work the loss is ours. For the work the China Medical Board is already doing in Peking, for the generous help it has given to many missionaries and mission institutions, and for the incentive it has given to us as an Association to raise the standards of our hospitals and medical schools, it has earned the gratitude of the whole missionary body. It is a pity that it has decided to carry out only about one-fourth of its enterprise as originally planned. The International Settlement of Shanghai is unsurpassable as a site for a great centre of medical education, undergraduate and post-graduate; and the hospital the China Medical Board intended to open would have been of the greatest benefit to foreigners and Chinese, especially to the large and growing American community.

On the outbreak of the Great War, what with the depletion of the staffs of mission hospitals and medical schools, the financial stringency, the existence of strong non-missionary medical schools such as the Medical School of Hongkong University and the German Medical School in Shanghai, the opening of medical schools by the Chinese Government, and the announcement by the China Medical Board that it intended to establish medical schools of the highest possible standard in Peking, Changsha, Shanghai, and Canton, even the most sanguine might have been pardoned for...
thinking that the medical education of Chinese students was to be taken completely from the missionary body.

Events did not justify this foreboding. The Chinese medical schools, whether supported by the central or provincial government, or aided by missionary societies as in the case of the Kung Yee Medical School, Canton, seem utterly unable to reach a high standard, though it should be added that it is difficult to ascertain their condition precisely; the German Medical School in Shanghai no longer exists; the Medical School of Hongkong University appeals mainly to a particular class of students; the China Medical Board intends to confine its work to Peking. Consequently, the burden of medical education again rests, to a considerable extent, upon Christian missions, and it is most necessary they should now put forth their full strength and take a larger part than ever before in this form of work, as by so doing we shall be rendering a very great service to the Chinese people and will hasten the time when they can take the burden of all forms of medical work upon their own shoulders.

It is therefore with hope and pleasure that we note the strengthening of some of our mission medical schools. The Tsinanfu Medical School has recently added several members to its staff and purchased necessary equipment; for the training of Chinese students through the medium of their own language this School is in the first rank and its position is strong. As may be seen by the report noticed on another page, Dr. Christie has recently obtained more than £20,000 for the work of the Mukden Medical College and the staff now consists of twelve foreign physicians of high attainments with six Chinese assistants and demonstrators, thus fully meeting the conditions of a first class medical school as laid down by the Council on Medical Education of the C. M. M. A. An article by Dr. C. C. Elliott in the present issue of the JOURNAL shows that the Medical College of the West China Union University, Chengtu, is building on good foundations, and when the present political troubles are over it should develop into a very strong institution. The same may be said of the Hunan-Yale Medical School in Changsha. The retreat of the China Medical Board
from Shanghai has suddenly and unexpectedly thrown the burden of medical education in this most important centre upon St. John's University, which will do its utmost during the coming year to increase the staff of its medical school and obtain the funds necessary for full equipment and maintenance. The separation from the missionary societies of the Kung Yee Medical School, Canton, leaves the founding of a first-class medical school in Canton to the Canton Christian College and a deputation from this institution is at the present time visiting Europe and America endeavoring to raise funds and secure other requisite support for its enterprise. In the near future we may expect to see a good medical school for Chinese women opened in one of the leading cities of China, and when Dr. Duncan D. Main goes home on furlough and starts campaigning on behalf of the Hangchow Medical School he will probably accomplish great things. It may be true that none of these schools will reach the high level of the Peking Union Medical School College with its immense resources, at any rate, not for a long time to come; but in all these Christian schools Chinese students will be able to obtain a sound medical education adequately fitting them for the care of the sick and injured among their own people, and will be imbued with the ethical standards of the medical profession in the West.

But, as we have said before, more should be done by our Association than provide good medical schools. At the present time medical students, actual and prospective, are not very numerous, and it is necessary that the field of medicine should be made attractive. In all countries the physician usually has a hard struggle at the beginning of his professional career; in China the difficulties are greater than elsewhere for the young physician in general practice. He has to contend with the ignorance and superstition of his own people who know little or nothing of Western medicine as a science; he has to compete with the old-time native practitioners who may be said to be highly qualified if they possess one or two remedies which are good for a few diseases; he has also to compete with the self-styled practitioners of Western medicine, men who have been in foreign hospitals as patients, nurses, or coolies, or
former students of medicine who were dismissed before graduation either for bad conduct or inefficiency. Further, he has to compete with the mission hospitals and dispensaries who treat large numbers of patients for a very small fee. No wonder, as was said by more than one speaker at the last conference, that not a few either abandon the profession, or keep in it but stray from the straight and narrow path of strict professional standards. What can we do to make medicine more attractive to the Chinese as a profession?

In the first place, we can do a great deal to help the young practitioner make the path of the young Chinese practitioner easier by spreading a knowledge of Western medicine and its methods, not only by the work done in our hospitals and dispensaries, but also by public lectures and the distribution of the pamphlets on health and disease issued by the Council on Public Health Education, and by other forms of sanitary propaganda. As Dr. A. C. Hutcheson well said at the Conference, every hospital should be a centre of education in principles of hygiene, sanitation, and decent living generally, a place from which a knowledge of cleanliness and of efficient care of the sick should be disseminated. Especially should this instruction be given to local officials, the police, and other authorities so that health regulations can be introduced and enforced. It is useless to wait for the mass of the people to take the initiative in direct action, even if they do become somewhat enlightened as to the causation of disease. They are too conservative and apathetic. The late General Booth, of the Salvation Army, once said when he was finding much difficulty in dealing with a social problem: "You see I don't know enough! No one will be at the trouble to teach me! Or else I won't find time to be taught. I want someone with me who won't fuss me but fix me!" This is exactly the position of the poor, uneducated Oriental. He does not want to be fussed with, but fixed. Particularly is this true in sanitary matters, and the local officials and police are best fitted to do the fixing, though the instruction and driving power must come from missionary physicians. Considerable progress is already being made in this direction. (See the short article on "Public Health Service" by Dr. Beebe in the July number of the Journal, and the article by Dr.
King in the present number.) When the prejudices and superstitions of the people have in large measure disappeared, and the officials really enforce public health regulations, Western medicine will be estimated at its proper value, its practitioners will be more honored and better remunerated than at present, and students in much greater number will be drawn to the study of medicine. For the sake of its own students it is hoped that the China Medical Board may see its way to give help to the Council on Public Health Education to enable it to extend its work to every part of China.

Missionary physicians can also greatly help properly qualified Chinese physicians by assisting them in professional matters, giving them hospital or dispensary appointments, inviting them to become members of local medical societies and in the various other ways that were recommended by several speakers at the Peking Conference. For foreign physicians to co-operate in the same friendly manner with the self-styled practitioners of Western medicine without a medical diploma or degree whose antecedents have been mentioned, and to "cover" their practice, is a different proposal and one which hardly seems fair to the graduates of our own medical schools. If we ourselves make no distinction between the qualified and the unqualified, it is certain the Chinese people will not; they will think all are on the same level, and Chinese students may well ask if it is worth while to go through a long and expensive medical course if medical missionaries fraternize with the untrained. Moreover, it is our duty to exemplify to the Chinese medical profession our own ethical standards. Despite careless statements to the contrary, there are very few physicians in good standing in Western lands who associate professionally on equal terms with osteopaths, cheiropractors, bone-setters and other irregular exponents of the healing art, and still fewer reputable hospitals into which they enter on equal terms with regular practitioners. Let us do all we can to help the graduates of our regular medical schools.

Shortly after our recent Conference in Peking, with its general and sectional meetings and the reading of many papers, fears were expressed that the Journal would never be able to print within a reasonable time all the papers sent to it,
and the recommendation was made that it should be enlarged and the parts issued monthly instead of bi-monthly as at present. Fairly rapid progress, however, has been made. In a short time a "Hospital Supplement" containing all the papers on mission hospitals read at the recent Conference will be sent to those who usually receive the JOURNAL. Two or three months ago an "Anatomical Supplement" was issued, which contained all the anatomical and anthropological papers read at the Conference. Further, more medical papers than usual have been published recently in the JOURNAL itself. In this manner, the accumulation of material awaiting publication in the JOURNAL has been greatly reduced. We are now ready to receive further contributions and can promise they will be printed without undue delay, although it has been found impracticable at present to adopt the recommendation that the parts of the JOURNAL should be issued monthly, instead of bi-monthly.

In view of the exacting nature of the duties of an editor and the privilege of readers to pass judgment on all that appears in the paper or journal he edits, it has been said that he should possess the meekness of Moses, the patience of Job, the wisdom of Solomon, the courage of Daniel in the den of lions, and the endurance under fire shown by Shadrach, Meshech, and Abednego. We may go further and say that he ought to be richly endowed with that unfailing and boundless charity hymned by St. Paul and regarded by the Church as the very bond of peace and of all the virtues. The writer makes no claim to the possession of all or any of these excellencies but for nearly six years he has tried to do his best as editor of the JOURNAL. Of course he has not been exempt from criticism; but he is thankful to say it has not been frequent or intolerably severe, and he knows it was intended for his good and for the improvement of the JOURNAL. For all mistakes and delinquencies he expresses regret. He is now leaving on furlough and will probably be away for nearly a year. An Editorial Board, consisting of Dr. C. S. F. Lincoln, Dr. A. C. Hutcheson, and Dr. W. W. Peter, with power to co-opt others, has been asked to take over the editorial work of the JOURNAL during this period. It is a pleasure to know they may depend on the hearty co-operation of all members of our Association.
C. M. M. A. MEMBERSHIP DUES.

Members of the C. M. M. A. should remember that their membership dues are an annual obligation to the Association, not a subscription to the Journal and whether they go home on furlough or are on the field their relation to the Association is not changed.

To members the Journal is sent free and a request not to send the Journal while on furlough does not relieve a member from paying his dues. Members going home on furlough should send their address to the Executive Secretary and the Journal will be forwarded to them without any extra charge for foreign postage.

Notices in regard to annual dues will be sent out in January. It is particularly requested that remittances be promptly made and information given in regard to any change of address.

All Shanghai banks will honour cheques drawn for as small a sum as $5.00 and these should be marked "Shanghai currency" if drawn on outport banks.

Members can very materially help the Journal and the Association by bringing the Journal to the attention of doctors who are not subscribers, and by proposing such for membership in the Association. Each year brings a number of new recruits to the field and these should be brought into the Association, proposed by physicians of the missions they have reinforced. All members of our profession who have come to the field need the inspiration and help that the Journal and the Association can give.

R. C. B.

C. M. M. A. EXECUTIVE COMMITTEE.

A meeting of the Executive Committee was held in Shanghai on October 14, 1920.

The following members were present: Drs. Johnson, Beebe, Davenport, Hutcheson (as proxy for Dr. Thomson), Merrins, and Morris.

A communication having been read informing the Committee of the death of Mrs. Cousland, the wife of Dr. Philip B. Cousland one of our former Presidents, on behalf of the Association a resolution was passed expressing sympathy with him in his bereavement.
C. M. M. A. Executive Committee.

Gifts from American Red Cross. Dr. Beebe proposed the following resolution which was unanimously carried:

The Executive Committee of the China Medical Missionary Association wishes to express to the American Red Cross Society its hearty appreciation and sincere thanks for the generous gift of medical and surgical supplies to the mission hospitals in China. This timely gift will do much to relieve the condition of the sick and suffering poor in China, and will arouse a deep sense of gratitude in every province of this nation.

Dr. Beebe also proposed the following resolution which was carried unanimously:

The Executive Committee of the China Medical Missionary Association desires to express to W. A. B. Nichols, Esq., Chairman of the Central Committee of the American Red Cross Society, its grateful appreciation of his hearty cooperation and active service in distributing to the mission hospitals the large gift of supplies made by the American Red Cross Society.

We recognize that it has been through his cooperation that this very valuable philanthropic work has been made possible and we put on record our thankful appreciation of that fact.

China Medical Journal. As the Editor is leaving on furlough, it was moved and carried that an Editorial Board, consisting of Dr. C. S. F. Lincoln (Chairman), Dr. A. C. Hutcheson, and Dr. W. W. Peter, with power to co-opt other members, be asked to take over the editorial work of the Journal during the absence of the editor.

The Editor of the Journal proposed the following members to serve as editors of the departments indicated: Dr. J. P. Maxwell, Gynecology and Obstetrics; Dr. E. C. Faust, Parasitology; Dr. C. C. Elliot, Clinical Surgery; Dr. W. W. Peter, Public Health.

A motion of approval was carried and the Secretary was instructed to notify these members of their appointments.

Joint Council on Health Education. Dr. W. W. Peter was introduced and gave a brief report of the work the Council has done and its financial status. As money is urgently needed to tide over the present year, it was decided to make a grant to the Council, if it was found that the financial state of the Association would warrant it.

A committee consisting of Drs. Davenport, Hutcheson, and Morris was appointed to consider the financial condition of the C. M. M. A. and to determine the amount of this grant, and Dr. Davenport was appointed to serve as the representative of the C. M. M. A. on the Executive Committee of the Joint Council on Health Education.

Standardization of Hospital Accounts. A letter from Dr. Houghton was read, proposing the following resolution on the standardization of hospital accounts.
Resolved: That the Executive Committee of the C. M. M. A. approves as a standard for use in mission hospitals the following classification of receipts and expenditures and recommends its use to the membership of the Association.

I. Receipts:
   A. Annual Appropriations.
   B. Patients' fees.
   C. Contributions.
   D. Miscellaneous.

II. Expenditures:
   E. Salaries and Wages.
   F. Medical, Surgical supplies.
   G. Domestic expenses.
   H. Establishment expenses.
   I. Miscellaneous.

This resolution was carried.

Regional Conferences. Dr. Houghton, upon instruction from the Administrative Boards of the Peking Union Medical College, made the request that he be authorized on behalf of the Executive Committee to organize a North China Regional Conference of the Association, to be held at some date in September, 1921, in conjunction with the formal opening of the Peking Union Medical College.

After some discussion the following motion was carried:—

Resolved: That the Executive Committee heartily approves the organization of a regional conference for North China to be held in September 1921 in conjunction with the formal opening of the Peking Union Medical College.

C. M. M. A. Conference in 1922. A motion was carried that the Shanghai Branch of the C. M. M. A. be appointed a Committee, with power to co-opt additional members, to make arrangements for the Conference to be held in Shanghai in 1922.

Dr. Hutcheson was chosen to fill the vacancy on the Executive Committee caused by Dr. McCracken's absence on furlough.

THE MEDICAL COLLEGE OF THE WEST CHINA UNION UNIVERSITY, CHENGTU.

By C. C. Elliott, M.D., F.R.C.S.E., Chengtu.

It is credibly reported that a certain goddess "sprang full arm'd from the head of Jove." Delightful though it must have been to thus escape the troubles of childhood, we are not told that any of her confraternity succeeded in imitating her. The last few years have witnessed, in the building up of the Peking Medical College, a feat comparable to that of Minerva, leaving the rest of us dumb with admiration. Faced with difficulties and beset by limitations of which those in other parts of China know little, we in Szechwan beg our
friends to remember that the growth of a goddess or of an institution of higher learning is normally slow: that it is enough if, even now, we can see not far ahead of us the prospect of a robust adolescence.

During the early, critical years of our existence our friends in other centres cheered us on, sincerely desiring our prosperity. If from time to time we have been reported moribund, or worse, the fault was ours in that we did not do more to make our affairs known. The present article aims at making some amends in that direction. With the Yangtze gorges lying between us and all possible critics there might be a temptation to mingle a little couleur de rose in the description that follows. Such temptation will be stoutly resisted.

Briefly, then, where do we stand to-day as a teaching institution?

STUDENTS. There are twenty-one students: thirteen in the fourth, fifth, and sixth years, eight in the first. For three years, owing to the shortage of teachers, no new classes were accepted. Spite of the long course of study (seven years) and spite of the fact that entrants must be middle school graduates, the prospects for new classes each year are good.

TEACHING STAFF. The teaching in the two premedical years is given in the faculties of Arts and Science, which faculties, being older than that of Medicine, are naturally farther advanced. Each subject is taught by a highly trained specialist who confines himself to that subject. As to one of the sciences, the present writer was assured by a man competent to judge that the course given is quite equal to that given in the University of Toronto.

In the medical course proper the staff at present consists of five full time men—Dr. Morse (Dean) and Drs. Canright (on furlough), Elliott, Liljestrand, and Wilford—and three others who give part of their time to teaching—Dr. Allan, Dr. Kelly, and Mr. E. N. Meuser, Phm.B. The teaching in Anatomy, Physiology, Materia Medica, Therapeutics, Surgery, X-ray work and Clinical Bacteriology and Pathology is given by men who may fairly be described as specialists in these subjects. Conscious of the urgent need that the same might be true of all the major subjects of the course, the Senate of the University has asked the Board of Governors for seven other men as soon as they can be found, to fill the gaps. We have two or three of these already in view and are sanguine that the total will be made up in a very few years.

BUILDINGS. The temporary home of the Medical College is in the north wing of the University Administration Building, pending the
time when funds now being raised in Canada shall be available for the erection of our own College building. The site is waiting and plans have been drawn and approved calling for an expenditure of G.$100,000 on building and equipment.

The recently opened Hart College contains the Chemical, Physical and Biological Laboratories, already well equipped and with an abundant supply of microscopes in the last named. Accumulators, a gas plant and other apparatus are now being purchased by Dr. Stubbs, the Professor of Chemistry, who is on furlough.

The Anatomical Department is housed in a detached building where dissection is carried on and where we have a good and growing supply of anatomical specimens, models and charts. A complete set of instruments, sterilizers, etc., has also been provided for the teaching of Operative Surgery, classes in which subject begin in the autumn of this year. It may here be mentioned that through the untiring efforts of Dr. Morse all our students, beginning with the first class admitted, have been able to dissect the human body. Only to the esoterics is it given to enter into the full significance of this statement.

Laboratory work in Physiology has hitherto been, to put it mildly, a weakness; a weakness, however, which will be readily condoned by others who have been situated as we are. Providentially, Dr. Liljestrand, who joined our staff last winter, had been preparing himself for a fellowship in Physiology when the call to the mission field came. He has now in hand the equipment of this laboratory, so that by the time the present first year men take up Physiology, fifteen months hence, we expect to be able to give them a complete laboratory course in this subject.

The laboratory for Clinical Pathology and Bacteriology is naturally accommodated in the Canadian Methodist Men's Hospital, where most of our clinical work is done (vide infra). Dr. Kelly, who spent his recent furlough doing post-graduate work on these subjects in Toronto and New York, now carries out a systematic examination of pathological and bacteriological material from the wards and operating rooms, and the senior students get constant practice under his tutelage. A well furnished laboratory for practical Pharmacy is also located at the hospital.

After many adventures en route, and when deferred hope had had its traditional effect on the hearts of the staff, one day the streets leading to the hospital were enlivened by scores of coolies carrying huge, weird-looking packing cases which proved to be the X-ray plant ordered by the hospital two years or more ago. Dr. Wilford, back in China after two years of X-ray work in C. A. M. C. hospitals in Canada, England,
and France, immediately set to work on the plant and before long we were running the whole thrilling gamut of screen examinations, photographs, barium meals, etc. Operated with power supplied by the Canadian Methodist Mission Press, the plant consists of an eighty-kilovolt Kelley-Koett interrupterless transformer, trochoscope, tube stand, stereoscope stand, illuminating boxes and all necessary accessories both for diagnostic work and for treatment, the cost being about G. $3,500.

