Deep Cysts of the Neck.

By J. D. Thomson, Am. M. B., C. M.

On the 3rd of January, 1893, a patient, with a large tumour of the neck, was sent to me by a neighbouring missionary doctor with a note asking my opinion as to diagnosis and treatment. "Four of us," he wrote, "have seen the case, and two have called my diagnosis in question." Then came the following note: "Patient, aged thirty-eight years, from Hunan. Growth been growing for four years, more rapidly last year. Patient says it began on left side as a 'small lump.' Some of us disagree as to fluctuation being present. There is no pain, but it interferes with deglutition. The inflammatory appearance of the tumour is due to native applications."

The tumour, as I saw it, extended from the middle of the anterior border of the left sternomastoid muscle upwards into the anterior triangle of the neck, downwards to within half a finger's breadth of the clavicle, backwards behind the sternomastoid muscle and forwards, in the lower half, across the middle line of the neck, pushing, while partially covering, the larynx and trachea to the right. The skin, though red and stretched, was freely movable over the whole surface of the tumour. From the freeness of the skin, and the tenseness underneath, it was evident that the tumour, whatever it was, was below the deep fascia. The surface appeared lobulated, and the margins more or less indefinable. Breathing, and to a certain extent phonation, as well as deglutition, were interfered with. It was non-pulsatile, and to a considerable extent followed the larynx in movements of deglutition. On defining the site of origin of the tumour by pointing to the neck of an attendant, the patient was positive that the "small lump" above referred to had its site about the middle of the anterior border of the left sternomastoid.
muscle, and not close to the larynx. The exploring trocar was now used, and the tumour proved to be an unilocular cyst extending deeply below the sternomastoid muscle and containing a dirty yellowish green opaque fluid of which, however, more will be said below. On withdrawing the contents of the cyst a small solid body could be felt loosely moored to the larynx, but outside the cyst. This I took to be the left lobe of the thyroid pushed from the larynx by the growth of the cyst, which had encroached on it from behind. An exploratory puncture was essential to an absolute diagnosis in this case. The four gentlemen who had previously seen the case had neglected this aid with the result, as I was afterwards informed, that two of them had diagnosed "cystic goitre" while the other two diagnosed "sarcoma." The somewhat lobulated appearance was due to the sternomastoid and stronger bands of the deep fascia being stretched over the cyst, while the intervening weaker parts yielded more readily. The tension and the structures over the cyst may have given the impression of a solid tumour or neoplasm, though everyone knows how difficult it may sometimes be, without the aid of an exploratory puncture, to distinguish between say a round-celled sarcoma and a cold abscess or a cyst such as this. As a plea for thus emphasizing exploratory puncture in this connexion, when other signs and symptoms are insufficient, I may mention that I once saw a very eminent surgeon open a lympho-sarcoma of the neck on the supposition that it was a cold abscess. The fluid drawn off in the present case measured about 25 ounces, was of a dirty yellowish olive green colour, opaque, with a faint mawkish odour. On the surface was a fatty skin, and a drop allowed to dry on blotting paper left a greasy glistening stain behind. Sp: gr: 1026; slightly viscid; reaction faintly alkaline. A portion of this fluid was retained for further examination,* and the patient returned with the remainder in a bottle and with a note that the tumour was evidently a deep cyst of the neck developed late in life from a persistent and isolated portion of the third left branchial cleft.

In July, 1890, a patient came to me with a similar cyst. The patient was also an adult male (about forty years of age). The cyst in this case occupied the right anterior triangle of the neck; was perceptible from the

* [Note.]-The portion of the fluid retained for examination was poured into a tall cylindrical glass and allowed to settle for 24 hours. After that time a glistening buff-yellow deposit, about \( \frac{1}{2} \)th of the whole volume, had subsided and left a still opaque fluid above, light olive green by reflected light, amber-yellow by transmitted light. On squeezing a small drop between finger and thumb it was only slightly viscid, while the addition of acetic acid to a portion produced a very slight cloudiness (mere trace of mucin). On heating a portion in a test-tube it completely solidified, like white of egg. The addition of strong nitric acid without heat also solidified a fresh portion, while the addition of an equal volume of Liquor Potassae to another similar portion prevented solidification even on boiling. On adding a few drops to a portion of Pehling's solution previously boiled, and applying heat, no reduction of copper took place, but the Pehling turned first a deep blue, then a beautiful deep violet and lastly on boiling a thick deep brown. The buff-yellow deposit under the microscope was seen to consist chiefly of cholesterol plates with a few epithelial cells.

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mouth, extended backwards beneath the upper half of the sternomastoid muscle, upwards and forwards beneath the angle and body of the lower jaw to the root and side of the tongue, crossing also the middle line under the chin and beneath the geniohyoid muscles and hyoid bone. The contents of this cyst were similar to those described above, only the colour was more of a dirty grey with curdled looking flakes floating throughout; and the odour was very offensive, probably from proximity to the buccal cavity (compare abscesses in this situation). The cyst in this case was developed no doubt from an isolated persistent portion of the second right branchial cleft. I opened it freely, scraped the whole of the interior, washed and drained. Within a month the cavity had shrunk, and all but healed. The patient returned to his home at this time, and never returned, so I had no opportunity of knowing whether or not a sinus persisted, as is said to be so common in such cases. If it had, I think he would have returned. There was apparently no distinct cyst wall capable of being dissected out had such a procedure been feasible or advisable in this case.

In the case sent me, therefore, I advised opening the most dependent part freely enough to allow the finger and sharp spoon to reach every part of the interior, to wash thoroughly with some suitable antiseptic fluid, then to scrape the whole of the interior carefully, to rewash, drain and apply dressing as firmly as the situation admitted. This, I believe, was done. The cyst-wall, at the point opened, felt, I was told, like cartilage, and grated under the knife just as if the trachea itself were being opened. About a month later, however, I received another note saying that for some time past no progress seemed to be made, and that the cavity that remained was now suppurating. I went to see the case, and found the cavity much reduced in size from what it was originally. A fair quantity of creamy pus could be squeezed from an opening near the middle line of the neck and at the most dependent part of the cavity. As this opening was now too small to admit the point of the finger it was enlarged, and a counter opening made at the same time behind the sternomastoid muscle. On enlarging the primary opening, I could verify what has been said about the cartilaginous grating. On opening behind the sterno-mastoid, there was no such feeling. The fingers now introduced could reach every part of the cavity; and, curled in the bottom, was found about three inches of a small-sized drainage tube. This tube had been lying buried there for about two weeks, and was the cause of the suppuration and delay in healing. The cavity was again scraped, a strip of prepared gauze was somewhat loosely packed into it, leaving a free end projecting from each opening. The subsequent history was, I believe, satisfactory.

The pathology of deep tumours of the neck (those under the deep fascia) is interesting in many ways, and important too in relation to surgical treatment.
In Holmes' System of Surgery the authors of the sections "Surgical Diseases of Childhood" and of "Regional Surgery" trace gradations from simple 'hydrocele' of the neck through fibro-cystic to solid tumours, and seem to look upon these as varying only according to the connective tissue in which they originate; all being of the connective tissue type. Under the name of "Deep Sebaceous Cysts" the authors of the section "Regional Surgery" describe (after Langenbeck) conditions of which the two cases forming the basis of this paper might be taken as illustrations. It is further pointed out that 'dermoid' cysts in this region, contrary to what takes place in other parts of the body, are frequently below the deep fascia; no reason given. The authors, though really using or quoting the term "dermoid," probably mean 'sebaceous,' as true dermoids of course are found not only below the deep fascia but, for example, within the cranium, and within the abdomen in the commonest of all dermoids—those of the ovary. Diagnostic signs are then quoted with the remark added that they are hardly sufficient to distinguish in all cases without a puncture. Perhaps, when coupled with a knowledge of the genesis of these cysts, one of the first signs that would lead one to suspect the true nature of such cases is the sites or levels at which they occur, for this, as well as the fact quoted that contrary to what takes place in other parts of the body they are frequently below the deep fascia, follows from their being developed in persistent and isolated portions of fetal branchial clefts. The sites of congenital fistulae of the neck, when these occur, are fairly fixed along the anterior border of the sternomastoid at certain levels. The reader is here referred to Mr. Bland Sutton's very interesting and instructive little book entitled "Evolution and Disease," from which the accompanying diagram is taken. So it is with cysts formed from isolated portions of what might have been fistulae had the persistent portions communicated with the exterior in place of being isolated in the depth. What causes those remnants after lying so long dormant (as in the cases given above) to suddenly blossom out and to develop into cysts may be made clear by a fuller etiology.
Deep Cysts of the Neck.

In connexion with these cysts it may be well to refer to another class of tumours, viz., "Congenital Fibrocystic Tumours" which, when they occur in the neck, are usually termed "Hydroceles of the Neck," and always originate below the deep fascia. These are exhaustively dealt with by Mr. Jonathan Hutchinson in his "Illustrations of Clinical Surgery." In an appendix he gives the anatomy of a typical case of Hydrocele of the Neck (bilateral it happens to be). The tumour consisted of 'a great number of cysts filled with serous fluid stained with blood.' These cysts were 'for the most part distinct from each other like a large bunch of grapes of very various sizes, flattened by mutual pressure and adherent on all sides.' 'Everywhere the cysts adhered to adjacent structures.' They 'passed downwards into the axilla and chest surrounding the subclavian vessels and the strands of the brachial plexus.' In another place (Vol. II) he mentions that his attention had been drawn to a pamphlet by Dr. Ferdinand Ascherson on "Congenital Fistule of the Neck with reference to their possible connexion with the Branchial Fissures," and adds, "It is far from improbable that they (branchial clefts) have to do with these congenital, blood-containing, cystic tumours of the neck as well as with the rare forms of congenital fistule mentioned by Ascherson." This of course was written some time ago, and it now hardly needs to be pointed out that this is not the class of tumour that branchial clefts are to be held responsible for. One can imagine the tumour he describes to have had its origin in the delicate areolar tissue that normally exists inside the carotid sheath, inside the sheathes of the larger vessels and around the strands of the brachial plexus. In place of going on to its normal development the sheath may remain imperfect, the spaces of the areolar tissue normally containing lymph may become dilated and the tissue increase to form just such a tumour. It is noteworthy that these hydroceles tend to disappear of themselves, perhaps from the regular lymph channels being established. However this may be, some of these congenital cystic tumours are supposed to arise in the lymphatics, a few to be due to secondary changes in naevi, while it is suggested that others 'probably arise on the same plan as the laryngeal sacules of certain apes.' Reference has already been made to Mr. Bland Sutton's work, "Evolution and Disease." Any reader interested in the subject who has not already read "Tumours Innocent and Malignant" by the same author is now recommended to read the chapters on 'Dermoids' and those on 'Cysts' in this work.