HOSPITAL FACILITIES. The large, up-to-date Canadian Methodist Men's Hospital has been generously placed by that Mission almost entirely at our disposal for clinical teaching. One member of our staff is surgeon to the W. M. S. Hospital for Women and Children, while another is consultant in Obstetrics. Small groups of students accompany these teachers, examine obstetrical and gynecological cases and assist at operations and at confinements. The hospital of the Methodist Episcopal Mission, closed for some years because of the scarcity of doctors, is being reopened in the autumn by Dr. Freeman, who has already invited us to make full use of its clinical opportunities.

In the simple account given above, has any note of smug self-satisfaction crept in unawares ? Any suggestion that we have already attained or were already made perfect ? One hopes not. Ahead of us

"Gleams that untravell'd world whose margin fades
Forever and forever as (we) go."

Nevertheless, enough has been written, perhaps, to make it plain that this thing has not been done in a corner. Szechwan, though politically a province of China, is geographically a separate state. An Indian student could travel from Bombay to London in less time than it takes to go from Chengtu to Tsinan or Peking! Could British schools of medicine provide for all the needs of India ? With Christian missions and Western education at their present stage of development in Szechwan it is unthinkable that this wealthy province of sixty million people should be without a centre for scientific medical education of the highest possible grade. The only question is, or was, how this desirable end could be attained in the shortest time. The present writer, having only joined the teaching staff last year, may be permitted to express the opinion that the best way, perhaps the only one, was that adopted by the members of the original staff, viz., to open their doors and show what could be done even with limited resources of men and plant; at the same time urging upon the missionary societies that the time was ripe for a much more extensive programme than they then contemplated. This is now almost universally recognized. Encouragement and help are freely given us. The four students in the graduating class all have posts waiting for them in mission hospitals. Youths are now preparing themselves in secondary schools whose thoughts would never have turned to medicine as a career had it meant a prolonged absence in a distant part of the country; finally, the high standards now being set in certain other colleges in China incite us to "press on unto perfection."
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
(Mittell d. Med. Gesellsch. z, Tokyo)
Vol. xxxii, No. xix. October 5th, 1918.

(635) Intestinal Rupture after Injury to the Abdomen. T. Miyata.
(Conclusion.) Pages 231-252. German text.

Rupture of the intestine after contusion of the abdomen usually arises indirectly. On the abrupt pressing out of the intestinal contents, the intestinal wall is stretched violently, and ruptures (usually transversely) at its mesenteric attachment, which is the weakest point. An empty intestine does not rupture, but may be contused. The rupture is usually in the ileum; less often in the jejunum, rarely in the colon.

Tokyo Igakukai Zasshi
(Mittell d. Med. Gesellsch. z. Tokyo)
Vol. xxii, No. 20. October 20, 1918.

(636) Experimental Infantile Scurvy. Pages 1-36. M. Segawa. 3 Plates. Author's abstract in German text.

By feeding Nestlé's food to guinea-pigs 2 to 3 weeks old, the author succeeded in reproducing the lesions typical of the human disease. The animals died in from 20 to 30 days and showed, macroscopically, numerous haemorrhages, especially sub-periosteal and intestinal, and fragility of the bones with separation of the epiphyses. Radiographic examinations showed the clear zone of Letundorf and the area of detritus of Frankel in the epiphyseal region, with general bony atrophy. Microscopically, these changes were found to be due to an abnormal persistence of the cartilage columns, and to irregularly arranged fragments of bone.

(637) Saccharomyces occurring in Human Mesenteric Glands. Pages 37-45. T. Tanako. Author's abstract in German text.

The author demonstrated these yeasts microscopically in 12 cases (6 of gastric carcinoma), about 10% of all examined, and cultivated them in one case. The infected glands were slightly enlarged but showed no other pathological change. The organisms formed no toxin in culture. When fed to rodents some of the animals died, but showed no distinctive lesions and the yeasts could not be demonstrated in the organs. The yeasts seem to be but feebly pathogenic, and to invade the tissues only in cachectic or anemic individuals.

Kinsei Igaku
(Modern Medicine)

(638) Platycodon as a Substitute for Senega Root. Y. Shimizu.
Page 60.

The root of Platycodon grandiflorum was used by the early Chinese physicians in the treatment of cough. Shitayama has isolated from it an easily soluble
saponin which is relatively non-toxic, and which he found to be more efficacious in the treatment of cough than senega. This extract he called Platylin. The author also found this substance more effective than senega as well as less expensive.

Tokyo Iji Shinji
(Tokyo Medical News)

(639) Rat-Bite Fever Treated with Imamicol. S. Matsusaki and R. Tsunemochi. Pages 2335-2338. (Concerning Imamicol see also Nos. 126 and 261).

The author reports favorable results in the treatment of two cases of the disease in man as well as in inoculated animals, and gives a detailed report of one case. The clinical picture was typical. Beginning on the second day of the disease, the patient received intramuscular injections of imamicol, 1 mil daily for three days, then 0.5 mil twice at two day intervals. The symptoms subsided but recurred after two weeks, and treatment was resumed, first as intramuscular injections of 1 mil at three day intervals (4 in all); then as intravenous injections, one of 3 mils, 6 of 5 mils, and one of 6.5 mils, at intervals of 4 to 6 days. This is stated to have caused a permanent cure.

The author attempted to demonstrate the parasites in three cases by examination of the blood and gland tissue, and succeeded in two by animal inoculation, but in none directly. The serum of all three cases showed specific lytic action on the spirochaetes.


The authors were unable to demonstrate any organisms in the tissues either by culture or by histological examination.

The blood of two patients in the early stages, who showed only lymph gland enlargement, caused infection in monkeys, as did that of one case two days before defervescence, while the blood obtained 22 days after defervescence did not infect. The dose for monkeys which infected with certainty was 0.1 mil, though 0.001 mil may infect. Monkeys were also infected by emulsions of enlarged lymph glands.

Attempts to determine whether the virus is present in the blood plasma (citrated blood) or in the corpuscles, were not conclusive. Plasma injections were positive in one out of eight trials; injections of washed corpuscles were negative in seven trials; however, positive results were obtained with the unwashed sediment from citrated blood. The virus in the blood of an infected monkey was destroyed in 10 minutes at 55° C. and after 15 minutes at 45° C. It was also destroyed after one week in the incubator, and after 10 days at—2° C. It did not resist desiccation. It was destroyed by 9.5% mercuric chloride solution, by 9.5% carbolic acid, and by 1% potassium hydroxide.
The spleen of a patient was not infectious 6 hours after death, which indicates rapid disappearance of the virus from the tissues after death.

The authors believe that a slight degree of immunity develops and lasts for two or three years. Second attacks occur but are usually mild.

Blood serum from a recovered patient or an "immune" monkey did not destroy the virus in infective blood.

The spleen and blood of a rabbit which had been exposed to natural infection in a region infested with red mites, and killed 14 days later, infected monkeys, although the rabbit showed no symptoms of infection. The spleens of field mice caught in an infested region also regularly caused infection although a red mite was found on only one mouse.

Injections of monkeys with emulsions of red mites were negative but this may have been because the mites used were not infected.

Salvarsan, quinine, and injections in small doses of the serum of convalescents had no effect on the course of the disease in severe cases.

(641) INFECTED WOUNDS, A NEW METHOD OF TREATMENT. E. Matsuoka.

Reports alleged favorable results from use of Yusol and Yupad.

Nippon Biseibutsugakai Zasshi
(Journal of the Japan Protozoological Society)

(642) PSEUDOTYPHUS EXANTHEMATICUS, A CLINICAL AND BACTERIOLOGICAL STUDY. S. Imi.

An exanthem appeared after 2 3/4 to 4 1/2 days, first on the chest and abdomen, then on the back, arms, legs and neck, occasionally on the face, palms, and soles. It consisted of macules, round, discrete, from 1/2 to 1 1/2 cm in diameter, at first rose-colored and fading on pressure, later hemorrhagic. It disappeared after 1 to 2 weeks.

The serum of these patients gave negative agglutination reactions with B. typhosus and B. paratyphosus A. and B.

Cultures from the stool and urine were negative. From the blood the author obtained positive results by placing 2 mils of blood in bile, and after incubation subculturing on Endo plates. The organism obtained he called B. pseudotyphus exanthematicus. Its cultural characteristics are as follows:

(1) Morphology. A short bacillus with rounded ends, 1/2-5 micra long, and 0.6-0.8 micra broad. No capsules, no spores. From 1-12 cilia were present, each being more than 10 times the length of the bacillus.

(2) Motility, active.

(3) Viability. A broth culture was killed in 30 minutes at 56° C. The organisms in a thin film on a glass slide were killed by exposure to direct sunlight for 2-3 hours, but were alive after 2 weeks when kept in the dark.

(4) The organisms stained readily and were decolorized by Gram.
(5) Cultural reactions. Milk was coagulated after 120 hours (\textit{B. coli} caused coagulation in 48 hours; \textit{B. typhosus} and \textit{B. paratyphosus A. and B.} no coagulation).

Litmus was slightly reddened after 17 hours, distinctly red after 120 hours.

Endo medium. Colonies discrete, round, slightly pink, not as deeply colored as those of \textit{B. coli}.

The serum from all these patients agglutinated the homologous bacillus. The titre varied with the stage at which the serum was obtained. Control tests with \textit{B. typhosus} and \textit{B. paratyphosus A. and B.} were negative except for one serum which agglutinated \textit{B. paratyphosus A.} in a dilution of 1-50.

Immune sera were obtained from rabbits with two of the strains. Both sera agglutinated in high dilution the three strains of this organism with which they were tested, and neither agglutinated \textit{B. typhosus} nor \textit{B. paratyphosus A. and B.} \textit{B. paratyphosus, B. melatyphosus} (Ishihara), \textit{B. enteriditis}, nor \textit{B. typhimurium}.

These strains were not agglutinated either by a typhoid or a para-typhoid A. or B. immune serum.

The pseudotyphosus immune sera stimulated phagocytosis of the homologous strains, and gave positive complement fixation reactions with them, while negative results were obtained with the other organisms tested.

The author concludes that the disease is a distinct etiological entity, and calls it pseudotyphus exanthematicus.

**Nippon Biseibutsugakkei Zasshi**

(*Journal of the Japan Protozoological Society*)

Vol. No. 1. \textit{February 1, 1918}.

(643) **Hookworm, as Cause of Respiratory Disturbances.**

In 40 cases of "kabre" or hookworm dermatitis, 21 cases were found to show some signs of respiratory disease. Of these, 15 had pharyngeal congestion and hoarseness; the other 6 also had bronchitis. All but three of the forty were demonstrated to be infected with hookworm. In the sputum of 7 of these cases there was an excess of eosinophile cells. The author attributes these symptoms to the passage of the larvae through the bronchi and pharynx in their migration from the skin to the intestine.

**Iji Shimbun**

(*Medical News*)

No. 991. \textit{February 10, 1918}.

(644) **Hookworm Eggs, Their Viability in Japanese Latrines.** K. Minagawa. Pages 153-167. (Fifth report.)

The author reports that the eggs and larvae of the hookworm are quite resistant in media which are approximately isotonic, but are readily destroyed in those of high or low specific gravity. He found that they were destroyed in mixtures of human urine and feces, but that the destructive action of the urine was not manifested if the eggs were in direct contact with the air. The non-encysted larvae are killed in mixtures of urine and feces, but the encysted (integumented) forms are not. The larvae are killed, however, if they are more than 0.5 cm. below the surface of the mixture.

As fly larvae spread the hookworm eggs, it is necessary to screen the latrines. The author has devised a new form of reservoir for the storage of human excreta (for manure) which will obviate the danger of spread of hookworm eggs, based on the principles stated. He states that the proper proportion of urine and feces is three parts of the former to one part of the latter. These should be mixed with three parts water and allowed to ferment for a day or two after being thoroughly shaken, before being spread.
Ascaris larvae appear in the liver of experimentally infected animals after 1.5 to 7 days, most often on the third, fourth and fifth days; in the lungs from the 3rd to 15th day, usually on the 6th to 8th days. When present in the liver and lungs they are also found in the heart. They may appear in the trachea on the 5th day, but usually on the 7th to 9th days; in the digestive tract on the 8th, but usually on 10th day or 11th day.

The eggs developed in 0.7% HC1; 0.3% carbolic acid; 0.7% mercuric chloride solution; 4% acetic acid; 5% formalin; 7.5% salt solution; 0.3% nitric acid; 1% caustic soda; and 5% chloride of lime. They did not develop readily in feces which have been thoroughly dried.

The author found that the larvae pass from the lumen of the intestine through the intestinal wall and peritoneal cavity to the liver, then through the lung, trachea, to the esophagus and stomach, then back to the intestine where it develops to the adult form.

This complicated course he regards from the evolutionary point of view as indicating a highly developed state of parasitism on the part of the parasite.

This substance is a dioxy-diamido-sodium compound of arseno-benzoi, which is alkaline in reaction and easily soluble in water. Savior contains 30% of arsenic; savior sodium about 20%. The toxicity was such that 2.5 mg. of savior per 10 g. of body weight in 8-day mice, injected subcutaneously, killed half the animals.

The author reports a case of fatal obstructive jaundice, in which at autopsy the common duct was found completely obstructed by a large ascaris. There was no bile in the intestine. No other cause for the obstruction was found.

He compiled the following statistics as to the frequency of ascaris infection from the records of the Pathological Department of the Kyoto Medical School.

<table>
<thead>
<tr>
<th>Age</th>
<th>No. of Cases</th>
<th>No. Infected</th>
<th>Per cent Infected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 1 year</td>
<td>230</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1-2 years</td>
<td>65</td>
<td>7</td>
<td>10.7</td>
</tr>
<tr>
<td>2-3 &quot;</td>
<td>27</td>
<td>8</td>
<td>29.6</td>
</tr>
<tr>
<td>3-15 &quot;</td>
<td>166</td>
<td>62</td>
<td>37.3</td>
</tr>
<tr>
<td>Over 15 years</td>
<td>1,513</td>
<td>545</td>
<td>35.2</td>
</tr>
<tr>
<td>Farmers over 15 years</td>
<td>204</td>
<td>105</td>
<td>51.4</td>
</tr>
</tbody>
</table>

As to relative frequency of infestation there was no difference between males and females. As to occupation of patients, farmers were the most numerous.
Heat Production during the Action of Ferments. B. Inouye.

During peptic hydrolysis of protein, on the average 0.17 small calorie is produced per 1 mg. of amino-N, or 18 calories from 1 mg. of casein. The rise of temperature corresponds to the increase in the number of molecules in the digestion mixture. The effect of the combined action of two different peptases, such as trypsin-erpsin, trypsin-kojidiastase, erpsin-kojidiastase, as determined by heat production, or by Sohrensen's formaline titration method, was 1.4 to 1.6 times as great as the sum of their individual actions.

The rate of urease hydrolysis is also proportional to the heat production during the process. The heat production amounts to 97.2 small calories per gram; or maltose, 4.66 calories per gram.

In the alcoholic fermentation of glucose there is liberated 134.9 calories per gram.

Ferment Activity as Influenced by H-Ion Concentration, with Special Reference to Koji Ferments (Aspergillus oryzae). Pages 1-30.

Because the activity of ferments depends on the H-ion concentration of the solution and not on the absolute amount of acid or alkali which may be added, it is essential to use buffer solutions of known H-ion concentration in all experimental work on the subject.

The optimum concentration for several Koji ferments was found to be as follows:

<table>
<thead>
<tr>
<th>Ferment</th>
<th>Solution</th>
<th>H-ion Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Koji-protease</td>
<td>Coagulated egg white</td>
<td>4.7</td>
</tr>
<tr>
<td>Peptase</td>
<td>Witte's peptone</td>
<td>4.7</td>
</tr>
<tr>
<td>Amylase</td>
<td>Soluble starch (Kahlbaum)</td>
<td>4.85</td>
</tr>
<tr>
<td>Maltase</td>
<td>Maltase (Kahlbaum)</td>
<td>4.1</td>
</tr>
<tr>
<td>Invertase</td>
<td>Cane sugar (Kahlbaum)</td>
<td>5.0</td>
</tr>
</tbody>
</table>

The Koji ferments, therefore, differ in this respect from other ferments.

The physical condition of the substrate also plays an important part in determining the activity of the ferment. Thus this ferment acts very feebly on a solution of casein precipitated in a feebly acid solution, while it acts strongly on a solution which is either more strongly acid or distinctly alkaline.

Because of this behavior one would expect these ferments to act most strongly at the outset of gastric digestion, or in patients with subacidity or anacidity.

Arthritis Deformans of the Knee as a Senile Change. K. Yamagawa and K. Yamamoto. Pages 30-60. Author's abstract in German text.

The material studied consisted of 65 human bodies, between the ages of 4 and 76. Bodies showing changes other than those which might be attributed to age were excluded. The "average" number of such changes found increased progressively from 3 between 30 and 35 years, to 18 between 76 and 80 years. The changes consisted in a whitish or yellowish discoloration, a loss of normal gloss, or a velvety appearance of the joint surface, defects shallow or deep, erosions, eburnation, or exostosis formation.

These changes the author regards as simple regressive changes on the one hand and compensatory reparative changes on the other, quite analogous to atherosclerosis, and suggests the term arthropathia deformans senilis. He regards the atrophic and hypertrophic forms as different stages of the same process, and the usually greater age incidence of the latter as due to the fact that the reparative changes necessarily follow the degenerative changes.

The author thinks that sub-cartilaginous changes in the bone are always associated with detectable, though sometimes slight, changes in the cartilage,
described as a "fibrinoid" degeneration, and formation of lacunae. These areas take a bluish-violet color with Weigert's fibrin stain, and under high magnification show a fine reticular network of fibrils. This change occurs very early (37-40 years) in the deeper layer of the joint cartilage, in semilunar areas which stain intensively with cosin and undergo softening. These transverse slits enlarge both laterally and longitudinally toward the joint surface, unite with the slits which form in the superficial portions of the cartilage by its fibrillation, and lead to deep erosions of the cartilage.

The cartilage beneath these areas undergoes a transformation into fibrils which are perpendicular to the joint surface, and ossification of this altered cartilage takes place. There is also proliferation of the bone and marrow beneath these areas, resulting in nodular irregularities on the surface of the cartilage. These nodules may be broken off and pressed into the underlying bone by the movements of the joint, and thus give rise to cartilaginous islands in the bone. All the changes in the bone itself are regarded as secondary.

Fibrous change of the bone-marrow takes place where the degenerative changes described have occurred in the cartilage.

The formation of exostoses along the margins of the joint occurs in the same manner, in that the hyaline cartilage is transformed into fibrous cartilage, bone is deposited in it, and narrow may develop in it as a result of lacunar bone resorption. Eburnation may occur anywhere as a result of rubbing together of exposed bone surfaces.

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

(652) The Blood picture in Acute Lymphatic Lymphemia complicated by Noma. K. Ushinosuke and K. Takushiro. Authors' abstract in German text.

In the case described there was a remarkable reduction of the leucocyte count to 620, and on section of the tissues there was found a marked infiltration of all the haematopoietic organs with plasma cells.

(653) Hernia, Radical Operation for. M. Hatakishi. Author's abstract in German text.