Embryology and evolution come to the aid of pathology. Bacteriology is accomplishing great things, and what a field have we here in China! As knowledge in any particular branch advances the horizon widens to embrace other fields more or less artificially separated, or the field increases until it has to be allotted to various workers.

J. D. T.
POISONING BY CHLORAL HYDRATE.

By H. W. Boone, M.D.

Patient took noon meal; then after a quarrel she took a heaped tablespoonful of chloral hydrate, and, after dissolving it in hot water, swallowed the entire quantity. This was at 1.40 p.m. I saw her at 3 p.m.; she was unconscious; could not be roused. Breathing slow, shallow, stertorous; pulse 140; pupils contracted did not respond to light. Gave hypodermic of apo-morphia, washed out stomach with stomach pump. While doing this vomiting came on, and she brought up undigested food smelling strongly of chloral. Gave hypodermic of strychnia. Patient was kept in bed with hot bottles and warm coverings. Patient was rubbed vigorously, but under the bed clothing so as to keep her warm. At 5 p.m. artificial respiration was resorted to, as breathing was worse and pulse very feeble. Repeated strychnia. At 6.30 p.m. she began to groan and toss about. She was kept in bed, but friction was continued, and she was roused up frequently by talking to and shaking her. At 7.40 p.m. urine drawn off by catheter, 10 oz. dark color. At 8.30 p.m. she was semi-conscious; from that time on she continued to improve. The patient was an unusually strong and healthy young woman, and her fine constitution may have aided in the recovery from such a severe poisoning. Keeping the person warm when poisoned with chloral hydrate is an important point. Laudor Brunton, Materia Medica, page 718, says, "The treatment of cases of poisoning in man is the same as in animals, viz., to keep up the temperature of the patient by putting him in a warm room, covering him with blankets and applying hot bottles."

Cystic Sarcoma of Upper Maxilla.

By Sydney R. Hodge, M.R.C.S., L.R.C.P. (Eng.)

Mrs. Tsang, aged 38, was admitted to the Wesleyan Mission Hospital for Women, Hankow, on Nov. 29, 1889, with a large tumour of the right upper maxilla. She gave a history of three years' growth; the tumour having commenced as a small swelling near the nose. Increase of size had been gradual, with occasional discharges of pus through the gums on the right side of the mouth and with increasing pain. Had been a healthy woman and had five children, the youngest being two years old. The tumour was found to displace the nose to the left, to involve the whole of the upper maxilla, pressing down
Cystic Sarcoma of Upper Maxilla.

the hard palate, displacing the teeth which were involved in the growth, and affecting the orbit. It was of an elastic consistence, and bulged prominently forward under the skin, which was darkly congested and at one place involved. An incision near the nose, at a spot which was threatening to burst, gave exit to some pus and permitted a digital examination. The whole of the antrum was filled with granular growth freely bleeding; the anterior wall of the maxilla was absorbed, and other parts involved. Operation was accepted, and after a week or ten days preliminary treatment was performed on Dec. 12 by Dr. Gillison, assisted by myself. The incision adopted was that known as Fergusson's, a median incision through the lip, prolonged round the ala and up the side of the nose and then carried in a curve below the orbit to the malar bone. The only troublesome hæmorrhage was from the deep part of the wound after the removal of the maxilla, probably from one of the palatine arteries; it was stopped with the cautery. The whole of the maxilla, with the orbital plate, was removed, part of the flap which had been involved cut away, and the opposite nasal cavity thoroughly curetted. The parts were united with silk ligatures, and the wound painted over with iodoformised collodion.

The patient rallied badly from the shock of the operation, but with careful nursing did well, and finally left the hospital on December 27.

After History.—The woman returned in October, 1894, complaining of discomfort in the wound and fearing recurrence. I examined her, but found no cause for her fear. The deformity was less than I had expected, the removal of the orbital plate not having caused downward displacement of the eye; the parts were firmly healed. On January 28, 1895, she came again, and this time alas! there was no doubt as to the recurrence, showing that in all probability I had either overlooked some small nodule at the previous examination, or, which I think more probable, that the mischief had already commenced in the deeper parts, involving nerve filament or trunks, and so causing pain. There is now a large mass protruding from the right pharynx and extending downwards as far as the finger can reach, beginning to show beneath the cheek in front, blocking the posterior nares and causing nasal voice, involving the glands of the neck and part of the lower jaw near the angle. I thought that any further operation was inadmissible, in which opinion Drs. Thomson and Gillison, who kindly saw the patient for me, concurred.

Remarks.—1. The most noticeable thing in this case is the long interval—five years—before recurrence. Judged by the ordinary standard of success, viz., three years' freedom from return, the operation was fully justified; but it shows how final recurrence, in such a vascular part, is sooner or later almost sure to take place, and one can never feel safe. "With regard to recurrence Mr. Butlin considers the prospect as very gloomy; only four cases out of sixty-four
2. A word on the dangers of haemorrhage is in place. For some reason many operators fear this exceedingly, and a preliminary ligature of the common or external carotid artery is not uncommon. My own experience, extending to three cases, confirms that of Mr. Christopher Heath, who says: "The fear of haemorrhage . . . . is exaggerated." If Fergusson's incision is adopted "there is no large vessel implicated until the last stage of the proceedings, when the bone is forcibly displaced; and then, if the operator is rapid in his movements and his assistants are prompt, pressure can be made with a sponge thrust into the cavity quite sufficient to prevent blood flowing into the fauces, until the operator is ready to pick up the bleeding vessel." (Heath).

In performing this operation one needs at least one skilled assistant and a reliable chloroformist.

SCIENTIFIC OPPORTUNITIES OF MEDICAL MISSIONARIES.

By J. B. Neal, M.D.

Last autumn, as I went bumping along in a native cart on my way to our annual mission meeting at Wei-hien, a hundred and fifty miles from Chinanfu, and sat day after day looking out over the country; the thought came to me with great force what large opportunities we medical missionaries have for making and giving to the world scientific observations which would not only be interesting but really very valuable.

Our field in China is so wide and so little explored that it seems almost a virgin region with unlimited possibilities for investigation. There must be very few of us, scattered throughout the empire, who cannot snatch a little time from our regular daily duties to indulge in a little outside work in a scientific line. Then, too, many of us no doubt have had more or less special training in chemistry, mineralogy, geology, meteorology or botany, and could thus easily do a little work in one of these lines without very great extra labor. From a very slight experience in the line of investigating the native inorganic drugs I can testify to the great satisfaction which comes from such work, both to the man himself and from the hope that he may be adding some little to the world's stock of knowledge. But to be practical what could we medical missionaries do in a scientific line?

1st. Keep a careful record of the meteorology of the stations in which we are located; at least so far as to note the daily maximum and minimum temperature, amount of rainfall and snowfall and number of stormy or
cloudy days, with, if possible, the direction of the prevailing winds. This work requires comparatively few instruments and very little time, as a student or helper can be easily trained to record the daily observations at certain fixed hours. I have before me a book of "Instructions for Voluntary Observers of the Signal Service," issued by the government printing office, Washington, D.C., which no doubt could be obtained from Washington free of charge by writing to the Secretary of the Interior and making request for it. A price list of meteorological instruments which I have from Messrs. Queen & Co., Philadelphia, Pa., gives the following:

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Price</th>
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<tbody>
<tr>
<td>Maximum thermometer</td>
<td>Gold $4.50</td>
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<tr>
<td>Minimum</td>
<td></td>
</tr>
<tr>
<td>Smithsonian standard thermometer</td>
<td>$3.50</td>
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<tr>
<td>Rain gauge, galvanized iron</td>
<td>$5.00</td>
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So that less than twenty dollars in gold would be required to fit one out for making the observations outlined above. Of course if it is desired to go into the matter more deeply a large amount may be spent for additional instruments such as barometer $30, hygrometer $6, anemometer with whirling apparatus $26, etc.

The United States Signal Service welcomes reports from voluntary observers, and I believe will furnish blanks, free of charge, for sending in reports upon. Such reports upon the meteorology of our various stations, combined with some information in regard to prevailing diseases, would surely help to keep our Boards at home from making such blunders as they often do make in sending unsuitable men and women to unsuitable locations, to the great detriment of their health and usefulness.

2nd. **Work up the Botany of our various Regions.**—This, I am quite aware, requires some special training and some aptitude for such work, but surely some of us at least are capable of doing something in that line, and even if we cannot identify species might perhaps have skill enough to collect and press specimens and send them to some authority in Europe or America for identification.

Mr. Couling, of Chingchowfu, in Shantung, is following this plan, making collections of plants in his region and sending them to the Kew Gardens in London. He keeps a careful record of the specimens sent, so that when identified in London he may be able to recognize them here.

3rd. **Study the Mineralogy of our Stations.**—Anyone who has had practical training in chemistry at home, and especially in mineralogy, ought to be able with the help of Brush's System of Mineralogical Analysis to identify most of the rocks and minerals to be met in the course of our walks about the country, and perhaps might add much to the knowledge of local geology. This is a study which can so easily be carried on during the winter, and especially during the
slack time at the Chinese New Year, that it seems to me we certainly ought to be able, as a body of men, to add something in this line to the general knowledge.

4th. Investigate the Native Materia Medica.—Those of us who are fond of chemistry and have a laboratory at our disposal may well spend a little time in a study of the resources of the native shops in the way of inorganic drugs, even though it may be a more or less disappointing field, while those who are botanists or pharmacists have a wide field open to them in the line of vegetable drugs. I wonder what has become of our committee which was appointed in 1890 to investigate the native materia medica. The more I have to do with medical students the more I am convinced that we owe it to them to make them well acquainted with the native resources in the way of usable drugs, so they may be independent of the foreign supply in case of necessity. Many of them, practising far away from foreign centres, will find it extremely hard to carry on their practice if solely dependent on what they can obtain from abroad.