The details of the technique are given and favorable results reported in 100 cases.

Kyoto Igaku Zasshi
(Kyoto Journal of Medical Science)


The figures include the cases of malignant tumors occurring in the province of Yamashiro for the years 1905-1914. The mortality from malignant tumors in the city of Kyoto was 3.95 per 100 deaths, and 50 per 100,000 living. The highest mortality was in the village of Kumokubata, 255 per 100,000 living, and in Takayama, 197 per 100,000; the lowest in Kita, 36 per 100,000. In the former the inhabitants eat much meat and drink hot drinks; in the last named district the diet is largely vegetarian.

The incidence in Japan is not less than that in Europe. An inherited predisposition to carcinoma was frequently observed, the organ involved being frequently the same in parent and child, but in no case did sarcoma occur in both parent and child.

In Japan the incidence is higher in men than in women. In carcinoma of practically all organs the percentage incidence in men is relatively greater in Japanese than Europeans. Males are more frequently affected than females by carcinoma of the stomach, oesophagus, rectum, intestine, liver, pancreas, tongue, larynx, pharynx, lung and skin. The incidence of carcinoma of the bile passages is about equal in the two sexes, while cancer of the breast and thyroid is commoner in women.
Japanese Medical Literature.

Organ. Frequency in both sexes. In Males. In Females.

<table>
<thead>
<tr>
<th>Organ</th>
<th>Frequency in both sexes</th>
<th>In Males</th>
<th>In Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stomach</td>
<td>33%</td>
<td>40%</td>
<td>25%</td>
</tr>
<tr>
<td>Gastroesophagus</td>
<td>6-10%</td>
<td>6-21%</td>
<td>2-6%</td>
</tr>
<tr>
<td>Intestine</td>
<td>6-11%</td>
<td>6-18%</td>
<td>8%</td>
</tr>
<tr>
<td>Rectum</td>
<td>6%</td>
<td>8%</td>
<td>7%</td>
</tr>
<tr>
<td>Liver (primary)</td>
<td>6%</td>
<td>6%</td>
<td>8%</td>
</tr>
<tr>
<td>Bile passages</td>
<td>3-6%</td>
<td>3-4%</td>
<td>3-4%</td>
</tr>
<tr>
<td>Pancreas</td>
<td>1-3%</td>
<td>1-3%</td>
<td>1-3%</td>
</tr>
</tbody>
</table>

The order of frequency in males was; stomach, intestine, esophagus, liver, tongue, buccal membrane, axilla, penis, skin. In females: uterus, breast, stomach, intestine, maxilla, etc.

The chief differences not already mentioned are in the greater frequency of primary carcinomas of the liver and of rectal carcinomas in women.

The age incidence was the same as in Europe. The greatest frequency was in the sixth decade, except for carcinoma of the uterus, which was in the fifth decade. The average was: liver 41.2; uterus and ovary, 42.7; stomach, 47; maxilla, 55.0; gall bladder and bile passages, 55.1; prostate, 57.0; larynx, 58.9.

The incidence was greater in shop keepers and those leading a sedentary occupation than in those doing heavy muscular work. It was greater in individuals of robust physique than in poorly developed individuals, except in case of carcinomas of the esophagus, and of the stomach in women.

The occurrence of carcinoma of the body of the uterus was greater in nulliparae, that of the cervix much greater in multiparae, especially in V or VI para. The average number of births in cancer of the cervix was 0.75 to 2.15 greater than the average. Miscarriage, even repeated, had no relation to cancer incidence. The interval between labor and the onset of carcinoma was very often less than two years and usually less than one year.

(655) Chromaffine Cells in the Gastric and Intestinal Mucous Membrane. G. Suda. Pages 139-153. Author's abstract in German text. Pages 59-60. 1 colored plate.

These chromaffine cells occur in the fundus glands of the dog, rabbit, and guinea-pig. They are normal structures and not to be regarded as the result of degenerative or post-mortem changes. In the dog their appearance is not affected by feeding, starvation, or by the injection of atropin or pilocarpin.

In the pyloric glands scattered cells of this type are also present. They are cylindrical or conical cells with a long, slender process which penetrates between the adjacent overlying glandular cells to the lumen of the gland. The cytoplasm contains numerous fine yellowish granules which mostly lie in the upper portion of the cell. The nucleus is round with a sparse chromatin network. In the rabbit and guinea-pig the cells are rounder and the granules are coarser and yellower than in the dog.

In the intestinal epithelium, especially in Lieberkuhn's glands, chromaffine cells are also present.

The cells of the pyloric glands and the intestinal epithelium are regarded by the author as probably of glandular origin.


By repeated intravenous injections in rabbits the authors produced characteristic lesions with ephedrin and mydriatin as well as adrenaline. Adrenaline is the most toxic. The lesions are usually produced in the aorta and appear as focal areas of necrosis of the elastic fibres and smooth muscle of the media.

These changes were most readily produced in old and in pregnant animals; they were hard to produce in young animals, and in old, castrated animals.


Starving hens are not able to form hippuric acid from benzoic acid and glycolcol, as can well-fed hens. Benzoic acid, if fed to them, is excreted in combination with ornithin as ornithuric acid. This capacity to form ornithuric acid is probably to be regarded as a special function of the organism of the bird.
NEW CONCEPTIONS REGARDING IMMUNITY TO THE ENTERIC FEVERS.—The recent experimental investigations by Besredka, of the Pasteur Institute, on the mechanism of infection in typhoid, paratyphoid, and dysenteric infections, and the methods of producing active immunity against them, are of such enormous practical importance and so subversive of the ideas hitherto held by bacteriologists that they merit close study by the whole medical profession. The results of Besredka's work were published for the most part in the Annales de l'Institut Pasteur of last year.

Besredka adduces evidence in favour of the view that certain germs of disease have special, specific areas in the body within which they are active. No matter where you introduce them, under the skin, into veins, or by the mouth, they seek out these special areas, and are more or less harmless until they find them. Our efforts hitherto have been directed by the idea that protection should be general and universal to the human system.

The following is a free and interesting account of the work written by the medical correspondent of the London Times. It should be read in connection with two authoritative articles on the subject which appeared in the British Medical Journal (August 28; September 1, 1920).

Despite the frequency of dysentery in all the contending armies during the great war, and although laboratory experiments were quite as favourable to the efficacy of dysentery vaccination as to that for typhoid and paratyphoid fevers, few attempts were made to vaccinate soldiers against dysentery, chiefly on account of the severe toxic effects following subcutaneous injection of killed cultures. Besredka began his investigations with the type of bacillary dysentery due to B. dysentericus Shiga.

He was anxious to find whether by a process of vaccination the blood could be induced to produce antidotes to this germ and at the same time avoid the severe poisoning effects which had occurred when the attempt was made. He began by injecting the living germs into the veins of rabbits. These animals died of dysentery. An examination of their bodies showed that only the intestines were affected. In spite of the fact that the germs had been put directly into the bloodstream, there was nothing to show that this had exercised any greater effect than if the germs had been accidentally received into the system, as in human dysentery.

Here, then, was a reversal of the idea of "localizing" the trouble by producing antidotes in the blood. The disease localized itself. In other words, the germs could only perform their evil functions on one particular area of the body. Until they reached this area their effect was small.

But this by no means exhausted the number of surprises. When germs were injected not into a vein, but merely under the skin, exactly the same thing occurred—"the bacilli . . . were mobilized, and, leaving their original site, made their way towards the intestinal mucosa." Thus it mattered nothing whether the germs were swallowed or placed under the skin or in a
vein. They all set about reaching their own area, and when they arrived there the trouble began. This is an anatomical conception of disease which, though not new, is of vast interest.

What of the effects of injecting dead dysentery germs? Were any antidotes prepared by the blood? It was found that after a single injection of dead germs and the lapse of eighteen days, the amount of antidote present in the blood had increased 400 times. But after two injections at eight days' interval, the astonishing discovery was made that there was no trace of antidote at all. This was confirmed in various ways.

The natural question why one dose should produce an antidote (which lasted only a short period) and the second dose fail to produce anymore, is, perhaps, best answered by recounting the fact that though there was no antidote present in the blood, the animals which had received the dose or doses were now, nevertheless, absolutely protected against the disease. They remained unaffected whether living germs were injected by vein or under the skin or given by mouth. Animals not so protected died from the same living germs in 24 hours.

Here, then, was the idea that immunity or protection against dysentery is not an affair of the blood at all, but an affair of those special parts of the body in which the dysentery germs live and act. In short, that salvation is not by antidote but by some local effect; "the intestinal barrier becomes unbreakable," whatever the nature of that barrier may be.

This, it will be seen, is a conception of an absolutely different kind from that to which we are accustomed. One result—for the work applies also to typhoid fever—is that vaccination as now practised is unnecessary. It was found that a dose of dead germs given by mouth was quite as effective in producing this local protection as a dose given under the skin—the present method of vaccination.

**Medical Treatment of Intestinal Obstruction.**—Escomel did not dare to operate on an incarcerated hernia in a woman of 84 with valvular disease. As a last resort, he had her swallow a tablespoonful of liquid petrolatum every half hour. She began this at 8 a.m. and at 2 p.m., the hernia spontaneously subsided. He has since applied this treatment in fifteen other cases, ordering the spoonful of odorless liquid petrolatum every ten or fifteen minutes, supplemented in some cases with an intramuscular injection of pituitary extract, and raising the foot of the bed to allow the intestine to slide down against the diaphragm and thus relieve the pressure on the hernia, and correct torsion or invagination. Gentle taxis after four or five hours of this may correct conditions; if not, irreducible adhesions or torsion or invagination are probably responsible. He advises the petrolatum at once in all cases of intestinal obstruction as it does no harm, and may render an operation unnecessary.

*(Siglo Médico (Madrid) June 12, 1920, 67, No. 3470.)*

**Prophylaxis of Typhus.**—Armand-Delille explains that lice are unable to proliferate when for a third at least of each twenty-four hours they are deprived of the warmth of the body. It takes twelve days for the louse to mature, hence if the clothes are ironed on the inside with a hot iron once a week for four or five weeks, this will interrupt the evolution of the different generations as they develop and none will reach the reproduction period. They thus all die off
in time although the hot iron does not kill them all, but it destroys enough of the lice and nits for the purpose, even with a single weekly ironing, especially along the seams. He warns further that when different shifts of workmen occupy the same beds, so that they are more or less continually in use, this breeds vermin rapidly; while letting the bedding grow cold for several hours checks the development and reproduction of lice.—*Bull. de l'Acad. de Med.*, March 2, 1920.

**Benzyl-benzoate in Whooping Cough and Other Spasmodic Conditions.**—In the *Bull. of Johns Hopkins Hospital*, July 1920, Macht points out that according to their chemical structure and pharmacological action on smooth muscle, the opium alkaloids can be sharply divided into two classes: the pyridin-phenanthrene group, of which morphine is the principal member, which has a stimulating action on smooth fibres; and the papaverin group which has a remarkable sedative effect. It has been found that the benzyl nucleus of the papaverin molecule is responsible for the sedative effect of papaverin. The author next searched for, and discovered in benzyl-benzoate, a simpler compound containing the benzyl grouping and exhibiting the pharmacological properties of papaverin without its narcotic effects. On practical trial of this drug it proved to be most useful in conditions of smooth muscle viscera which exhibited either an excessive peristalsis, or excessive spasm, or both. Among such conditions are excessive peristalsis of the intestines, such as may be found in diarrhoea, dysentery, intestinal colic or entero-spasm, pyloro-spasm, uterine spasm, spasmodic conditions of the gall-bladder and the urinary bladder, ureteral colic, angio-spasm and other similar conditions; it was also successful in the treatment of bronchial spasm or true asthma.

Benzyl-benzoate was next tried in one hundred and fifteen cases of whooping cough. Of these the vast majority were children ranging in ages from a few weeks to fourteen years. Many of these cases occurred in groups of two, three or more in one family; and, owing to the prevalence of the epidemic and its severe form, the diagnosis of whooping-cough, in most cases, could very easily be made. All these cases were characterized by whooping and in many the paroxysms were accompanied by vomiting and small hemorrhages. In a number of cases, a blood examination was made and gave the characteristic blood picture of pertussis. Most of the patients before coming under the author's observation had been treated by parents or doctors with paregoric and other popular drugs without any benefit, while others had been left alone without any treatment whatever. A number of the patients received vaccine treatment, but the results in these cases were also not at all striking.

When a study of the cases was begun by the author, all other medication was discontinued and the patients were given a 20 per cent solution of benzyl-benzoate by mouth. The dosage varied from 5 to 40 drops in water, three or four times a day and oftener, depending upon the age of the patient and the severity of the disease. In cases in which the simple alcoholic solution of benzyl-benzoate was found to be too distasteful to the young patients, it was flavored with a few drops of benzaldehyde and the medicine was administered in sugar water or milk. The author soon noted that the addition of a little benzaldehyde to a solution of benzyl-benzoate in amounts varying from 1 per cent to 5 per
cent produced a mixture which seemed to act more effectively in cases of whooping-cough than benzyl-benzoate alone. It was found that the administration of benzyl-benzoate in the form of a suspension in simple elixir, in syrup of yerba santa and other syrups or elixirs was not a satisfactory method either of disguising the taste or administering the drug over long periods of time, as such mixtures are too bulky and unsightly and, in most cases, tend to disturb digestion even more than benzyl-benzoate in alcohol would do in sensitive persons when administered without any flavoring.

The results of the clinical observations were as follows: About 90 per cent of all the patients showed more or less beneficial effects; about 50 per cent exhibited marked improvement in the symptoms. The therapeutic effects of benzyl-benzoate were not of a curative character but were of a distinctly palliative nature. These effects were manifested either by a reduction in the violence or in the number of paroxysms, or both; and also by the elimination of certain untoward sequelæ following violent whooping, such as vomiting, sub-conjunctival hemorrhages, lack of sleep, and emaciation. In many cases, the relief afforded by the drug was so marked that the parents came begging for more of the drug and recommended it also to their friends. Many of the patients who responded favorably to benzyl-benzoate had been previously treated unsuccessfully with bromides, antipyrin, quinin, bella-donna, paregoric, and even heroin. In some cases, the author purposely interchanged or alternated the benzyl treatment with one or other of the above drugs, and the difference in the therapeutic effects could be readily noticed. Among such cases were three of the author’s own children who were suffering with whooping-cough in a severe form. These patients were given all kinds of whooping-cough remedies, including heroin. None proved to be in the least effective unless given in toxic doses (heroin). On the other hand, when the children were given a solution of benzyl-benzoate plus benzaldehyde, a most remarkable relief in the violence of the paroxysms as well as a decrease in their number, was noted. Whether benzyl-benzoate has any effect upon the duration of the disease, it is at present impossible to say. It is doubtful whether the drug will have any influence on the cause of the disease but there is no doubt whatever, from the author’s experience, that in benzyl-benzoate we certainly have a valuable palliative preparation; and the value of such a drug, in view of the disastrous consequences of repeated and violent whooping paroxysms, needs no emphasis.

**Surgery.**

**Hæmorrhage Following Operative Treatment of Internal Hæmorrhoids.**—In the *Lancet*, July 17, 1920, Gabriel has an instructive paper based on an analysis of 500 cases of internal hæmorrhoids operated on at St. Mark’s Hospital in the course of the last 16 months. In the table which follows it will be seen that ligature has been performed in 470 cases, including 62 cases in which ligature was combined with treatment for a fissure or fistula. The clamp and cautery method accounted for 18, and Whithead’s operation for 12 cases.
Table of Cases.

<table>
<thead>
<tr>
<th>Nature of operation and No. of cases.</th>
<th>Variety of haemorrhage, No. of cases, and No. of days after operation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ligature ..........................</td>
<td>Intermediate ... 2</td>
</tr>
<tr>
<td>Clamp and cautery ..................</td>
<td>Secondary-severe 5 (7, 7, 7, 7, 8)</td>
</tr>
<tr>
<td>Whitehead’s operation ..............</td>
<td>Secondary-severe 6 (4, 5, 6, 7, 7, 8)</td>
</tr>
<tr>
<td>Hds. and fissure (lig. and incision)</td>
<td>Secondary-slight 1 (7)</td>
</tr>
<tr>
<td>Hds. and fistula (lig. and laid open)</td>
<td>Intermediate ... 1</td>
</tr>
<tr>
<td></td>
<td>Secondary-slight 1 (10)</td>
</tr>
<tr>
<td></td>
<td>Nil.</td>
</tr>
</tbody>
</table>

Post-operative haemorrhage may be either (1) intermediate—i.e., within 24 hours of the operation; or (2) secondary—i.e., later than 24 hours after operation.

Intermediate Haemorrhage. Of the three cases of intermediate haemorrhage requiring treatment, two followed a ligature and one a Whitehead’s operation. This variety of haemorrhage is caused by the slipping of a ligature, or by persistent bleeding from a small vessel not ligated at the time of operation, or in which the thrombus has become loosened as the result of coughing, vomiting, or straining at micturition. In each case there was considerable oozing during the night following operation, necessitating one or more changes of the outer dressing, and requiring active treatment in the morning. Hypodermic injections of morphia were given with general treatment, and the bleeding was controlled efficiently in each case by plugging the rectum by the methods later to be described; a vulcanite tube was inserted in two cases, the third was plugged with a rubber tube and a wool "surround." The tubes were removed after 24 hours, and no further bleeding occurred. The routine injection of 5 oz. of sterile olive oil was given into the rectum on the second evening after operation, and castor oil, 1 oz. was administered orally on the third morning.

The operative technique is the most important factor in the avoidance of intermediate haemorrhage. In the ligature operation in particular, care should be taken to keep the scissors accurately in the submucous plane in order to avoid dividing vessels unnecessarily; the distal portions of the ligated piles may be left in situ, or, if part is cut away, an ample amount should be left to ensure that no slipping of the ligature can take place.

No example of intermediate haemorrhage occurred among the 18 cases treated by the clamp and cautery method.

Secondary Haemorrhage and Its Causation. This is an uncommon complication which cannot be anticipated, and unless the possibility of its occurrence is kept in mind, a large concealed haemorrhage may occur before the condition is recognized. In this series, five cases of serious secondary haemorrhage followed a ligature operation, four on the seventh and one on the eighth day after operation. In addition there were eight other cases of slight secondary haemorrhage after defaecation, of no special consequence and requiring very little treatment; seven of these followed a ligature operation.
A secondary hæmorrhage is brought about by premature separation of the sloughing pile. After the ligature operation the ligatures separate normally between eight and twelve days after operation. In this series the average date of the secondary hæmorrhage has been seven days after operation. The chief factors in the causation of the hæmorrhage are: (1) Infection, (2) trauma, (3) anaemia and general debility. To these may be added, rarely, (4) blood diseases such as hæmophilia.

In cases of slight secondary hæmorrhage the bleeding occurred after defaecation on the days indicated in the table. They were treated with hazeline irrigation through a speculum, followed by the insertion of a small drainage-tube for 24 hours, with a little dry wool packing. The patients were kept in bed for four or five days, and no further trouble was experienced.

Severe secondary hæmorrhage following a ligature operation for internal hæmorrhoids occurred in this series at the rate of just over 1 per cent of cases—5 in 470. The rectum necessarily becomes a septic area when the bowels are opened three days after operation, and it is difficult to see how the risk of a secondary hæmorrhage from sepsis can be further eliminated. The average date for the hæmorrhage is seven days after operation. It usually follows an action of the bowels, hence in the post-operative treatment the prevention of constipation is of the greatest importance in minimizing the risk of trauma.

The bleeding tends to be concealed, and a suspected case of hæmorrhage should be investigated without delay with a tubular speculum.

Plugging the rectum with a vulcanite or rubber tube is the most generally efficient method of controlling the hæmorrhage, which is to be combined with suitable general treatment.

**Removal of Adhesive Plaster.**—(1) Take a little gasoline in a common medicine dropper, scratch up with one's finger nail the tip of a corner of the plaster, let a drop of gasoline flow under the edge, and instantly an inch of plaster will loosen. Another drop will remove the next inch, and so on. A bit of gauze held in place by plaster makes the best dressing for nearly all wounds or incisions about the eyes, face, neck, hands, etc. The plaster dressing can be removed daily, if desired, with absolutely no discomfort to the patient. If one once begins to use plaster, he will soon find that he has but little use for the slipping bandage.

(2) If one will use gasoline instead of alcohol, wiping the plaster over with it, and then with a little gasoline soaked gauze or cotton peeling the plaster back from the skin, beginning at the edges, until it has been removed entirely, the patient will be happy and so will the physician. Cleansing the plaster accumulation at the edges of the strips in the same manner is easy. It is certainly a satisfaction to avoid the needless, nagging discomfort of plaster removals in so simple a manner.—(Journ. Amer. Med. Assoc., Sept. 4, 1920.)

**Prognosis in Cancer.**—A paper on cancer statistics by Simmons and Daland (Boston Med. and Surg. Jour., Sept. 2, 1920) is based on 518 cases. The average age of the patients was 52.9 years. The average duration of the total number of cases was 12.19 months. The average duration of the disease from the onset of symptoms to the first consultation with a physician was 5.4 months. The first symptom was tumor or ulcer in 36 per cent of the cases, pain in 25 per cent,
what may be termed symptoms peculiar to the organ in 18 per cent, and miscellaneous in 21 per cent. The average delay in all cases on the part of the physician from the time the patient first consulted him to the time operation was advised was three months. The average delay on the part of the patient after operation was advised until it was performed was three weeks. Of all the cases less than one half (44.5 per cent) were considered suitable for an attempt at cure by a radical operation, and in these cases there was an operative mortality of 15 per cent, confined chiefly to operations on the intestinal and genito-urinary tracts. In 28 per cent of the cases no operation was performed or exploration only, while in 27 per cent a palliative operation, such as gastro-enterostomy, cautery of the cervix, tracheotomy, was done. The operative mortality following these palliative procedures was nearly as great (14.5 per cent) as in those cases in which a radical cure was attempted, but in this second group the patient was often in poor physical condition and the operation was not one of choice. In cancer of the buccal cavity and lip, the mortality was 4 per cent; in cancer of the abdominal cavity in which a laparotomy was performed the mortality was 32 per cent, and in cancer of the genito-urinary tract 27 per cent. In operations for cancer of other organs, breast, uterus, larynx, skin, etc., the mortality was 4.5 per cent. Of the entire group 37.7 per cent of the patients entering the hospital survived a radical operation. The percentage of cures varies greatly in carcinoma of different regions, but it seems fair to say that not over 25 per cent of patients subjected to a radical operation are cured, which corresponds to 9.4 per cent of all cases admitted to the hospital. Considering the cases in groups, the expectation of operative cure in consecutive cases entering a general hospital is as follows: carcinoma of the buccal cavity (if 16 per cent of all patients surviving a radical operation are cured), 10 per cent; carcinoma of the cervix (if 25 per cent of the patients are cured), 8.7 per cent; carcinoma of the rectum (if 20 per cent of the patients are cured), 5.4 per cent; carcinoma of the stomach (if 20 per cent of the patients operated on are cured), 1.2 per cent. The chief cause of death in all operative cases was sepsis in some form. Forty-six patients (11.4 per cent) gave a history of cancer occurring in the immediate family.

**RESULTS OF CHOLECYSTECTOMY.**—The histories of 223 cases of cholecystectomy were analyzed by Homans to discover, if possible, whether the ducts were dilated in the presence of an obvious loss of the normal function of the gall-bladder, and whether any particular symptoms corresponded to this condition. Of the 223 patients, twelve died in consequence of the operation. Of the remaining 211, forty-six have not been traced, leaving only 165 patients among whom the percentages of successes and failures can be established. Of these, six have had recurrences and may be called failures; thirty-two are improved but still suffer from symptoms more or less similar to those for which operation was performed, and the remaining 127 patients (77 per cent of the traced cases) can be considered well as regards the cure of complaints directly or indirectly referable to the gallbladder and biliary passages. Homans states that there is satisfactory experimental evidence that removal of the gallbladder is followed by dilatation of the extrahepatic biliary ducts, and there is also clinical
evidence that destruction or loss of function of the gallbladder within the human body is frequently followed by duct dilatation. Duct dilatation occasionally occurs while the gallbladder is functioning and in the absence of common duct stone. There are no symptoms characteristic of dilatation of the biliary ducts. There is no evidence that dilatation of the biliary ducts is actually harmful to the individual—Boston Med. and Surg. Jour., Sep. 2, 1920.

The Surgical Treatment of Ulcus Tropicum.—Tropical phagedena, or the tropical sloughing ulcer, is familiar to most doctors in the tropics, especially to those whose work lies in hot, damp agricultural districts. Local antiseptic applications or various caustics are recommended, but those who are familiar with the horrible smell and profuse discharge from these ulcers will surely want to apply some more radical treatment before admitting the patients to the general ward of their hospital.

Scraping with a Volkman's spoon under an anesthetic is by far the most satisfactory treatment. It will be found that the infected tissue readily breaks down under the spoon, while the sound tissue underneath is resistant. When a firm base of sound tissue has been obtained, the undermined edge of skin is cut away with scissors curved on the flat, so as to leave no pockets. Any ragged pieces of fibrous tissue that remain in the base of the ulcer are then cut away with scissors.

The surface is washed over with an antiseptic, and then dressed with cyanide gauze and some antiseptic wool, and firmly bandaged. The operation only takes about five minutes.

The first dressing is done forty-eight hours after the operation, and the wound will be found clean and free from any smell. If the ulcer has been treated early before it had reached the deep fascia it will show a perfectly clean granulating surface in a week. If the deep fascia has been penetrated, and especially if tendon sheaths have been reached, there are often fibrous tags which take some time to separate, but there seems to be no tendency to any recurrence of the phagedænic process.

If the surface is comparatively small it may be allowed to granulate up; if it is large it is possible to do Thiersch's grafting from fourteen to twenty-one days after the ulcer was first scraped. The new granulations are found quite healthy and can be lightly scraped away, giving a firm flat surface on which the grafts readily grow. If grafting is adopted the original size of the ulcer makes little difference to the ease with which it can be cured. On the other hand, the depth to which the sloughing has penetrated does make a difference in prognosis.

The relief to the patient that results from this simple operation is most marked. Once the ulcer is scraped clean there is practically no more pain, the œdema rapidly subsides, while the smell, of which the patient and his friends are often acutely conscious, entirely disappears. The operation itself requires no instruments beyond sharp spoon and scissors, and is of such short duration that it can, if necessary, easily be done in the out-patient department, and the patient permitted to go home and come for regular dressings. Several babies have been treated by this method whose mothers would never have consented to leave them in hospital. Lastly, no elaborate method of after treatment, e.g., irrigation, is required. Howard, Jour. Trop. Med. and Hyg., Sep. 1, 1920.
Pregnancy and Diseases of the Heart, Lungs, and Kidneys. Hüssy (Correspondenzbl. f. Schweitz. Ärzte, No. 31, 1919) has examined the after-history of 35 pregnant women who suffered from diseases of the heart, 76 from pulmonary tuberculosis, and 15 from chronic nephritis (the nephropathies of pregnancy being excluded). Valvular disease is a grave complication; although the primary death rate is not very large, many of the patients died in the year after delivery. Mitral stenosis is specially dangerous, and relatively few women suffering from this condition survived their pregnancy. In pulmonary tuberculosis the prognosis is better; latent cases are not influenced by pregnancy, and in active forms the author believes that an improvement not infrequently follows (see British Medical Journal, August 21st, 1920, p. 287). In patients with chronic nephritis the outlook is bad; pregnancy appears to exercise a detrimental effect in this condition, a secondary nephritis being often superimposed on the existing chronic renal affection. In the author's cases 20 per cent of chronic nephritis cases died and 20 per cent became much worse.

Twisting of Cord as Sign of Separation of Placenta.—Hochenbichler has been making a special study of the behavior of the umbilical cord in 108 maternity cases. At the first contractions of the uterus in the third stage of labor, as the wall contracts under the placenta, blood is forced into the placenta and down into the cord, the distention from this in the spiral vessels of the cord causing it to writhe. This "pressure twisting" indicates that the placenta is still adherent. The first contraction after delivery is generally so vigorous that the wall contracting under the placenta usually pries it off, so that the most favorable moment for the separation of the placenta is thus the first four or five minutes of the afterbirth stage. When the placenta is loose and starts on its passage out, it twists on its axis, and the cord twists to a certain extent with it. The placenta may turn at once to 180 degrees, and the effect of this on the cord is a reliable sign of progressing expulsion. He theorizes to explain the mechanism of the twisting of the placenta. In his 108 cases, the placenta was cast off within the first four minutes in 78.7% and no twisting of the cord from distention with blood was manifest. The twisting of the cord from twisting of the placenta can occur only with a detached placenta, and the cord usually slides down a little lower at the same time. (Monat. für Geb. und Gyn., July, 1920.)

The Walcher Posture versus Caesarean Section.—H. F. Biggar (Journ. American Med. Assoc., 1920, p. 913) protests against the too frequent performance of Caesarean section. He has found the Walcher posture sufficient even when the operation had been advised by reputable surgeons.

The patient is placed in the decubitus position on a table with one end so elevated that the nates project well over the edge, the legs hanging perpendicularly, the feet not touching the floor. When the head presents in the soft parts the end of the table is lowered so that the top is level. The patient is then put in the extreme lithotomy position and delivered with or without instruments. This position increases the diameter of the superior strait of the pelvis ¼ inch or more.
Cholera was beginning in June of this year to take hold of its victims in its most characteristic manner. In fact the weather seemed to be most favorable. With a background of a bad epidemic during the previous summer, the minds of us all were keenly alive to the need of pushing an anti-cholera campaign on a large scale. In 1919, cholera was grappled with by the Foochow Anti-cholera Society; the Red Cross came rather late but did some valiant and intensive work in treating those suffering with the disease.

From our experience it was evident that we needed charts, apparatus, and pictures, so we called upon Dr. W. W. Peter of the Council on Health Education to conduct the campaign. In a large measure the success of the big scheme depended upon the Christian forces of Foochow, led by the local Y.M.C.A. secretaries. This force, according to the Rt. Rev. Bishop Hind, is "the Church in action." It should be mentioned that the local Anti-cholera Society, composed almost entirely of Chinese, produced considerable literature on the subject of cholera prevention and circulated many tracts published by the Council on Health Education. However, we felt that our educational campaign had spent its force largely on the Christian community. Later it was proved that we had no cause for discouragement in this matter, since a large number of leaders had thus been brought to the front. These trained men took charge of squads in the parade, became platform lecturers, demonstrators of charts, and distributed health literature for us during the big campaign. It was comparatively easy to secure the co-operation of the police, the use of many churches and halls of public gathering.

All types of missionary enterprise were put aside as a secondary matter during this week and all hands turned in to do their bit. Upwards of 330,000 people were given the health message.

The secretary of the Foochow Anti-cholera Society, Dr. Uong, writes as follows concerning the result of this grand educational campaign: "While a serious epidemic is considered a disaster sent from heaven, yet it has its connection with the affairs of men since they do not know how to prevent the spreading of an epidemic. Such an
epidemic is started by a few cases only. Last year it was so very bad in Foochow that the Anti-cholera Society was organized to fight it. This year an effort has been made to tell everyone about the cause and prevention of cholera. Dr. Peter was especially asked to come from Shanghai to give health lectures on this subject and to help in a city-wide campaign such as we had never had before. The workers in their survey and investigations have observed these encouraging results:

1. That the restaurants and tea houses use covers to put over food on the tables or other places since they now know that the fly carries germs.
2. That even in the homes on small streets there is a decided difference in the cleanliness of all food used.
3. That one seldom sees water-soaked fruits being sold on the street.
4. That the cases of cholera have decidedly decreased this year.

In addition to the above I wish to state a few results of our work of June 7 to 12, as follows:

1. The subject of health and sanitation has become a popular one among all classes. Students inspired by the work and usefulness of the campaign continued similar work all summer, carrying on certain intensive measures such as the printing of literature, distributing of the same, lecturing and personal work. They carried it into the homes of many of the city and village gentry heretofore untouched; trying to institute as a universal custom the use of hot water for washing dishes, spoons, and chopsticks, the screening of food, and the swatting of the fly.

2. The wide use of anti-cholera and anti-plague vaccine for the immunization of susceptible persons.

3. Fukien Christian University, as a part of its Civic Welfare course, recently made it possible for students to carry on Public Health work and to receive credit for the same on their course. The leader of the course is making plans for a survey of certain villages, looking forward to the general prevention of disease.

The sum total of all results, we hope, is to create in the minds of the people and officials of Foochow such an attitude the year round, that they may carry on an agitation against cholera whether it be at the port of entry, on the lines of transportation, or in the city on its streets, or in its shops and homes. Thus we ultimately look forward to the systematic examination of carriers and most certainly the reporting and isolation of every case that develops in the future.
HEALTH EDUCATION IN SCHOOLS OF KANSU.

G. E. KING, M.B., Ch.B., Lanchow.

A somewhat promising field of endeavour in the way of education in Public Health was opened up here this year, and an account of it may be suggestive to other physicians in inland cities.

Some time ago we received notice of the issue of the "Bulletins" on Public Health, and in consultation with the Chief of Police in Kansu (an enlightened man, named Cheng), ordered 1,000 copies. In process of time the bulletins arrived, and the question arose as to what should be done with them? It was felt that to scatter them broadcast would lead to much waste. The idea came to us that if it could be arranged to give simple lectures on hygiene in the more important government schools, a much more hopeful field, and one that would have its influence on the entire province, would be entered. As Lanchow is the capital of Kansu, the students in the schools here come from all parts of the province; indeed, not one of the seventy odd counties of Kansu is without representatives in the Lanchow schools.

Our friend, the Chief of Police, interested himself in the matter and called on the head of the Board of Education, who was very willing to have the lectures given. The Chief of Police, however, decided to keep the "Bulletins" for his own Police School. So the various school authorities, instead of the lectures, arranged to have synopses of the lectures mimeographed and distributed to the students.

In all, seven schools took part: the Law School, 350 students; the Agricultural School, 200 students; the Middle School, 400 students; the Industrial School, 80 students; the Police School, 80 students; the Men's Normal School, 150 students; the Women's Normal School, 80 students. In each school the arrangements were made by the school authorities. The headmasters, as a rule, took the chair at the lectures. Hours were arranged convenient to all parties.

A course of six weekly lectures was given in each school. The students as well as their teachers showed much interest in the course. A few simple explanatory diagrams were prepared for each lecture.

The following is a synopsis of the lectures, showing the method followed. A few subjects subjoined were omitted, however, from the lectures in the Women's Normal School. All the lectures were given in Chinese.

Lecture I. 1. Importance of pathology, of knowing the causation of disease, e.g., malaria and the mosquito. 2. Need of careful search for the cause of a
disease with a view to its eradication or treatment. 3. Cause of most diseases found to be microbic. 4. Nature, variety, growth and propagation of germs. 5. Germs are innocuous or poisonous according to their toxic or non-toxic power in relation to the organism invaded. 6. Body cells attack harmful germs. Resistance.

Lecture II. The origin, modes of infection, prevention, and treatment of:
1. Tuberculosis in its different forms. 2. Venereal diseases.

Lecture III. The origin, modes of infection, prevention, and treatment of:

Lecture IV. On Diarrhoea, Dysentery, and Cholera.

Lecture V. On the Alimentary tract: mastication; care of the teeth; dyspepsia; rectal diseases. Throbbing aorta. 2. Hydrophobia; this disease is common in Kansu. 3. Feeding of infants.


It is intended to continue giving the course in the schools in future years. The educational authorities seem very pleased and grateful for this year's work.

Medical and Educational Reports.

The Mukden Medical College. Report for 1919.

Tenth Annual Statement.


In June, 1917, the first class of students graduated, and in 1919, the second class. Of this set of 25 graduates, 10 were appointed house surgeons and physicians in the Mukden Hospital for a period of two years, and some of them have, at the same time, helped in the practical teaching of biology, chemistry, and pathology. The remaining men have entered the Army Medical Service or gone into private practice, and some are working in mission hospitals.

A fourth class of students was admitted in February, 1919. Owing to a change in the conditions of entrance, the number of students...
sitting for the Preliminary Examination was considerably reduced. For the first time the candidates, whether from mission or government schools, were required to possess the Middle School Leaving Certificate. Of those examined, 30 were from mission and 15 from government schools; 20 of the former and 10 of the latter were successful, but only 6 of the 10 entered College. In addition, 9 students entered from the Arts College in West Moukden, making a total of 35, of whom 8 are non-Christians.

During the year the College succeeded in obtaining through the local Government the extensive piece of land once used as a cemetery, lying to the south of the students' recreation ground, and this at a nominal cost involved in the removal of the old graves. The land, which has been levelled, thus passes from the use of the dead to that of the living, and will now be the recreation ground of the students. On their old recreation ground two semi-detached houses for the use of the College staff have now been erected, and it is hoped that two more will be built next year.

Another extension is the establishment of a dispensary in the west of Moukden. The Chinese Peking-Moukden Railway has given the land and the building, and asked us to furnish it and attend to their railway patients. One of our graduates is being put in charge, and it is an opening which, if well filled, will lead to important results.

This year has been outstanding as the year of the cholera epidemic, when graduates and students alike joined hands and showed what their Christianity meant in its most practical form.

A minute, passed unanimously at the summer meetings in Great Britain of the Conference of the Missionaries of the United Free Church of Scotland and the Irish Presbyterian Church, runs as follows:

"That this Conference wishes to place on record its high appreciation of the Christian statesmanship which led Dr. Christie to foresee the need of a medical college in Moukden, and which successfully carried forward his plans into execution, and also of his fine leadership of the college destinies during the early and arduous years of the college life. The Conference is proud of the position the College has obtained in Manchuria, and of the Christian service already rendered by so many of the graduates.

In the spring of 1919, Dr. Christie returned home in order to raise £10,000 for buildings and equipment, to secure five additional missionaries for college work and two nurses for the hospital, and to speed the return of the staff from war service. It is gratifying to be able to report that a great measure of success has attended his efforts. The total amount received from January 1, 1919, to May 31, 1920, is £11,096 and £1,150 more has been definitely promised. Just as the report
was being printed the College received a magnificent gift of £10,000 from Sir Joseph and Lady Maclay, in memory of their two sons who lost their lives in the war. It is given specially in order to enable the College to train women doctors as well as men.