The above are merely suggestions as to lines in which we might make ourselves useful and happy more or less aside from our regular medical duties. We all of course feel that our principal business must always be to minister to the sick and tell them of our blessed Saviour Jesus Christ, striving in every way to please Him and help the Chinese.

But in addition to this I cannot feel a man is any the worse for having a hobby apart from his main business which will be a recreation to him. Nor do I think our Journal will be any the weaker, but on the contrary far more valuable for containing records of such independent investigations.

"RED CROSS" WORK IN CHEFOO.

By A. W. Douthwaite, M.D.

A few days after the declaration of war by Japan I called on General Sen, the commandant of the Chefoo garrison, and represented to him the urgent need of some preparation for the treatment of wounded men, in the event of an attack on Wei-hai or Chefoo. I explained to him the principle of the "Red Cross" Association, and offered to do all in my power toward the efficient management of a military hospital, if he would provide the necessary funds and place a suitable building at my disposal.

The General, who has shown unusual solicitude for the welfare of his soldiers, seemed highly delighted by my proposal, and after consulting the
Taotai, offered me the use of a fine suite of buildings, recently erected on the cliffs east of Chefoo. In a few days the Red Cross flag was floating over these buildings, and a squad of stretcher-bearers, in white tunics, with a red cross on each arm, were being daily drilled in the art of handling wounded men. After toiling hard to make these men as efficient as possible they were suddenly removed to some other post, and a fresh lot of recruits put in their place, without a word of explanation, so I had to do my work over again. Some weeks later these men also were removed, so I quietly retired from the post of "honorary drill instructor," and decided to have no more to do with the "Red Cross Hospital" unless it was placed entirely under my control. On this decision being made known to the General he called on me, promised to do whatever I wished, and left $200.00 with me for the purchase of drugs, &c.

After that I lost no time in getting ready for the work I knew I should have to do, for I had received information from Japan that Wei-hai would certainly be attacked, and that Chefoo would probably fall into the hands of the invaders before they pushed on to Pekin.

The first part of this prediction has been fulfilled, and the "impregnable fortress" of Wei-hai has been utterly demolished, with the exception of Liu-kung island, of which the Japanese have taken possession.

The attack on the mainland forts was commenced on the 29th or 30th of January, and, as usual, the Chinese soldiers retreated in confusion after firing a few shots. Many of these poor fellows were killed, others died from loss of blood or cold, for there was no ambulance corps at hand to take care of the wounded.

All who could run, however, made good use of their legs, and fled toward Chefoo, some took refuge in neighbouring villages, but obtained very little mercy from their own countrymen, who either utterly refused to help them or disposed of them by throwing them into the sea.

On February 2nd the first lot of wounded men reached Chefoo, and were admitted into the Red Cross Hospital and the Hospital of the China Inland Mission. For several days the stream of wounded men flowed in till it became quite impossible for us to accommodate more, and the rest had to be sent to the Kwan-yin-t'ang, where they were placed under the care of a native doctor.

The condition of these poor men on arriving here was extremely pitiable, for they were hungry and cold, their wounds all undressed, their clothing saturated with blood, and their persons more than usually filthy. How they dragged their wounded limbs over the forty miles of road from Wei-hai to Chefoo is a marvel to me, and one wonders that so many succeeded in reaching this place.
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Character of the Wounds.

The men who arrived on the first day were only slightly wounded, so had been able to outstrip their comrades, but on the second day (Sunday) several serious cases were admitted, some of which required immediate amputation.

The points of entrance of the bullets were in every case small, but the exit holes were large and lacerated. In a few cases the bullet had apparently gone through the tissues revolving on their short axis, tearing the flesh into shreds in their passage. In every case where a long bone was struck it was finely comminuted, and split longitudinally, so amputation was the only treatment possible.

In one instance the ball had passed clean through the man's right lung, and did so little damage that, beyond a slight cough, with occasional spitting of blood, he suffered no inconvenience. In another case the bullet entered just in front of the left ear, passed through the external meatus and the sterno-mastoid muscle, under the trapezius, and emerged between the scapulse, twelve and a half inches from its entrance point. The man has recovered, with nothing to remind him of his wound except two small scars and a feeling of numbness in the lobe of his left ear.

One poor fellow was shot in seven places, yet walked every step of the way from Wei-hai, and has made a good recovery; another was shot through the right shoulder joint, and a few minutes later was again struck in the back, the ball breaking off the spinous process of one of the lumbar vertebrae, and lodging beneath the one above it. He too is progressing well.

A young man had the index finger of his left hand torn off, and the whole hand badly smashed by the explosion of a shell. He refused amputation, so an effort was made to save the limb, but tetanus set in, and in three days his whole body was in a state of rigid spasm. Then, when told that nothing but amputation could save his life, and that he would probably die in any case, he gave consent. For a few days after the operation his case appeared almost hopeless, but he is now able to open his mouth fairly well, and will doubtless be free from all muscular rigidity in a week or two.