Statistics:—In-patients, 1,022; Out-patients, 27,093; Operations under general anesthesia, 233.

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<thead>
<tr>
<th></th>
<th>Medical</th>
<th>Surgical</th>
<th>Total</th>
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<tr>
<td></td>
<td>No.</td>
<td>Per cent.</td>
<td>No.</td>
</tr>
<tr>
<td>Men</td>
<td>279</td>
<td>66</td>
<td>406</td>
</tr>
<tr>
<td>Women</td>
<td>116</td>
<td>27</td>
<td>147</td>
</tr>
<tr>
<td>Children</td>
<td>29</td>
<td>7</td>
<td>45</td>
</tr>
<tr>
<td>Totals</td>
<td>424</td>
<td></td>
<td>598</td>
</tr>
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</table>

For the first time since the work has reached anything like its present proportions there have been two foreign physicians on the field at one time. One or the other of them has been away a great part of the time on mission business or on calls to other stations; still, the moral support of two men has been felt and a decided step forward has been made in several departments of the work. The number of in-patients has continued to increase in a most satisfactory way. This year the increase has been 79% over three years ago, and 32% over last year. The out-patient department has also kept up well with a total of 27,093 treatments for the year.

The greatest development has been made in the laboratory, full details of which will be found in the report of that department. A Chinese doctor has been recently added to the staff, a graduate of the Shantung Christian University at Tsinan, and has given excellent satisfaction.

In August there was an epidemic of cholera which reached alarming proportions by the end of the month and lasted until nearly the end of September. The Chinese physician issued immediately a thousand notices telling of how cholera is spread, the dangers of raw and exposed foods, etc., and what to do in case the disease developed. These notices were scattered through the city and near-by country. At the same time the hospital offered to admit and treat free of charge all cases sent to it. Saline transfusion was given freely and the treatment was continued through the cholera season with very gratifying
results. The whole episode gave the hospital considerable "face" and many people undoubtedly owe their lives to the work of the institution.

For some reason there have been many more nervous and mental cases than usual, hysteria, mania, melancholia, manic-depressive insanity, epilepsy, etc. "This brings up the very interesting question of demon possession. Several of these cases have claimed to be possessed by devils and they have certainly acted like it. With the devil as rampant as he is here in so many other ways, why should he not also manifest himself in this way which seems to have been such a favorite of his in days gone by?" This is a question which we have been recently discussing editorially. It would be interesting and instructive if a thorough study were made of these and similar cases. At any rate, in the hospitals of Christian missions and elsewhere there is help for these most unfortunate patients. "Only one or two of the patients were violent and we are glad to report that almost all of them went away considerably improved."

But the powers of evil are certainly rampant in the district. Of the 424 in-patients no less than 244 were syphilitic. Novoarsenobenzol was given, "and to estimate its value in these cases and the ever widening reputation it gives to the hospital would indeed be difficult. No other one drug has ever come near approaching the results possible with it and the Chinese know this. Hundreds of them have gone away from here with thankful hearts and cured or nearly cured as the result of its use and these patients send many others. We have given nearly eight hundred injections during the past year with almost uniformly good results."

The report is well compiled and illustrated.

*Fourth Annual Report of the United Evangelical Mission Hospital, Liling, Hunan, 1919.*


**Statistics:**—In-patients, 365; out-patients, 26,551. Operations under general anesthesia, 141; under local anesthesia, 96.

During the year the work has been continuous and there have been gains in all departments. For want of room patients were turned away daily who desired admittance. With growth there are increased demands. "If we are to do efficient work in the out-patient department, we must have an addition to the dispensary which would cost about five hundred dollars. We are in need at once of a home for Chinese doctors"
and assistants, and I am asking the Mission to make an appropriation so that it may be built this coming year. And the time should not be far off before we can add a morgue and a pest house to our hospital buildings."

Miss Wolf reports on the nursing department with its training school, and Mr. Suhr on the evangelistic work.

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**Report for Hwa Mai Hospital, Ningpo, 1919.**

**Hospital Staff:**—Drs. Grant, Ren, Hong, and H. Thomas.

**Nurses:** Miss H. N. Smith, R. N., and Miss E. S. Irving, R. N.

**Statistics:**—In-patients, 1,013; out-patients, 7,284.

During the summer there was an epidemic of cholera in Ningpo and the staff had a very busy time. As the result of an appeal to the leading gentry, additional hospitals were established at country stations to meet the emergency.

Several weeks after the cholera had ended, the Chinese surprised Dr. Grant by presenting him with a silver-plated shield with some complimentary characters on it. "The contrast was great between the action of the Chinese during this epidemic and one sixteen years ago when several foreigners here died from the dread disease. Truly China is awakening and open to suggestions from her friends."

In the report of the Training School for Nurses by Miss H. N. Smith, several instances are given of the beneficial and permanent results of the training given.

Under a grant from the China Medical Board both the medical and nursing staffs have been strengthened. The work of the hospital, medical and evangelistic, is increasingly successful.

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**Report of the Chiangmai Leper Asylum, Siam.**

James W. McKean, Superintendent, 1919-1920.

**Statistics:**

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
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<tbody>
<tr>
<td>Lepers received during the year</td>
<td>32</td>
</tr>
<tr>
<td>Left the Asylum without leave</td>
<td>27</td>
</tr>
<tr>
<td>Returned of their own volition</td>
<td>20</td>
</tr>
<tr>
<td>Died</td>
<td>13</td>
</tr>
<tr>
<td>In Asylum at close of the year</td>
<td>211</td>
</tr>
<tr>
<td>Of this number, Men</td>
<td>159</td>
</tr>
<tr>
<td>Women</td>
<td>52</td>
</tr>
<tr>
<td>Received into the Church</td>
<td>23</td>
</tr>
</tbody>
</table>
School for untainted children conducted throughout the year.

Owing to war conditions and other causes the year opened with a debt of Ticals 8,000. The Siamese Government made a grant of Ticals 10,000 (U. S. Gold, $3,700) and the Mission to Lepers has given most generous support. Indeed, the work is almost wholly dependent on this Mission for its continuance.

The introduction of local self-government has given the leper community an interest in the practical affairs of village life. Following the Siamese custom of a chief or headman over each ten households, the leper community is divided into small companies, determined by their place of residence in the Asylum, over each of which is placed a headman of their own election. Under his direction work is assigned, fines for laxity in deportment are made and differences settled. In matters too difficult for the headman, a council of all the headmen is called. The overseer and the elders of the church are ex-officio members of this council. The successful operation of this arrangement has given much satisfaction not only to the leper community itself but also to the missionary superintendent.

A Leper Asylum, as the term implies, is a refuge, but it is more; it is a home, the home of those who are seriously ill. Although the disease is still incurable yet much can be done medically to ameliorate some of the more distressing symptoms. Of course lepers are liable to the ordinary diseases which afflict other people and the constant use of ordinary medicines is necessary.

For leprosy itself no remedy is comparable to chaulmoogra oil used hypodermically. While this treatment cannot be called a cure, yet it does produce most gratifying results, not only in the relief of some of the more loathsome manifestations of the disease, but also in its physical and mental effects on the patients, giving them a brighter outlook on life.

The spiritual aspect of the Asylum is a cause for gratitude. All new comers are encouraged in church attendance and in Christian duties and practices. Although few of those who come have had any knowledge of Christianity, yet very few of the more than four hundred lepers who have found shelter here have failed to become Christians.

The aim is kept constantly before these leper friends to make here a model Siamese community: a model in good government, in obedience to the laws of the Siamese Government, in sanitation, morals, and religion. While the ideal has not been attained, yet it is gratifying to know that there has been a degree of growth and that there are good prospects for future progress.
Prospectus of the Union Medical College for Women, Peking. 1919.

Following the action of the China Medical Missionary Association Conference in selecting Peking as the centre where the Mission Boards concerned in the medical education of Chinese women should establish its Medical College for Women, the representatives of the several missions working in that city met to formulate some plans looking towards the establishment of this Union School. The following resolution was unanimously adopted:

“Resolved, that we as a body representing four contributing missions in the present Union Medical School for Women, wish to present the said school as the nucleus of the future Union Medical College, the same to be reorganized as soon as practicable, and we cordially invite all interested mission bodies to take part in this reorganization.”

A committee was appointed to solicit the co-operation of all missions at work in China from Fukien north.

Medical Reports of Chinese Customs Service.

Public Health of Antung, Manchuria, 1919.

L. K. Larsen, M.D. (Copenh.), Customs Medical Officer.

Meteorological Report. Compiled by the Tide Surveyor, Mr. R. C. Starling.

<table>
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<td></td>
<td>Snow melted</td>
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Highest temperature (Max.) was 96° on the 5th August, 1919.
Lowest temperature (Min.) was -16° on the 20th January, 1919.
Total rainfall for the year was 44.18 inches during 397 hours and 20 minutes.
Total snowfall for the year was 0.52 inches during 54 hours and 50 minutes.

River was free of ice and Port open for steamer traffic on the 20th March.

Small quantities of thin floating ice on the river, 19th November.

River completely frozen, 17th December, and sledge traffic commenced on the 18th.

**MEDICAL REPORT.**

**Epidemics**: Antung and the surrounding country was twice visited by an epidemic of influenza. The first epidemic, in February, March, and April, was the most widespread; very few firms or homes escaped the disease, but the cases were, as a rule, of short duration and not severe. The second epidemic, in November and December, was perhaps not so widespread as the spring epidemic, but the cases were very often complicated with pneumonia and for this reason the death rate was very high. No statistics are available.

In January and February we had a rather severe epidemic of measles with high mortality amongst infants.

The most devastating epidemic was the cholera epidemic in August and September. For ten years no case of cholera has been noticed here. The cholera came to Antung about two weeks after its appearance in Mukden. In the beginning of August a few cases were met with, but the cases soon increased in number. The Chinese authorities, therefore, transformed a part of the temple into a lazaret. As the authorities had not enough Western-trained Chinese doctors to take care of all the cholera patients, they put me in charge of the lazaret. We closed our own hospital (the Danish Mission Hospital) and my assistants and I devoted all our time for more than a month to this work. We had a busy time; some days we had fifty new cases, and although we sent the patients home as soon as possible, we had at one time 170 in-patients in this temporary lazaret. As to treatment our main remedy was intravenous injections of hypertonic salt solutions, and we saw marvellous results from this kind of treatment. Patients who were pulseless and seemed as if they were dead would return to life and arise during the injection. We also tried kaolin and found it very useful, especially when given at the beginning of the disease. On the second or third day of the disease, however, the kaolin treatment, as a rule, was not sufficient; then intravenous injections of saline solution were given to cleanse the blood from its content of toxins. In addition, we used various methods of symptomatic treatment. The total number of patients was 789; of these, 209 died, i.e., 26.49%. Before we took over
The China Medical Journal.

the lazaret 69 patients died (23%). In another part of the town was a lazaret, where about eighty patients were treated.

**FOREIGN COMMUNITY:** No case of cholera occurred amongst the foreigners, but the year has been unusually trying for most of the families here. The diseases met with were: measles, five cases, two of which were complicated with bronchopneumonia; typhoid fever, two cases; one case of typhoid was very severe; the patient had been vaccinated against typhoid fever 1½ years ago in Shanghai; influenza, three cases; dysentery, two cases; nervous breakdown, one case (the patient had only spent about one month in Antung but had done very much up-country travelling); bronchopneumonia, one severe case, a child, recovery. There were several cases of minor ailments. No deaths occurred amongst the foreigners.

**THE CHINESE COMMUNITY:** The Chinese suffered very much from the various epidemics, especially the cholera epidemic. Venereal diseases are very rampant in this place, where there are comparatively few homes, and prostitutes are numerous, more than 400. Patients with eye diseases, especially trachoma, are very numerous. A few cases of ankylostomiasis have been in our hospital, a sickness seldom diagnosed here. Some of the cases came from Fenghwangcheng and a place to the north of it. The work in the public opium asylum has been continued during the year; more than 200 morphinists have been weaned, but the fight against the opium evil seems hopeless in this place.

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**Public Health of Ichang, 1919.**

**ANDREW GRAHAM, F.R.C.S., Customs Medical Officer, Ichang.**

**METEOROLOGICAL REPORT.**

The following Meteorological Report has been compiled by Mr. G. E. Sherman, Customs Harbour Master.

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<td>September</td>
<td>92</td>
<td>63</td>
<td>30.050</td>
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1. FOREIGN COMMUNITY: During the months when the upper river is open for steamer traffic the foreign community of Ichang is considerably increased, and the number of ships entering the port more than doubled. It is remarkable that the foreign residents escape most of the epidemic diseases prevalent amongst the natives. In recent years, owing to increasing demands for business quarters on the Bund, the value of property there has greatly increased, so there has been a tendency to build foreign dwellings on a hill some distance from the river. This has necessitated the digging of water wells. Other residences on the Bund level are also supplied from deep well water, which is simply the river water filtered through sand and gravel beds. This is, of course, infinitely purer than the water taken, as it formerly was, from the edge of the river, where it is badly contaminated by the huge boating population and by others who reside in boats anchored along the river's edge, and also from drainage of the streets.

Of epidemic diseases the following were met with: cerebro-spinal meningitis, one case (died); typhoid, paratyphoid, and diphtheria.

2. NATIVE COMMUNITY: The following diseases have been epidemic: small-pox, malaria, dysentery, and cholera. All the three last named were very prevalent amongst soldiers, whose camps seem to be over-crowded, and no steps whatever taken to prevent disease. Judging by the numbers who come to the foreign dispensary for treatment, but little is done to deal effectively with their diseases. During the autumn many cases of malaria-dysentery were again met with, in which the patient usually complains of several ordinary attacks of malaria, and then dysenteric symptoms follow. Emetine does not seem to benefit these cases, but quinine in large doses, if given early, cures them. Many of the patients suffer from permanently enlarged spleen, and a severe degree of anaemia. In the treatment of mild cases of cholera, or in severe cases received early, we obtained good results with kaolin. Three ounces of the mixture (1 1/2 pounds of kaolin in 40 ounces of water) every two or three hours stopped the urgent symptoms. But if it is going to be of much use it must be administered early in the disease. The severe cases require saline solution intravenously in addition to the kaolin.

With regard to the diseases common amongst the natives, a very fair idea of those which are most prevalent may be got from those attending the foreign dispensaries. Tuberculosis, in all its forms, but especially of the lungs, bones, and joints, is very common. Syphilis is
also common; also eye diseases, especially those which are external. Tumours are frequently seen. Anal and rectal diseases, such as anal fissure, haemorrhoids, and fistula are very commonly seen in soldiers, and the cause is undoubtedly constipation.

A case of foreign body in the rectum was one of the most interesting of those admitted to the Rankine Memorial Hospital. A soldier came to the dispensary, and said that a bottle had slipped into his rectum. On examination the blind end of the bottle could be felt lying free in the rectum, and the upper end of the bottle could be felt through the abdomen just to the right and about half an inch below the umbilicus. An attempt was at once made to remove it but it failed, and the patient was taken into the hospital. Next day, with the patient under chloroform, an attempt was made to press it out, but as he was very corpulent again there was failure. The abdomen was then opened and with the hand grasping the neck of the bottle as it lay in the bowel it was easy, with the help of an assistant who stretched the anus, to press it out. The man told me afterwards that he had some morbid anal condition, and his method of applying an ointment to it was to place the ointment around the neck of the bottle and insert it into the anus. While doing this on the last occasion the bottle slipped inside. It measured nine inches in length and two inches in breadth at its base.

AMERICAN PRESBYTERIAN CHURCH (SHANTUNG) AND MISSION HOSPITALS.

At the annual meeting (1920) of the Shantung Mission Council of the Presbyterian Church (U. S. A.), Dr. Charles F. Johnson presiding, the report of its Medical Committee consisting of Drs. Heimburger, Seymour, Dunlap, Stearns and Miss R. A. Brack, R.N., was presented. In this report it is stated that next year will mark the fiftieth year since the landing of the first medical missionary of this Board in Shantung. What are the changes and what has been the progress made since 1871? There are at present 13 hospitals with a total of 300 beds caring for about 2,400 in-patients annually, and 11 dispensaries with 125,000 out-patient visits every year. The total expenditure for this work is $52,000 per annum, of which the Board furnishes $9,500 besides the salaries of the foreign physicians in charge. This is certainly a record of which to be proud and which must not be undervalued. But the deficiencies of the work are pointed out frankly. The standard it is hoped to reach is discussed under the headings of Medical Education, Hospital Classification, Personnel and Standardization, Evangelistic Work.
As a guide to other medical committees who may wish to lay the present needs of their hospital work in China before the Home Boards some of the recommendations and resolutions presented to the Council are here given.

To ensure the proper equipment of each hospital it is recommended:

1. That the equipment be standardized in every possible detail so that in the exchange, permanent or temporary, of the mission doctors the necessity of learning the use of an entirely new set of instruments and new technique may be eliminated. This standardization will also be carried out in the wards in having the same arrangement of beds, etc.

2. Electric plants should be installed in all hospitals and X-ray equipment in Class A. and B. plants.

3. Every hospital should have a laboratory sufficiently well equipped and of such size as to handle adequately the work of the routine examination of blood, excreta, and secretions and also to be able to make and carry on cultures.

4. Running hot and cold water should be laid down in each hospital.

5. Heating plants either steam, hot water, hot air or stoves should be provided.

6. All windows, doors, and other openings should be well screened to keep out flies, mosquitoes, and other insects.

7. Every institution should have a septic tank large enough to take care of all refuse.

8. Iron beds and easily cleaned furniture should be installed.

Standard forms of operation may be carried on in the following: (1) Records. (2) Annual reports. (3) Account systems. (4) Purchase of linen and clothing, gauze bandages, etc. (5) In the courses of training given to the nurses, in which the N. A. C. standards should be strictly adhered to.

The following resolutions were presented by the Medical Committee.

1. WHEREAS, The present medical work of our Mission is far below the lowest Occidental standards for the care and treatment of the sick and injured and inasmuch as our existing institutions for medical care are inadequately manned, poorly equipped, and the housing of the patients far from what is desired;

    Resolved, That on condition the Mission desires to retain all the present medical plants, no new medical work shall be planned or undertaken until the present work is more efficiently cared for by modern buildings, full equipments, and adequate forces.

2. WHEREAS, On the foreign field the physician is entirely dependent on his library for constant consultation and inasmuch as a well-equipped, up-to-date library is absolutely necessary to the efficiency of his work;

    Resolved, That the Mission request the Board to set aside $50 gold annually as a special appropriation to each station for medical books and magazines. The above amount of money to be used by the head physician of the station exclusively for this purpose, not to be considered a part of any appropriation given at the present time towards the support of the various hospitals, and any unspent balance to revert to the Board at the end of the fiscal year.

3. WHEREAS, In order that physicians on the mission field and especially those of our Mission may be able to keep up with the rapid progress of modern medicine and surgery so as to carry on the work more efficiently and also gain the inspiration received in working in well-equipped centers of medical education;
Resolved, That every physician of the Shantung Mission be urged to set aside one month annually, exclusive of travel and the usual one month vacation period, for post-graduate study and research work in the large medical centers of China or Japan. These periods of one month may be cumulative but should not exceed a period of three months.

The whole report of the Medical Committee was accepted, approved, and adopted as the future medical policy of the Shantung Mission of the American Presbyterian Mission (North).