A strong well-built young soldier arrived here a week ago, having been twenty days on the road from Wei-hai. He was shot through the thigh, and both feet were so severely frost-bitten that I had to amputate through the lower third of each leg. He said that for several days he could get no aid from anyone, and for three days laid on the floor of a hut, exposed to the severest weather, without food or water. Afterwards he crawled away, and somehow managed to reach Chefoo, where we gladly took him in and cared for him. Some of the most serious cases admitted into the hospital were those of wounded tendons, especially those in which the bullets had passed
over the dorsum of the feet, not rupturing the tendons, but tearing their sheaths. Probably these would have been less serious had they been promptly attended to, but after the patients had walked for three days over a rough road their otherwise slight wounds assumed a most severe character. Four such cases are now in our wards, and one will probably require amputation.

_Treatment of Wounds._

Our first effort was to obtain local cleanliness—bathing on a large scale was out of the question, owing to the crowd of patients—and then each sinus produced by the passage of a bullet was carefully syringed with 1 per cent creolin solution to remove shreds of clothing, etc. The wounds were then dressed with ung. iodoformi, with pads of oakum outside, and bandaged, so as to secure as perfect rest as possible; to this end splints of hoop iron were used wherever convenient, and proved of great service. After amputations the stumps were dressed with Hardman's wood-wool tissue (sublimated) or carbolized gauze and absorbent cotton.

Where the skin was extensively lacerated, as in wounds from the explosion of shells, I used dry dressing of fine oakum, dusted with a mixture of iodoform boric acid.

All dressings were changed once a day, and although this involved considerable labour we had the gratification of seeing the patients rapidly recover.

_Supplies._

Fortunately I had provided an extra stock of everything likely to be required, but had not expected such a crowd of patients, so my store of bandages was soon exhausted. For the first week we used three pieces of calico each day, that is, 120 yards, and, as all the native shops were closed none could be purchased.

I mentioned this fact to Mr. Lavers, of the firm of Cornabé & Co., and he generously made us a present of fifteen pieces of calico, and ere that was used up I received a sack of roller bandages from Mrs. Anderson, of Shanghai. This was followed by a bundle of bandages rolled by the patients in the Margaret Williamson Hospital, Shanghai, and thus our needs were more than supplied.

From Mrs. Anderson I received also a case containing a supply of chloroform, carbolic acid, ligature, absorbent cotton, &c., a most acceptable present.

As to money there was no lack of that, for I have a long list of the names of those who generously came forward and volunteered whatever help was needed.

Thus I was enabled to provide for the hundred and sixty wounded men placed under my care, on a far more liberal scale than would have been possible had I only my usual income to depend upon.
The Taotai sent twenty suits of wadded clothes, and General Sen has paid about two-thirds the cost of feeding the patients.

I cleared the Chefoo pawn shops of their stock of coverlets, and robbed our girls' school—then closed—of matresses, and so succeeded in making the patients comfortable.

Helpers.

To properly treat such a crowd of patients single-handed would have been impossible, and, happily, I had no need to make the attempt. For the first three days I had no professional aid, even my one native assistant was away, but I was fortunate in having the help of Miss Dobson, a hospital nurse just arrived from England, also of the Rev. F. W. Baller and two daughters, who threw themselves heartily into the work of dressing, and have continued to devote the greater part of their time to this most unsavoury task.

Many other friends volunteered their assistance as dressers, notably Messrs. McOwan, Schmidt, Murray and Alty, of the C. I. M. Boys' School, Dr. and Mrs. Corbett and Rev. G. Cornwell, of the American Presbyterian Mission, Rev. H. J. Brown, of the S. P. G. and Mr. Ottewill, of H. B. M.'s Consulate. When the work became known among the officers of the numerous men-of-war in port many of the surgeons visited the hospital and offered to help in operating, but our thanks are especially due to Dr. MacNab, of H. B. M. S. Undaunted, who while his ship was in port was almost daily at work among our patients.

To these friends and others who worked equally hard in their homes in preparing bandages and dressings is largely due the satisfactory record of only four deaths among the one hundred and sixty wounded men admitted into the hospital.

List of Amputations.

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<thead>
<tr>
<th>Part</th>
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<tbody>
<tr>
<td>Of thigh</td>
<td>2</td>
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<tr>
<td>Of leg</td>
<td>6</td>
</tr>
<tr>
<td>Of arm (shoulder)</td>
<td>2</td>
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<tr>
<td>Of forearm</td>
<td>5</td>
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<tr>
<td>Of finger</td>
<td>2</td>
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<td>Of toe</td>
<td>4</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>21</strong></td>
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Deaths after operation...

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<th>Number</th>
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Deaths from exhaustion...

<table>
<thead>
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<th>Number</th>
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Eight of the more serious cases sent to the Kwan-yin-ta'ng were subsequently removed to the hospital of the S. P. G. Mission, which is at present closed to regular work. Here they have been cared for by Dr. Thomas, of H. M. S. Porpoise, Dr. Kirk and myself; the Rev. H. J. Brown undertaking the work of dressing, &c.
After the fall of Liu-kung-tao Dr. Kirk, the surgeon of the Chinese military and naval hospital at Wei-hai, brought about thirty of his patients to Chefoo and placed them in the Kwan-yin-ta'ng, where he continues to attend them.

Chefoo, 10th March, 1895.

Since writing the above I have heard that many wounded and frost-bitten soldiers are lying in the villages near Wei-hai and Wen-teng, so I shall send for them.