METHODIST EPISCOPAL CHURCH (U. S. A.) IN CHINA, AND MISSION HOSPITALS.

At the Eastern Asia Central Conference of the Methodist Episcopal Church, held early in the present year, the following is the principal part of the report on medical work.

"In drawing up a China-wide medical program we face with enthusiasm our increasing opportunities, and look forward to a material advance during these coming years. We view our vocation not merely as an entering wedge for Christianity, but a vital, educational, philanthropic and evangelistic force, and with this view-point have drawn up the following recommendations:

HOSPITALS. 1. For fuller co-operation we recommend, as far as possible, that the hospitals of the Women's Foreign Missionary Society of the Methodist Episcopal Church and those of the General Board be placed in close proximity.

2. In large centers where there are hospitals of different denominations, that it is our policy to unite in hospital work where feasible.

3. That it is our aim to conduct a well-equipped, modern hospital in each conference; one with specialties and including a graduate pharmacist and dentist. That it further be our goal that smaller hospitals shall have a staff of at least two foreign-trained doctors and a foreign nurse.

4. Under circumstances of need we approve of the maintenance, near each hospital, of a hostel for the use of ambulatory cases and the friends and relatives of patients.

5. That each hospital, after a careful survey of the community, and the ability of the hospital to meet the need, adopt a definite policy in regard to charity work. Where circumstances permit we suggest that one-tenth of our cases be treated gratuitously.
6. That district dispensaries be opened in our most important outlying centers. That they be manned by medical school graduates, and that they be made as near self-supporting as possible.

**Opportunity.** Whereas the hospitals and dispensaries afford the greatest opportunity for direct evangelistic work which may be far-reaching in its scope, we recommend:

1. That a wide-awake chaplain or Bible-woman, or both, with necessary assistants, be placed in each hospital.
2. That emphasis be laid on personal work by all members of the staff.
3. That a follow-up system be started which shall include visits to the homes of former patients; a letter of introduction to the pastor or Bible-woman nearest the locality of each outgoing patient; and that scriptures and religious tracts shall always be available for distribution.

**Pastoral Co-operation.** Believing that a disseminated knowledge that the great bulk of all diseases is caused by germs—not devils—will not only promise public health but greatly undermine the foundations of idolatry, and, believing in the unmeasured potentialities in our educational system, we strongly recommend:

1. That health education be begun as early as is practical and that thereafter it be considered an important factor of the curriculum.
2. That the China Medical Missionary Association be requested to co-operate in such a campaign in the preparation of text-books beginning with an elementary health primer.

Realizing the immense influence of the pulpit in promoting morality, and so in exercising a mighty power to prevent disease, we request:

1. That all our pastors shall use at least one Sunday annually in speaking for the cause of temperance, and that they be not unmindful of the duty and privilege of speaking publicly and privately against social vice.
2. That it be the policy of our annual conference to elect a physician on the Conference Committee on Temperance and Public Morals.

**Medical Education.** We learn with satisfaction the plan on the part of our Union Universities to introduce high grade pre-medical courses, and acknowledge our responsibility for the selection of promising students to enter the medical course, and for encouraging them, helping them financially, if necessary, to secure their medical education.
The increasing demand for Chinese doctors which will follow our new medical program, and because the Union Medical School in Tsinanfu is the best school which can meet that need, we recommend that our mission shall contribute to the support of the school in a liberal way for a term of years.

We also recommend that the present Union Medical College for Women, Peking, shall be continued in Peking and that its present staff be strengthened to bring it up to the C. M. M. A. Grade A standard.

We also recommend that the China Nurses' Association standard for nurses' training schools be adopted.

**Responsibility for Health of Missionaries.** We heartily approve of the efforts made by the Boards to keep a more accurate account of the health of the missionaries on the field. In the furtherance of this ideal we recommend that:

1. The attention of the Board be called to the investigations being carried on by the C. M. M. A. in regard to the health of missionaries.

2. In order that the physician on the field, who carries the responsibility of the health of missionaries, may have all possible data and information to aid in this work,—that a copy of the medical examination and data secured by the Board examiners be sent to the senior physician in the station where the candidate will be located.

3. In order that a more strict account may be kept of the health of the missionaries in active service, we recommend that the Board secure from its medical physicians a yearly statement as to the health of each missionary.

**Responsibility for Schools.** We gladly acknowledge our responsibility for our schools and realize that they have a claim to our efforts prior to chance patients from city or country. In pursuance of this responsibility we urgently recommend:

1. That a thorough physical examination be made of all boarding students in our church schools at the time of entrance and that, by systematic inspection, our schools and mission premises be maintained in a sanitary condition.

2. That a provision be made in each hospital for such cases of pulmonary tuberculosis as develop in our schools.

3. To our Educational Committees the consideration of making our mission physicians members of the advisory boards of such schools as it is their duty to serve.
The American Red Cross and Mission Hospitals.

Auxiliary Forces. 1. For the purpose of better understanding of the problems and administration of the medical work we would suggest that there be an Advisory Committee for each Conference appointed by the Mission.

2. Whereas the larger plan for medical work will increase the cost of operation, and whereas there are many hospitals located in small centers where fees are not easily secured; Resolved, That in the future medical work must receive more liberal support from the Mission Board. We recommend also that medical men be appointed to serve on the Board of Foreign Missions to represent the medical work more adequately.

3. Whereas the medical profession of the Methodist Episcopal Church of America has not yet been organized in the interest of medical missions; and whereas we believe many benefits would accrue to us from an organization of this kind, such as (1) the creation of a vital interest in medical missions; (2) the finding of an adequate number of high grade medical candidates, and the supervision of their pre-missionary training; (3) the placing of men on furlough for post-graduate work; (4) the creation of areal councils who would adopt unit hospitals as their special interest; (5) A medical reference to whom both the missionaries on the field and the secretaries at home could refer for counsel: Therefore we recommend to the Board of Foreign Missions of the Methodist Episcopal Church the creation of a Medical Auxiliary, thus definitely linking the missionaries abroad with the profession at home.

The American Red Cross and Mission Hospitals.

Just at a time when the enormous demands of the war has made the world's supply scant, when shipping conditions from Europe are not at their best, and interest in medical missionary work is latent in many of the countries of the West, the hospitals of China have been given the necessary materials by the distribution of medical and hospital supplies to the value of G. $500,000, by the American Red Cross Commission to Siberia working through the China Central Committee. Many hospitals in the more far flung and isolated parts of the country were unable to give the relief that brought about their establishment because of the exhaustion of their stores.

In the distribution of these supplies, the movement beginning in June and now nearing completion, the American Red Cross has followed
its long established international policy sending help to French, Eng­lish, Irish, Scotch, Canadian, New Zealand and Norwegian missionary hospitals as well as those under the direction of Americans. Hospitals have received an average of approximately $14,000 gold worth of supplies, from surgical instruments, microscopes, drugs and sterilizers to gauze and absorbent cotton; a total of 118 American and 242 non-American institutions participating. All of these shipments came as a result of appeals from the hospitals themselves, stating their needs and conditions. The 400 shipments have now gone forward to the medical organizations in all parts of China and the work of distribution is nearing completion.

The supplies were originally forwarded to Siberia by the various chapters of the American Red Cross in the United States for relief work there and, upon the evacuation of that area, the plan was evolved to distribute these immense quantities of supplies to mission hospitals in China, Korea, Japan, and the Philippine Islands through the already existing American Red Cross organizations in these countries.

In carrying out this work of distribution in China, the mission hospitals and the American Red Cross are indebted to W. A. B. Nichols, president of Fearon, Daniel, and Co., Inc., for the use of warehouses, staff for proper storage and shipping; the Shanghai Tug and Lighter­age Co. Ltd., for the granting of a 25 per cent reduction on lighterage charges at Shanghai; the China Navigation Co., Ltd., China Merchants Steam Navigation Co., and the Indo-China Steam Navigation Co., Ltd., for granting a reduction of 25 per cent on all shipments handled by their lines, and the Chinese Government Railways for a reduction of 50 per cent on all rail shipments.

Between Armistice Day, November 11, and Thanksgiving Day, November 25, all members in China of the America National Red Cross will be given the opportunity to renew their membership, and other persons that of becoming identified with the organization, through the various chapters and branches of the American Red Cross in China.

While the roll call, which is an annually recurring event, is this year principally to obtain the public approval of what the organization has done and is doing in the advancement of its peace program, it will also have to do with the completion of the war tasks both at home and abroad and the taking up of new activities, such as the present famine relief work in North China. The Red Cross is not conducting a campaign for a specific sum to be used in Europe, America or China, but it is willing and eager to accept any contributions, restricted or unre­stricted, that individuals, groups or organizations, may wish to make.
The work of the American Red Cross needs no explanatory remarks either at home or in China. It is to be hoped that those members in China will make the same effort to further the membership of their chapters and branches that has been made in the United States, where practically the whole nation is enrolled.—*Millard's Review.*

**BRITISH CHAMBERS OF COMMERCE AND MISSION HOSPITALS.**

The following resolutions were carried at the Conference of the British Chambers of Commerce held in Shanghai on November 5, 1920.

"That in view of the importance from a national standpoint of ensuring the adequate maintenance and development of British educational and medical work in China, this Conference urges upon British merchants the necessity for unified effort to that end.

"As a means of applying the above principle the Conference recommends the adoption of the following proposals:—

"(1) That the Associated Chambers shall entrust to a central committee the work of formulating British educational institutions and hospitals in China and of allocating such funds as may be contributed for the purpose.

"(2) That prior to the issue of an appeal to members of the Associated Chambers for contribution towards the above objects, the said committee shall submit a statement showing the amounts which it considers to be urgently needed under each head, together with proposals as to the basis on which contributions placed at its disposal should be apportioned.

"(3) That a central fund be opened at Shanghai into which funds to be placed at the disposal of the above committee shall be paid.

"(4) That in view of the impossibility of dealing in an adequate manner with every phase of educational and medical work in China the committee's efforts shall be concentrated on the following lines:—

"(a) The support of British schools giving a high-class secondary education to Chinese students.

"(b) Assistance to British medical missions in their present financial difficulties, due to unfavourable exchange rates and other causes which threaten to interfere seriously with their philanthropic work in China.

"(5) That a certain proportion of the funds contributed be set aside as reserve fund from which contributions may be made for such charitable purposes, other than educational or medical work, as may seem to have a specially strong claim to the sympathy and assistance of British merchants in China."
At a meeting of the Peking Branch of the Association on October 13th, 1920, at the Union Medical School, Dr. J. P. Maxwell, of the Peking Union Medical College, read a paper entitled "Obstetrics and Gynecology in South China." This paper will later be offered to the Journal for publication.

The following meeting on November 3, 1920, was held at the Sleeper Davis Hospital. After a short business session the following clinical cases were considered:

Dr. Maxwell reported the case of a woman in South China with five breasts, three of which were functioning. Photo of case shown.

Dr. Manderson presented: (1) Case of oblique inguinal hernia in an infant of two years upon whom she had operated with good result. (2) Specimen of adeno-carcinoma of uterus in patient aged 52; examination of tumor and clinical history showed the tumor to be apparently primary in the body of the uterus. (3) A report of three cases of hydatidiform mole occurring in the hospital practice of the past ten months; one specimen demonstrated; all three patients living and well at the present time. Discussion of symptoms, treatment, and prognosis.

Dr. Smyly presented the following cases:—(1) Advanced pseudo-hypertrophic muscular dystrophy in a boy of 13 years. (2) Cerebrospinal syphilis in a male, aged 38, treated with 12 injections of "606" intravenously, and with six intraspinous injections of salvarsanized serum, resulting in some improvement. (3) Cerebrospinal syphilis with symptoms of dementia in a male, treated with five intravenous injections of "606" and four injections of salvarsanized serum intracranially through trephine opening in skull.

Dr. Wylie, of Paotingfu, presented a specimen of ovarian cyst weighing 29 pounds removed intact from a young Chinese who four months previously had given birth to a healthy child. The tumor was entirely free from adhesions except at one small point.

Prevention of Simple Goitre.—From observations on the prevention of simple goitre in man, Marine and Kimball (Arch. Int. Med., June 15, 1920) have found that the disease is as readily prevented as in fish and domestic animals. Of 2,190 pupils in a girls' school taking 2 grm. sodium iodide twice yearly, five have shown thyroid enlargement, while of 2,305 pupils not taking the prophylactic, 495 have shown enlargement. Of 1,182 pupils with enlarged thyroid who were given the drug 773 thyroids decreased in size, while of 1,048 pupils found with enlargement who did not take the prophylactic, 145 thyroids decreased in size. These figures strikingly demonstrate both the preventive and the therapeutic effects of sodium iodide.
ANATOMICAL AND ANTHROPOLOGICAL ASSOCIATION OF CHINA.

Early in October, 1920, a meeting of the Council of the Anatomical and Anthropological Association of China was called to arrange regular meetings for the purpose of reading and discussing papers of interest to the Association. It was decided that such meetings should be held in Peking on the last Friday of each month until further notice. A programme of future meetings will be published subsequently.

The first monthly meeting of the season was held on October 29th in the anatomical lecture room of the Peking Union Medical College at 5.30 p.m. Dr. Davidson Black gave an address on the significance of certain endocranial markings in man and the importance of endocranial anatomy from the standpoint of Anthropology, illustrated by means of lantern slides and specimens. The following is a brief account of the address:

The relations of the skull to the brain phylogeny were first briefly reviewed, attention being drawn to the strong influences exerted by cerebral and cerebellar expansion in determining the architecture of the cranial portion of the mammalian skull. The relations of the occipital bone to the underlying brain in man were specially referred to, since the growth of the endocranial surface of this bone is directly influenced by both cerebrum and cerebellum. Close and intimate association of the caudal poles of the cerebrum to the superior occipital fossae obtains in this region, the characteristically asymmetrical areas in contact with the occipital cerebral poles being separated from one another by the groove for the superior sagittal sinus. Below the grooves for the transverse sinuses the inferior occipital fossae are less subject to asymmetry, and are in most cases separated from one another by a well marked internal occipital crest to which in the recent state the falx cerebelli is attached.

The crest and falx cerebelli are structures found only in man and the large anthropoids, the gibbon (Hylobates) alone among the latter lacking these structures. In all other mammalian forms this region of the occipital bone is excavated more or less deeply to lodge the postero-median cerebellar lobule, the resulting fossa being termed for this reason the vermiform fossa. In from 4% to 6% of Europeans examined, a fossa occurs which in respect to form and location is identical with the vermiform fossa of many lower mammals though it serves for the lodgement of no part of the postero-median lobule of the cerebellum.
The fossa in question is to be regarded as an expression of atavistic forces which become manifest in this region owing to the changes brought about in the endocranial relations, due to the great development of the cerebellar hemispheres.

Much concerning the function and organization of the brain may be learned from a study of its external form, and many details of the latter may be identified from the study of the inside of the skull alone. In the case of man's forerunners and extinct races of mankind, all information as to their brains must be obtained from a study of the skull parts that remain preserved by various means. Professors Boule and Anthony, of Paris, have recently summarized the findings that have resulted from the study of the endocranial casts of Neanderthal man and it is evident that results of great value have been brought to light by this means. Much remains obscure, however, that may eventually be made plain only by more extensive studies of the endocranial anatomy of the various races of mankind living to-day. In comparison with the vast population of their country less is known of the endocranial anatomy of the Chinese than of that of any other living race.

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**Book Reviews.**


It is estimated that about 33 per cent of men beyond fifty-five years of age are subject to enlargement of the prostate. What the cause is we do not know. It occurs with equal frequency in those who have suffered from urethritis and those who have not; in the married and unmarried; in the continent and those who have indulged in sexual excess; in persons of sedentary as of active habits; in the gourmand as in him who has eaten sparingly all his life. All we know is that the enlargement is mainly, if not wholly, of an adenomatous character, and that it occurs only during the decline of life when the sexual functions are on the wane. In the early stages of the disorder, beyond increased frequency of micturition the symptoms are not distressing; in the later stages, when catheterism is indispensable, they become unendurable.

The method of treatment by Sir Peter J. Freyer is total enucleation of the diseased organ in its capsule. He has performed the operation in 1,625 cases, the patients varying in age from 48-89 years. The mortality was only 5.3 per cent, and in few of the cases was the fatal issue directly ascribable to the operation. In the successful cases the results were astonishingly good.

This volume consists of the author's clinical lectures on the subject, with the narration of many clinical records. Illustrations are numerous. The book is strongly recommended to all urologists and general surgeons.

By the way, it is said by the author that enlargement of the prostate does not generally declare itself by any marked symptoms till after the age of fifty-five years, and he adds: "This rule does not hold good in India, for it is generally recognized by surgeons in that country that decided symptoms of
enlargement of the organ manifest themselves in natives as early as at the age of forty-five years. It must be borne in mind, however, that the expectation of life in Orientals is about ten years less than in Europeans—that is to say, a native of India is at forty-five years of age comparatively as old a man, physically and sexually, as a European is at fifty-five years.” We think that women age more rapidly in the East than in the West, but we are not quite so sure that the men of China grow old more quickly than Westerners. In regard to the male sex it would help to settle the point if surgeons in China would state the age at which enlargement of the prostate commonly occurs in the Chinese.


In former days the course in operative surgery was confined mainly to the ligation of vessels, typical operations on the limbs, and a few facial and cranial resections. The field of surgery has now been immensely widened and these operations, important as they are, must make way for others of still greater importance. Indeed, the difficulty is to make such a judicious selection as will give the student a thorough grounding in surgery without overwhelming him with innumerable operations in all their details and variations.

The idea underlying the writing of this book is to describe all the main operations performed nowadays in such a manner as to prune the surgical tree of knowledge of alternative methods and leave only the stem common to all countries; to sum up the essentials so that the student may gain something which will last him through life and be profitable in practice. This task has been well-performed. The description of each operation is a model of brevity and lucidity. The illustrations are numerous and excellent, though the typically German faces depicted in the book may distract the attention by awakening painful memories of the war. As the foundation for a sound course in operative surgery for medical students the book is admirable, and graduates also may find it very instructive.


This is a capital book for the laboratory, as it places within reach of the practitioner the latest and best methods—chemical, bacteriological, and microscopical—for obtaining such information concerning a patient’s physical condition as to enable an accurate diagnosis to be made, so far as this is dependent upon laboratory methods alone. The work commences with the sputum; then passes on to the oral, nasal, aural and conjunctival secretions; the gastric contents; the feces; parasites other than intestinal; the urine; secretions of the genital organs; the blood; transudates and exudates; secretion of the mammary glands. It concludes with a chapter on clinical bacteriology.

From the first page to the last the author very wisely insists that laboratory work must go hand in hand with the more direct clinical examination of the patient, as the former can be interpreted only in the light of the latter. Thus, at the conclusion of 330 pages on the examination of the blood, he writes: “It should be stated as an axiom that blood findings may never be interpreted except in the light of the clinical findings. To the clinician it should be said, never trust the laboratory report implicitly unless it agrees with the clinical manifestations; to the laboratory worker we would say, never report a blood finding as diagnostic without knowing something of the clinical history of the case.” All laboratory workers have not been so broad-minded as to perceive their limitations to this extent, and the sound judgment of the author should lead practitioners to feel that he is a very safe guide. Special attention is given to the needs of the inexperienced. The volume is well illustrated with 37 colored plates and 170 other illustrations.