—in—

Inaugural Presidential Address.

To the Members of

The China Medical Missionary Association.

Knowing that it has been the custom of our Association to choose its president from among its older members—when my name was proposed for the honored position I realized that I must now be considered as ranking among the "veterans" working in China.

Still I thank my associates for the distinction they have conferred upon me, even if the dignity tells of advancing age.

It hardly seems so long as fifteen years since I came first to China, but the almanack says it is the fact. These years, though brief to look back upon, have witnessed important changes in this great empire.

Nolens volens, forced by foreign pressure these sleepy people have moved forward, even if like the parallax of a distant star it takes close observation to discover much motion.

Telegraphic lines and railroads have been extended, audience with the emperor granted, and the necessity for a study of other matters besides the classics in the training of officials has been acknowledged.

To us physicians it is especially gratifying to note that during these years an increased estimation has been placed upon our work by the Chinese, our clerical brethren and the Church at home.

Care for the bodies as well as the souls of men now has its recognized position alongside with preaching and teaching. In all the missionary centres of China there is the hospital, while in every plan for opening new stations estimates for the doctor and his drugs take a leading place. No object excites more interest in the home Churches. Even the treasures of our Boards have a mild attack of the same enthusiasm and open more freely their money boxes on our behalf. I can well remember the time when medical missionary work was not thus booming, and the sending out of an unordained doctor or of giving him much more support than he was able to pick up for
himself were new ideas to most. Time and experience have proved that reaching the soul through sympathy for the body is as efficacious now as it was in the time of Christ. To get fish into the Gospel net a dose of medicine has proved to be as potent a bait as a theological sermon, even if the "early fathers" have neglected to mention the fact.

Encouraged thus by the past the members of our Association must still press forward. The indications are that Japan, the stalwart child of the latter part of the 19th century, proposes to administer a thorough course of physic and massage to the decrepit Celestial. The result will be new life in every part. Seeing as we do the sufferings of this patient people on the sick bed, as well as in the field of battle, and knowing how much of this suffering could be alleviated if only we were allowed free play, as doctors we cannot but rejoice at the approaching change. We will have an important part to play in the new day which after the storm will break on this land.

We must plead for a thoroughly equipped medical department in China's new army, demand the passage of laws in favor of public health, work for the suppression of quackery and the education of properly trained native medical men.

What a field of usefulness does the helping forward of such matters open up to us all. Nor must we forget that besides being medical men we are also missionaries. No civilization of permanent value can be grafted unto this people which has not Christianity as a basis and balance. In the struggle between the old and the new something more than efforts dictated merely by love for humanity will be expected from us. In our own way we must assist in building up a strong native Church and help to form popular sentiment in favor of Christianity. Especially can we do much in training consecrated medical students, who will be a benediction to their own countrymen, Christian men of influence, wherever they practice their profession.

Our united thanks are due to the retiring officers, especially to the late editor of the Journal, for their efforts in behalf of our Society. It will be ours who succeed to their places to endeavor to make our organization more and more a bond of union between us.

When railroads come in this land it will be possible to meet in convention and discuss together matters of common interest.

However till that happy day arrives the "Journal" must be the chief means in keeping up intercommunication.

If each through its pages systematically tells of his work and surroundings mutual knowledge will be obtained each of the other, even if we chance personally never to meet.

Peking, 12th March, 1895.

B. C. Atterbury, M.D.
For five years this Journal has been under the able management of Dr. Percy Mathews; in that time it has more than doubled its size; its general get up has been immensely improved, and its position in current medical literature more fully assured. The amount of hard work that this has necessitated, patient and unobtrusive work, cannot be imagined by those who have not had to attempt a similar task. The Journal and its supporters owe a heavy debt to our late editor, ever courteous and obliging, and it is with more than ordinary diffidence that the present one enters upon his work. The task set before him is not an easy one; he has to try the experiment of editing the Journal at a distance from Shanghai. It has long been foreseen that we could not expect our Shanghai medical brethren to bear this burden for ever, and that a time must come when the attempt must be made to do the work elsewhere. That time has come now, and the new editor confidently appeals to his brethren for their support. Dr. Fryer, of Shanghai, will render permanent assistance, and he feels sure that other help will be forthcoming. He will endeavour to continue the Journal mainly on the lines of his predecessor, though a few minor changes will be noticed. Whether the Journal can maintain, or ever rise above, its past position rests more with the members than the editor: if each one will take a personal interest in it, and will exhibit that interest by constructive and not destructive criticism, the issue is assured.