The author takes the view that the primary etiology of the syndrome of which exophthalmic goitre is the most distinctive feature, is never to be found in the thyroid gland itself; its overaction is secondary, depending upon a cause or causes outside it, on a disturbance of all the ductless glands of the body and of many other organs, the thyroid being but an incidental factor. Hence he argues that thyroid surgery is a fallacious procedure, except in the case of a simple goitre which has resisted local and general non-surgical measures for a considerable time. The treatment which he advocates for exophthalmic goitre is non-surgical, consisting of hygienic measures, general medicinal treatment, local treatment, electrotherapy, X-ray treatment, radium and psychotherapy. By such means he maintains that the balance can be restored between the physiological functions and relations of the disturbed organs of the body, thus overcoming the various vicious circles and bringing about a permanent restoration to health. The work is an interesting and valuable monograph, well worth the study of all who have patients with exophthalmic goitre under their care or those in whom the disease is suspected.


Embryology is a very difficult subject for the ordinary medical student. With its folds, invaginations, evaginations, etc., much of it is more repellent than the study of the minute anatomy of the sphenoid bone. Yet it ought not to be so. A thorough understanding of embryology should make human anatomy, comparative anatomy, histology, and other branches of medical science, much easier to understand. Some day a writer will appear who will make embryology an entrancingly interesting subject. In the meantime, the present work, though small, is among the best we have for the instruction of students. And that it is not very dry is proved by the wholly unexpected remark of a Chinese student, after studying one or two of its lessons one morning, to the effect that while it must be admitted that embryology is very difficult, yet to trace the beginning and development of an organ has its own particular interest. The present edition, the sixth, has been revised and enlarged.


The author contends that the present methods of teaching anatomy in our medical schools are not the best that can be evolved. Students find pure or straight anatomy difficult and dry, and as practitioners they soon forget the greater part of all the anatomical knowledge they have learned; on the other hand, when side lights are thrown on the study from microscopic anatomy, zoology, embryology, physiology, pathology, and the practice of medicine and surgery, the subject is vitalized and infused with permanent interest and value. The present work is written on the broader plan. The essential facts of anatomy are first emphasized, then later on side-lights and details are gradually added. The volume is not sufficiently full in itself to equip a student for his examinations, but a thorough mastery of it, which need not take very long, accompanied by the necessary dissections, will enable the student to wrestle with Gray, Morris, Quain, Piersol, Cunningham, or whatever his text-book of anatomy may be, with much more profit and assurance of success then if he tackled these formidable works with but little preparation. It should therefore be very useful to students. Many helpful little diagrams are scattered through the volume.

The author is making a brave fight against the methods of teaching of which he disapproves, but students are helpless; they must do what is required to pass their examinations. The professors of anatomy are the men to argue with and convince.
Book Reviews.


The first edition of this work was favorably reviewed in the JOURNAL at the time of its publication. It is intended mainly for use in the medical schools of India and one of its merits is that it is an attempt to adapt the art and science of sanitation to the conditions of life in India. In this edition several chapters have been amplified and rewritten, and there are new chapters on industrial hygiene, occupational diseases, offensive trades, hospitals, school hygiene, etc. As a guide to sanitary inspectors and health officers some model by-laws are given at the end. All these changes and additions add to the value of the work.


This should prove an extremely useful little book in the hands of many "Sisters in small Hospitals" in China, particularly those who have but newly arrived from home, and are taking up such positions for the first time. Many a missionary-nurse has not had the time or opportunity to fill the post of Sister before leaving the homeland, and it may come as a shock to her to find that she is expected to become Theatre Sister and Ward Sister, Home Sister, Linen-room Sister, and Out-patient Sister, all at once, in addition to the general oversight of the whole hospital and its staff of nurses and servants. This book goes with excellent detail into the working of these various departments, and should be of value to those needing hints in taking up such duties.

The chapter on a Ward Sister's duties is very helpfully written. "One of the most essential qualities of a good Sister is the ability and willingness to instruct those subordinate to her." The fact is emphasized that if she is apt to teach, even a small hospital may make an excellent training school for nurses. This one chapter makes the book of great value, and the other sections on the work of Theatre, Out-patient, Night and Home Sisters are worth study. The book is recommended as it is extremely practical and at the same time lays great stress on ideals and principles.—E. H.-B.


The author prepared this pamphlet at the request of Viscount Milner, Secretary of State for the Colonies, for distribution to the Governments of the tropical African dependencies of Great Britain. Though small-pox takes a heavy toll of human life in tropical countries, it does not appear that an authoritative work on the institution and maintenance of vaccine establishments in these regions exists in the English language, and it is therefore difficult for the isolated worker to obtain information on the problems which confront him. The pamphlet, which is illustrated, not only supplies this information but also covers the whole subject of vaccination in a very satisfactory manner. The author believes that in towns and their vicinity in the tropics, where cold storage is possible, glycerinized vaccine is capable of fulfilling a useful function; but in areas where protection from solar heat can be secured solely by the employment of non-conductors, lanolized vaccine is the more suitable form for employment.


The present volume of Transactions contains the papers read before the College of Physicians of Philadelphia from January, 1918, to December, 1919, inclusive. Nearly all are on medical and surgical subjects connected with the war. Among the other papers Dr. W. W. Keen reports the unusual case of the removal of a large brain tumor and the survival of the patient for over thirty years. There is also an interesting psychological study of "Jean Paul Marat, Physician, Revolutionist,
Paranoiac. "He belongs then among the insane and is an example of paranoia, intense egoism, delusions of persecution, and an angry grandiosity. He has a common secondary symptom: viz., unlimited verbosity." In days when some of the obscurer forms of insanity were not generally recognized it is not surprising that a man with these unpleasant qualities was assassinated. In the discussion which followed the reading of the paper it was suggested that perhaps some of the present leaders of Russia are men of this stamp.


This handy catechism, which can be easily slipped into the coat pocket, consists of questions likely to be asked in an examination on the surgical anatomy of the abdomen and thorax. The answers are also given. These are very clear and sufficiently brief to be grasped by the memory. Medical students will find this brochure and others of the series very useful.


In Great Britain midwives are licensed after satisfying the Central Midwives Board that they possess the requisite knowledge and practical ability in midwifery. This handbook is written for their instruction. It is very good. The duties of a midwife are clearly and strictly defined; she is not expected to take upon herself the whole work of the obstetrician. At the same time, she is informed what the doctor is likely to do in emergencies in order that she may duly prepare the patient and the surroundings; and she is instructed how to do her best to save the life of the mother or child in outlying districts where there may be long delay before the doctor arrives. At the end of the book there are questions and answers founded on the rules of the Central Midwives Board which may be suggestive to the examiners of the Nurses Association of China. It would be a great blessing to China if all who practise midwifery were trained and compelled to obtain a license. The day seems very far off before this will be required but much is being done in this direction by the training of nurses.


As stated in the preface, this little book is intended mainly for those who are unacquainted with hypnotism, and aims at providing the reader with sufficient knowledge, both theoretical and practical, to enable him to make use of suggestion in suitable cases. It is one of the best books we have seen on the subject, being clearly and pleasantly written and giving the right kind of information. After reading it, if a physician is not able to hypnotise his patients when necessary it is because he has not received the gift of being able powerfully to influence the thoughts and wills of others, for we hold that the most skilful and successful hypnotisers are born not made.

In dealing with hypnotism the whole subject of the subconscious mind is necessarily considered. Many people—of course not physicians—are still puzzled by unusual manifestations of the subconsciousness and are inclined to ascribe them to supernatural agencies. Hence the use of the planchette, the ouija board, the resort to mediums, and all the other expedients of the spiritualists. The following case of the author's strikingly reveals the action of the subconscious memory, incidentally shows that the planchette may be of real use as a means of diagnosis, and should dispel the notion of supernatural manifestations in such experiences: "A gentleman, aged thirty, came to consult me concerning the following history. For nine years he had been oppressed by an indefinable dread of some terrible calamity. He had no idea what it was that he apprehended. For the first two or three years he had managed to control this terror, but after a rather severe attack of influenza it increased greatly, until it became a constant horror, which never left him during his waking hours. His own medical attendant, the
only person to whom he had confided his trouble, had died about six months
before he came to me, and, perhaps because he had since then kept his condi-
tion of mind to himself, the obsession had increased to an extent which threatened
to drive him to suicide. I saw him several times and tried hypnotism, but, though
he was susceptible, I was unable to induce somnambulism, and suggestions
seemed to have no effect on his dread. One day it struck me that I might find
out the cause of his terror by automatic writing. He could, he thought, write
with a planchette—at least he had once done so. I got a planchette, made him
put his hand upon it, and asked: 'Planchette, what is it that frightens him?'
After a few moments the planchette made some scratches. I then said: 'Don't
make scratches; write an answer.' After about half a minute's pause the plan-
chette wrote: 'Father's death.' I did not let him see what he had written, but
substituted a fresh sheet of paper, asking: 'Why does that frighten him?'
'Will die the same,' was the reply. On inquiry I found that his father had died
suddenly of pulmonary embolism, and that my patient, then a child of twelve,
had witnessed the death-agony with great horror. This, then, was the cause
of panic for which I had so vainly sought. I now tried direct suggestions against
the possibility of his dying in this way, and in less than three weeks the old
terror had left him. It is worth noticing that even when I made suggestions
against this particular idea, he remained quite sceptical as to his having any
such notion whatever. He certainly had no conscious idea of the kind.'

Though we have made progress in the science of psychology, it must not be
supposed that we have completely fathomed the mind of man and can fully
explain its manifold workings. As the author says, 'It is undeniable that there
is still something intellectually unsatisfying in all accounts of the causes of hypno-
tism, and that further exploration may end in exciting discoveries. It does seem
as if the process were partially involved in the obscure problem of personality,
and as if some factor at least were, like other kinds of personal influences and
impressions, the natural and logical product of the combination of certain psy-
chical qualities which cannot be determined and discriminated as yet, while the
science of psychology still stammers in its infancy.'
Demoniacal Possession.

To the Editor, C. M. J.

DEAR SIR:—At one time I came across a number of cases of alleged "Demoniacal Possession," a subject to which you refer in a recent editorial, but in none of them did I see any evidence sufficient to support the belief in it.

One case impressed me considerably. It was that of a college student who was obliged to attend church every Sunday with the rest of the students. The clerical head of the school, in accordance with the time-honored custom of the West, preached pretty long sermons. On more than one occasion, as soon as the sermon began this student fell down, apparently unconscious and in violent convulsions. Several fellow students usually carried him out of the church to his own room, where he soon recovered; but I am sorry to say that neither the supposed demoniac nor his helpful companions ever returned to the services to gain the spiritual instruction they very much needed.

Nearly all the Chinese who saw the case regarded the symptoms as due to demoniacal possession and I am not sure but that some of the foreign missionaries, seeing that the attack always came on at the beginning of a sermon, were rather inclined to the same opinion.

One Sunday, however, when the attack was worse than usual—perhaps the demon was more than ordinarily exasperated by the text or by the opening words of the sermon—the patient was brought to the hospital. Satisfying myself that the pulse and temperature were normal and that by the flickering of his eye-lids he was not really unconscious, I ordered a good strong dose of castor oil, not the tasteless kind, to be given to him. The patient's hands being firmly held, it went down slowly, lingeringly, leaving a trail to be removed at leisure. Taking care that he should hear me, I remarked very clearly and emphatically that whenever an attack occurred and he was brought to me, the treatment would always be the same. There was a quick recovery and after this experience the demon made no further disturbance. The student faithfully attended the church services during the remainder of his course. Whether the demon disliked the castor oil as much as his victim, or whether the latter's repugnance to the oil had an inhibitory influence on the demon's activities, I do not know. Anyhow, the exorcism was effectual.

Other cases of alleged demoniacal possession were regarded by me as cases of acute mania, melancholia, hysteria, etc., and one was a case of puerperal insanity. All were in no way distinguishable, as far as I could discern, from similar cases in Western countries.

At the same time I would like to add that in the spiritual world a belief may be well-founded, though hard to prove beyond the possibility of doubt. And if there are demons, we ought not to expect them to behave like ordinary human beings. As Cardinal Newman said: "How can people say what is, or is not, natural to evil spirits? What is a grotesque manifestation to us may not be so to them. What do we know about an evil spirit?"

Very sincerely yours,

DISCRIMINATION.

Shanghai, October, 1920.

The Training of Nurses.

To the Editor, C. M. J.

DEAR SIR:—Will you kindly give a little space in your next issue to a correction of a misstatement in the résumé of my paper read at the Medical Conference in Peking last February? I am quoted as saying "the religious nurse had proved herself unsatisfactory." My point was that the nurse with no scientific knowledge through which to express herself had not proved successful, as witness the hospitals of the Middle Ages, conducted by the monks and nuns. But a nurse with science only, and no religion, is, if possible, worse than the other type. And if we Westerners in China, whether in hospitals or schools, give the Chinese science and not religion, we had better go home, for we shall do less harm there. Religion must be our keystone, and without it we are a danger. But without science and skill, we bring discredit on our religion. Our Christian religion should be expressed and shown in everything we do, and I do not like to see it mean poor work in the eyes of non-Christians, but the very best in every line. Whence my plea for high scientific attainments, to show how much our religion should mean in every line of endeavor.

Very sincerely yours,

NINA D. GAGE.

Peking, October, 1920.

Audi Alteram Partem.

To the Editor, C. M. J.

DEAR SIR:—As I belong to the class of medical missionaries whom you describe as very few and whom you castigate so severely in your July editorial, just to
hand, I am sure you will allow me a little space to reply to your criticisms. I am of those who believe "that a great and impassable gulf,—physical, mental, and moral—has always existed between man and the rest of living creatures." We may be few but I venture to claim that we hold this position as the result of thoughtful and open-minded study and of a healthy scepticism that refuses to allow of our being carried away on the stream of a popular theory. Is it scientific to upbraid us so strongly away because we refuse to pin our faith to a mere theory which after 60 years of intensive research still remains a theory, very plausible I grant, but, as I shall show, still lacking any proof? While you condemn us so strongly you pass without comment the idea that Asia has been peopled by the descendants of Pithecanthropus erectus, a race that lived a million years ago. I need hardly remind you that Lord Kelvin, one of our very leading authorities, put the age of the earth at 20 million years. Surely the reputed ancestors of Pithecanthropus must have evolved with very unseemly haste! But to myself, indeed, it seems utterly unscientific to build so great an edifice on such an utterly flimsy foundation.

"As is well known the actual remains (of Pithecanthropus) are scanty. They comprise the upper part of a skull, part of a lower jaw (which has never been described,) three teeth and a left thigh bone." (Duckworth, Prehistoric Man, 1912.) There was a distance of 46 feet between the place where the femur and that where the other remains were found. The femur has practically no simian affinities, the reconstructed skull few human ones, yet disregarding the intervening space, the two are dragged together to form one pre-man. Total disregard is thus paid to what evolutionists consider as almost axiomatic, that embryonic development follows the order of natural evolution, for in the former the growth of the brain is by far the most distinctive feature. From this curiously built up man we are asked to believe that Asia was peopled with a race that conforms in no way to its supposed ancestors. Sir, I can believe in a Creation, but a jumble of this sort neither excites faith nor satisfies reason. Heidelberg man rests on no firmer ground—that of a single jaw which may have been diseased and certainly has given rise to much dispute.

Now passing from these doubtful specimens, let us see anything more certain to rest on? We have, Sir, the striking fact that what are probably the oldest unquestionably human remains, those of Galley Hill and Piltdown, show a cranial capacity that is at least as large as that of present living men. If, however, you prefer to date the Cromagnon race as earlier than these, you have to explain how it is that they "bring before us a race of artists of first-rate capacity, who for accuracy of observation, and for skill in indicating the character and peculiarities of the animals around them, have never been surpassed." (Encyclopaedia Britannica.)

Not to take up more of your space, I want finally to claim not only that there is nothing unscientific in believing that a great and impassable gulf has always existed between man and the rest of living creatures, but further, that those who set out to teach us the reverse have merely been carried away by the desire to fit doubtful facts into a preconceived theory.

I am, etc.,

JAMES L. MAXWELL.


* * * Dr. Maxwell's letter is interesting but it may be well to adhere closely to the main point of the editorial. Nearly all missionary societies are finding it difficult to obtain the medical men required for mission hospitals, and for the further expansion of medical mission work. What is the trouble? Some very good and influential men at home and on the mission field say that it lies in the teachings of evolution and the higher criticism, which they allege have had for years a disastrous influence on missionary interests. The implications of this statement seem to be: (1) that all medical missionaries now in the field are opposed to such teaching; or, if they are not, they ought not to be here as their influence is disastrous; (2) that unless medical candidates for the mission field disavow belief in such teaching they ought not to be accepted.

On the other hand, the editor ventured to assert that (1) there are medical missionaries in the field to-day who find no irreconcilable conflict between true religion and science, and no evidence is available proving their influence is disastrous, and that, as a class, they are one whit behind others in Christian faith, hope, love, and unselfish service; (2) that possibly there are many young physicians full of Christian earnestness who desire to come to the foreign field but who will not offer as they cannot conscientiously subscribe to some of the religious tests of times past.
The issue here presented, in one form or another, affects the whole missionary body in China. Some missionaries who were in Kuling last summer are already arming themselves for battle. (Vide the letters of Dr. J. H. Stanfield and Dr. R. C. Beebe in the Chinese Recorder, October, 1920.)

It is a temptation to argue with Dr. Maxwell on evolution but the space cannot be spared. However, to justify the position of those who accept the theory of evolution, though admitting that the last word has not been said on the subject, it may be pointed out that, at the recent annual meeting of the British Association for the Advancement of Science, "the discussion which took place at the joint session of the geologists, botanists, and zoologists attracted a large audience. The discussion dealt with the mode of the process of evolution. No speaker doubted the fact of evolution." (Journ. Amer. Med. Assoc.) On the scientific side Dr. Maxwell has to contend with numerous and formidable antagonists.

There was no intention to castigate anyone by saying it is possible to keep apart religious and scientific thinking as if each occupied, as it were, a separate compartment of the mind. Henry Drummond, who did such a great religious work a generation ago, especially among the medical students of Edinburgh, states in the preface to "Natural Law in the Spiritual World" that for a long while a separation of this kind existed in his mind. His case supports our argument generally. Drummond was passionately devoted to Jesus Christ; he believed with his whole heart that men might find power in Christ to strengthen their lives; he received more confidences of people untouched by the ordinary work of the Church than any other man of his time; and few men in the last century did so much to bring men to Jesus Christ. Yet he held to the theory of evolution, which should be sufficient to prove that evangelical earnestness and the acceptance of present day science are not necessarily incompatible.

We have received two other letters on the same subject.

Dr. E. E. Witt, of Hungkiang, is also opposed to evolution, but does not refer to the main question. He suggests that controversial matters should be avoided by the JOURNAL.

Dr. H. L. Clift, of Nanning, who has sent a letter much too long to be printed here, is also opposed to evolution and smiles at the anthropologists, but he does not accept Archbishop Usher's "unscriptural addition tables." Unlike Dr. Witt, he thinks the main subject is worth discussion. "It is high time to seriously consider the alarming shrinkage in the number of medical missionaries." He ascribes this shrinkage to the following causes: blind guides posing as Christian interpreters; the higher criticism; appalling ignorance of Scripture; blindness to the signs of the times; the deadening influences of gross materialism; love of the world.

The main question has not been answered satisfactorily. Perhaps the influences which induce religious changes, for better or worse, are much too numerous and subtly interwoven with each other to permit a satisfactory answer to be given. And in matters of religious opinion there is the further complication that the orthodoxy of one generation has not always been the orthodoxy of the next. Christianity is greater and grander than all our systems. It certainly does not stand or fall with the age or species of Pithecanthropus erectus. Let us all work together in freedom and brotherly kindness, our devotion to the great cause which brought us to China making our differences of opinion on scientific subjects seem of very minor importance.

Medical Etiquette.

To the Editor, C. M. J.

Dear Sir:—A question involving good taste has recently come up with reference to letter-heads for hospital stationery. Not being a past-master along this line, I am writing to one whom I know to be one, asking that you decide the matter for us.

The question is this: On letter-heads is it better form to follow a physician's name with both his literary and medical degrees, or to use simply his medical degree? I shall appreciate it if you will be so kind as to clear this matter up for us.

Yours sincerely,

FRED. P. MANGET.

* * * Dr. Manget is luring a guileless wayfarer on to dangerous ground. The saying is very old: De gustibus non est disputandum. However, as the question in a wider form sometimes arises in the editor's mind when considering papers
Correspondence.

sent in for publication in the Journal, we shall take the risk and try to give an answer based on authors’ superscriptions to their articles in medical journals.

Offhand, we were inclined to say that as medicine is a scientific profession it is proper to append to the name all literary and scientific degrees possessed by a writer which, in the judgment of the medical profession, add to the value of his medical statements and opinions. Thus it is quite correct to put D.Sc. after the name by one who possesses this degree. On the other hand, for a physician to use D.D. might weaken rather than strengthen his position, unless he happened to be speculating on the fate of his patients in the next world. But on turning to several medical journals, American and English, to ascertain custom and usage in this respect, it was found that a simple ruling of this kind does not cover the whole ground.

In Great Britain where degrees, orders, and other decorations are numerous and any breach of ethics is regarded as ‘infamous conduct in a professional respect,’ we may expect that ‘taste’ is kept well within the bounds of strict propriety. In British medical journals we find that medical writers indicate their possession of literary and scientific degrees.—B.A., M.A., LL.D., B.Sc., M.Sc., D.Sc., and others, so the custom must be correct. We did not meet with the abbreviation D.D., but then few medical men possess this degree, and those so honored generally forsake medicine and become bishops; one became an archbishop.

Membership in societies is also indicated, but we think this should not be carried too far. Authors of medical books generally belong to an astonishing number of societies, and all are mentioned on the title page. Without questioning the taste of the authors the editor admits that in reviewing their books he omits all this adornment. Space for it cannot be spared. We omit also the mention of professional appointments, unless they indicate that the appointees are above the average in learning and practical ability.

In Great Britain the initials of orders and decorations also follow the name, such as C.B., K.C.B., D.C.L., B.C.L., F.R.S., F.R., K.B.E., C.I.E., C.M.G., K.C.M.G. As these are usually given for distinguished medical service to the State it is clearly proper to use them as they add weight to the medical degrees. Thus the doyen of the profession in England should be addressed as: "The Right Hon. Sir Clifford Allbutt, K.C.B., LL.D., M.D., F.R.S."

We think it will also be granted that medical men who have obtained the V.C., M.C., or other decoration for acts of exceptional personal bravery, are fully entitled to add these initials to their names on any and every occasion, as they indicate the possession of qualities such as presence of mind, courage, resourcefulness, and a willingness to sacrifice oneself for the good of others, which none cherishes more highly than members of the medical profession.

As to the letter-heads, the only statement we can find which may possibly be construed to have some bearing on the point is the following: "The only advertisement to the public now permissible is the door-plate, which should be of modest size, and should preferably contain nothing but the practitioner’s name, though it is not uncommon to see the words ‘Physician and Surgeon’ or ‘Surgeon’ placed after it. It is not thought right to indicate a specialty upon the door-plate, such as ‘Ophthalmic Surgeon.’" (Saundby, Medical Ethics.)

Reviewing the whole subject we come to the conclusion that, in writings intended solely for medical men, the possession of literary and scientific degrees and other distinctions may be indicated, the restraining influence being the knowledge that such distinctions will be appraised at their true value by the profession. On the other hand, in writings intended for the laity only, the less display the better. Further than this we dare not venture. Chacun à son goût.

—Ed.

Sulphuric Acid in Carbuncles, Boils, etc.

To the Editor, C. M. J.

Dear Sir:—In the May number of the Journal, a correspondent, "Furunculosis," relates his good results in the treatment of acne, etc., with sulphuric acid.

I may say we have been using this method for the last eight years with good results. In cases of carbuncle it has been useful and I attribute the abortion of one case to its use.

One of our stock solutions is sulphuric acid in 20 minim doses.

Yours sincerely,

Wallace Crawford.

Tzeliutsing,
October 21, 1920.

The Earliest Medical Missionaries.

To the Editor, C. M. J.

Dear Sir:—With reference to your note under "News and Comment" in
The China Medical Journal.

The attention of the editor has been drawn to the clipping from Millard's Review which appeared in the preceding number of the Journal (p. 585). In connection with the announcement that the teaching in the Hackett Medical School for Women is hereafter to be given in English there is the statement that no Chinese medical text-books are available at present. This is obviously incorrect, as our advertisement pages show. A large number of excellent translations of important medical works have been made—some of them by Dr. Mary Fulton, formerly of the Hackett Medical College—and thousands of copies have been sold. Probably it was meant that certain medical works desired are not at present procurable, either because they are out of print or have not yet been translated.

When it has been corrected, the paragraph emphasizes the appeal, contained in this year's report of the Publication Committee, for more translators to cope with the growing demand for medical works in Chinese. To issue translations covering the whole field of medicine and to keep them up-to-date, requires a much larger staff of translators than has yet been formed. More men should be set apart for this work by the missionary societies, and many a physician with a scholarly knowledge of Chinese might very well try his hand at translation, in co-operation with the Publication Committee, and thus relieve the strain on the staff, do his part in supporting medical schools teaching in Chinese, and help to disseminate a knowledge of medicine generally among the people.

BIRTHS.

Barnes.—On October 14, 1920, at Weihaiwei, to Dr. and Mrs. J. E. Barnes, a daughter.

Dyer.—On October 17, 1920, at St. Andrew's Hospital, Wushih, to the Rev. and Mrs. Edward R. Dyer, (M.D.), a daughter (Louise Garland).

King.—At Lanchowfu, Kansu, on August 20, 1920, to Dr. and Mrs. G. E. King, of the China Inland Mission, a daughter (Gladys Dawn).

Snell.—At Soochow, on November 12, 1920, to Dr. and Mrs. J. A. Snell, of Meth. Episc. Mission, South, a son (Walter Arthur).

DEATHS.

Borthwick.—On November 6, 1920, at Ichang, of dysentery, Nancy, beloved elder daughter of Dr. and Mrs. Borthwick.

Death of Dr. C. K. Roys.—Word having been received by cable of the death of Dr. Charles K. Roys on the 23rd September, 1920, the members of the Faculty of the School of Medicine of the Shantung Christian University desire to put on record their sincere sorrow at the loss of a colleague and friend, who in the years of his service in this institution had endeared himself to all those associated with him. As one of the prime movers in the establishment of this Medi-
ical School, Dr. Roys had shown himself a consistent friend of the School all through its first years of struggle, and when later he was invited to become a member of the Staff, he threw himself into the work of his department with energy, and was the means of establishing human dissection as a part of the regular curriculum.

Dr. Roys had recently completed a year of special study at the University of Minnesota and had just returned to resume his work as head of the Anatomical Department when he was smitten with tumor of the brain and was obliged to return home, where he died within less than a year. His memory as a loyal colleague and faithful worker will long linger in this institution.

The Faculty would also express its sympathy with Mrs. Roys and her daughters in their loss, and would assure them of their constant prayer for them in this time of sorrow.

Dr. Calvin C. Rush, formerly of Canton, announces that he has opened offices in Johnstown, Pennsylvania. Practice limited to Eye, Ear, Nose and Throat.

Dr. A. R. Kilgore, formerly of the Red Cross Hospital, Shanghai, has now settled in San Francisco and has opened offices for the practice of surgery with special attention to the diagnosis and treatment of tumors.

At the instance of the Provincial Judge and High Procurator, Dr. Harry B. Taylor, of Anking, and Dr. Kiang, formerly of the hospital staff, were decorated with the gold order, second degree, of the Board of Law, Peking. This was given in recognition of the assistance of the hospital at inquests and other medico-legal cases. Also in recognition of the cholera prevention work for the summer of 1919, Dr. Taylor has been decorated with the Order of the Excellent Crop.

W EST CHINA BRANCH OF C. M. M. A.—A branch of the C. M. M. A., has been recently organized in Chengtu under the title of "The West China Branch of the C. M. M. A." Dr. C. C. Elliott was elected President; Dr. C. B. Kelly, Vice-president, and Dr. E. C. Wilford, Secretary-Treasurer. Meetings will be held during the coming winter.

M EDICAL SCHOOL, SHANTUNG CHRISTIAN UNIVERSITY.—At the Shantung Christian University the autumn term opened with a good attendance of students, 280 in all in the three departments, of which nearly one hundred are in the Medical School, and 51 are in the Pre-medical classes in the Junior College, so that over half of the enrollment is in the medical line.

A Chinese Medical Association has been organized by Chinese doctors in Wuchang, and an inaugural meeting was held on October 31, 1920.

CHOLERA IN KWEICHOW.—News from all quarters tells of the cholera being serious, and also of the devices adopted to arrest its progress. Wells have been washed; dragon processions have been held; New Year has been celebrated; petitions have been offered to gods with self-denial and abstinence from meat; charms have been printed and given to people to paste up on their doors or carry on their persons, and still the pestilence spreads.—N.C. Daily News. Oct. 29, 1920.

N EW HOSPITAL IN HANKOW.—The Chung Hsih Hospital, the most modern and up-to-date hospital managed by Chinese in Hankow, was inaugurated on October 8, 1920. The hospital occupies a three-story modern building and is located in the Chinese city.

T UNG WA H HOSPITAL, HONGKONG.—To commemorate the jubilee of the Tung Wah Hospital a new wing is being added to the building, the ceremony of laying the foundation stone being performed a few days since by H. E. the Governor. The hospital was founded in 1870 when the Government granted the site and $100,000 towards building expenses. During the past 50 years it has done splendid work among the poor Chinese and, as the Governor remarked, few realize how large a part the hospital committee plays in the life of the community. In addition to the supervision of the hospital administration the committee charges itself with the burial of the destitute dead and with the care of the destitute living. Destitute persons returning from abroad are dealt with and sent to their homes in China. When the Government has occasion to make any payment such as a gratuity or grant of compensation to any person in the interior of China it is usually the committee of the Tung Wah Hospital which makes the necessary inquiries,
and, in many cases, sees to the actual payment. Indeed, the matters in which the committee represents the connecting link between the Government and the Chinese community are too numerous to recount. They vary from the investigation of claims after a typhoon to the supervision of the removal of ancient graves from land which is required for building purposes. As H. E. the Governor recognized, "without the constant and ready assistance of the Tung Wah Committee the task of the Government would be infinitely more difficult and the result of its activities considerably less satisfactory both to itself and the community in general."

**Quack Medicines in China.**—In the course of a leading article the "Peking Daily News" deals with the sale of quack medicines in China, and, after mentioning recent legislation in England, says:—It should be quite possible, even with the comparatively elementary machinery at the disposal of the Government, to reduce very greatly both the objectionable advertisements and the trade in the abominations themselves. Any action taken in the matter should be made to apply equally to foreign and Chinese nostrums, for there is really nothing to choose between them. The descriptions of the foreign humbugs are a trifle less lurid than those of the Chinese frauds, as a rule: though this is not always the case. Incidentally, action in this direction would be a very important step in stamping out the traffic in and consumption of habit-forming drugs.

**Dengue Fever in Hongkong.**—Late in October dengue fever was very prevalent in Hongkong, and its spread was attributed in some quarters to the ubiquitous mosquito. Not being a notifiable disease, no record was secured of the number of cases at the hospitals, but, judging from all accounts, the fever assumed the character of an epidemic.

**Red Cross Society of China.**—The annual report of the Red Cross Society of China Summer Diseases Hospital for 1920, states, *inter alia*:—This year Shanghai has been lucky in not having so many people suffering from summer diseases as compared with the dangerous condition of the previous year, but the Red Cross Society of China’s Summer Diseases Hospital was opened as usual, and now at the close of the season, it is gratifying to report that much good work has been done at the hospital in saving lives and relieving suffering. Dr. H. Couper Patrick, who has been medical officer in charge, reports that during the four months, 3,526 patients have been treated, of which 2,690 were out-patients and 886 were admitted into the hospital. The 886 in-patients were classified as follows: cholera 262, gastritis 6, diarrhoea 359, dysentery 23, colic 191, and fever 15.—males 639, and females 227. Of the 262 cholera cases, 63 died and 199 were cured. Out of the total number of 886 in-patients, 96 died and 790 were cured.

**Search in China for the Missing Link.**—The "Daily Mail" New York correspondent telegraphs: 'The 'missing link' expedition, promoted by the Museum of Natural History and the American Asiatic Society, for which a fund of £50,000 has been provided, will leave here early in February for Peking which will be the headquarters of the expedition. It is hoped to bring back the greatest Natural History collection in the world. "The Museum's announcement regarding the expedition says that leading scientists believe that Asia was the early home of the human races, and that whatever light may be thrown on the origin of man will come from the great Central Asian plateau."—Reuter.

**Lepre Sanitarium.**—Dr. Wu Tung-fang (who was born in Malacca and is thus a Straits Chinese) has just given $5,000, through the Rev. John Lake of Canton, to buy the island of Taikam to be a leper sanitarium.

**Seven Stages in the Search for Health.**—It is said that in China the usual order for a person who falls sick is the following:—

1. He pinches himself (a process that we may doubtless dignify by calling it...
counter-irritation). If this produces no beneficial results:

2. He goes out and gathers herbs to make a brew for himself and drinks it. If this produces no helpful results:

3. He consults his spiritual adviser, the native priest, and follows out his directions, which are apt to be lengthy and time-consuming, for that shrewd individual realizes that his patient may automatically get well in the interval. If instead of getting better the patient gets worse:

4. He "does devil," as the expression goes, for his illness has become so serious that now he is convinced that the little demons who are responsible for all bad luck are after him, and he must propitiate them. And this takes both time and money. Meanwhile, as he is getting worse instead of better:

5. He goes to someone in his village, who has a reputation for mixing herbs, and he tries out a new brew, but as this does no good:

6. He calls the town doctor, who gives him a prescription after feeling both pulses, and this prescription is filled out. Then he goes home and makes another brew. If this does no good he calls still another doctor, and then one after another. In this way he spends all his living on physicians and is made worse rather than better. And in their anxiety to succeed, the Chinese doctors mix powerful drugs, and often-times fatally poison their patients. By this time the patient is a very sick individual, and, if he does not die:


ANKING'S MEDICAL PROGRESS.—Early in June Dr. Harry B. Taylor, of Anking, was approached by the Chief of the High Court of Procuration, who is an old friend of the hospital, and was asked to undertake the medical work in the Anhwei First Provincial Jail, and also in the Anking House of Detention, a jail where those awaiting trial are confined. This was seen at once to be a great opportunity for the advance of belief in Western medicine and the offer was accepted. Dr. Chang Tsun-dji, a graduate of the Hankow Union Medical School, was engaged to do the work under Dr. Taylor's supervision. The work has been full of interest and not without its surprises. Great progress has been made, many diseases eliminated, and much hygienic work has been done, with promises of more improvements in the near future. The inmates of the two jails number about five hundred, so it should be a fruitful field of endeavour, not only along medical but also along evangelistic lines.

Dr. Dugald Christie, C.M.G., Principal of the Mukden Medical College and Superintendent of the Hospital, has returned to Mukden with Mrs. Christie after an absence of a year and a half in Scotland.

Dr. G. E. King, of Lanchowfu, Kansu, is leaving for England on furlough. Kansu has an area of 125,483 sq. miles; population, 10,386,000; medical missionaries, 2.

MORE MEDICAL MISSIONARIES NEEDED.—Dr. Stanley Hoyte, of the Wilson Memorial Hospital, of the China Inland Mission, at Pingyangfu, is leaving for England on furlough.

"The loss even temporarily of one medical man, once more calls attention to the serious shortage of anything like efficient medical aid in this province of Shansi. Half a dozen foreign doctors in a province of 12,000,000 people is certainly inadequate, and although there are probably a few fairly qualified Chinese doctors somewhere, the masses of the people are still at the mercy of native profiteers whose practices are often disgusting beyond description."—North China Daily News, November 22, 1920.

THE SALE OF CHINESE CHILDREN.—A missionary from Chihli tells of a fair held in a famine district, not for the carrying on of ordinary business, for there is none but for the selling of little children and young girls, many of whom are being sent away—to what?—N. C. Daily News.

To Prevent the Evils of the Factory System.—Peking University, a missionary institution maintained by American and English Boards representing Methodists, Presbyterians and Congregationalists, is making a definite attempt to contribute to the welfare of China in a region rather beyond the usual range of such an institution. A special department has been provided to open and operate a number of demonstration workshops showing what can be done in the way of sanitary and health safe-guards for factory workers. Students will be given actual experience in factory management, and relations
between employers and employés will be studied with a view to the solution of the problems that must arise as China develops the factory system in her industrial life. The introduction of the factory system was something of a disaster in England, and experts fear that the results may be immeasurably more dangerous in China, unless preventive measures are taken in time.

**THE IRREPRESSIBLE DIFFICULTY.**—We know of one mutiny which was nipped in the bud by one of the splendid medical missionaries who accompanied the Chinese coolies to France. A few days out from China rough weather was experienced and a large number of surprised coolies were prostrated. After two days of it the physician heard that nasty rumours were going around that the reason for the sickness was the food. Experience had taught him that rumours had to be dealt with quickly if serious trouble was to be averted. A deputation was called for and the following conversation took place.

**Doctor.** "What's all this I hear about your food. Is the food good?"

**Spokesman.** "Oh! yes."

**D.** "Do you get enough?"

**S.** "Oh! yes."

**D.** "Well, what's all the trouble about?"

**S.** "We want you to give us some food that will stop in our bellies." *Exch.*

**A DOCTOR OPENS THE DOOR OF TIBET.**—The following incident was first reported, we believe, in *The Statesman* of Calcutta, in January, and has since been extensively quoted. Our readers will hope that every word of the good news is true:—"Dr. A. I. Shelton has been working for many years at Batang in China, on the borders of Tibet, and has on many occasions admitted Tibetan patients for treatment in his mission hospital. After a battle which took place between the Chinese and Tibetans, he went out to the battlefield and dressed the wounds of the soldiers, and eventually succeeded in acting as a mediator and putting an end to the dispute. His action was reported by the Tibetan general to the higher authorities, and it is announced that Dr. Shelton has now received and accepted an invitation to come and practise medicine in Lhasa. It is hoped that this may lead before long to the opening of the whole of Tibet to missionary enterprise."—*Missionary Herald.*