The recent publication in the B. M. J. of Dr. Manson's paper on "Malarial Organisms," and of Dr. Ernest Hart's address before the Indian Medical Congress on tropical diseases, offers a favourable opportunity to remind ourselves of the duty which lies upon us, as medical missionaries, to take our part in the great battle we are waging against disease and death. That duty is not discharged if we rest content with merely handing on the medical traditions of our fathers and treating well-known and easily diagnosed diseases on the old lines, whilst doing little or nothing to elucidate the nature of the many complaints which every honest man must acknowledge he knows
little about. To do this is a duty we owe not only to the people we have come
to deliver from their many ills, but also to the medical missionaries who shall
follow us, and to the large and increasing body of foreigners, both missionary
and mercantile, whose ranks are every year thinned by tropical diseases we
neither thoroughly understand nor successfully treat. Busy men as we all are,
and overworked as most of us are, we only share in this a burden which is not
peculiar to medical missionaries, but is the lot of all earnest medical men the
wide-world over, and it will probably be found to be true of us, as of most
men, that those do least who have the least to do. Situated in a tropical
country, with exceptional advantages for observing and recording, clinically at
least, many ill-understood forms of disease we cannot escape the responsibility
which belongs to our position, the sufficient answer to every plea of pre-
occupation being "these ought ye to have done, and not to leave the other
undone." Of all the diseases which come before us none is more widely pre-
valent, more protean in its manifestations, or claims more victims than
malaria. Few of us, probably, but have long ago discarded the quinine test as
being exceedingly unreliable, and periodicity is of little help in distinguishing
between continued fevers of a remittent type. To be able to say whether a
case of lung disease with high temperature is a true tuberculosis or a pseudo-
tuberculosis due to malaria, and whether an acute fever of a remittent type with
bowel complication is true typhoid or a paludal remittent, is of the highest
moment to our patient, and oftentimes of the deepest import to the work of
God; whilst the difficulty of deciding whether a post-operative or a post-puer-
peral temperature is septic or malarial is of daily occurrence: and yet with
such problems facing us every day and for many years past, what have we as a
body of medical missionaries done to solve them, or what weapon have we added
to our means of defence or attack? A few contributions have been made: papers such as Dr. Davenport's in the last number contain valuable observa-
tions, whilst long ago the pages of this Journal contained a clinical note on a
form of lung complication in malaria very similar to that which Dr. Duba has
described under the name of pseudo-tuberculosis.

The two papers above mentioned dealing with the technique of demonstra-
ting the malarial bacillus, the existence of which has long been known to
most of us, have placed within the reach of all the means of making valuable
contributions to the study of this fell disease, and of lifting a burden of
anxiety from both patient and physician in many a difficult case. Henceforth
there will be no excuse if, with such abundant material around us, we do not
take our proper place in the ranks of those who are trying to trace the life
history of this parasite. Much can be accomplished with little apparatus.
Laveran, to whom we owe most of our knowledge of the malarial parasite,
worked with "a needle and a string, a slip and cover-glass, and a microscope
with a magnifying power of some 400 or 500 diameters.” The whole secret of success in the search for the bacillus is (1) to know what to look for, (2) to know how to look for it, (3) to have patience to look for it. For the first we must refer our readers to Dr. Manson’s admirable plates published in the B. M. J. On the second we quote from Dr. Hart’s paper. “The whole secret and principle of malaria blood examination” is to so dispose the blood corpuscles as to spread them out flat on their faces. “Wash cover-glass and slip in alcohol or ether. Make them thoroughly clean and dry. Wash the finger of the patient with soap and water, afterwards, if necessary, with ether and dry it. Ligature the finger and prick it in the usual way, but prick it very lightly; this is important—prick it very lightly, a big drop of blood is a snare. Wipe the first drop of blood which exudes away, then gently press the pad of the finger between finger and thumb, and as soon as a drop of blood no bigger than a pin’s head has appeared take this up by touching its apex—if I may use this expression—lightly with the centre of the cover-glass. Then drop the cover-glass on the slip. If finger, cover-glass, and slip are thoroughly clean and dry, and the operation has been rightly and quickly performed the blood will run out in an exceedingly delicate film, in which, after a minute or two, all the corpuscles will be found lying flat on their faces. Best make six such preparations at a sitting, for some are sure to be failures, having the corpuscles in rouleaux or imperfectly disposed and isolated” . . . . “Select only the best slides and search them with a twelfth immersion lens in a fairly good but not too bright illumination” . . . . “Look in your slides for ill-defined, palish, nebulous bodies containing dots or clusters of black pigment, and lying inside blood corpuscles . . . . The black pigment particles attract the attention most readily. If you see such a particle or cluster of black particles in a corpuscle, focus carefully, scrutinise carefully; see if they lie in a pale, ill-defined body; look for changes in the position of the particles and for alterations in the shape of the pale substance in which these are imbedded; in other words, look for evidences of life in this inter-corpuscular body. In some slides you may find one, or two, or many such inter-corpuscular bodies in every field; in other slides, and generally, you will have to search many fields before you find one.” It is important to remember that the patient whose blood we wish to examine should not have been taking quinine recently. In making clinical observations Dr. Patrick Manson’s Malaria Chart, published in the B. M. J. of December, will be found of great use; the observations should be taken several times a day if possible. We have thus referred, in some detail, to malaria as the one disease with which we all, probably, come more or less in contact, but there are other diseases around us which need thoroughly working at. To this work there are but two periodicals exclusively devoted; our own Magazine, supported by a large number of medical missionaries, and the
In the Edinburgh Medical Missionary Society's Magazine, Vol. vii., No. 2, there is an account of the establishment of "The North India School of Medicine for Christian Women." This important movement was started in December, 1893, when "all the lady doctors, who were willing and able to attend, from the Punjab, north-west provinces, and Rajputana" met together and "resolved to send an appeal to all the Societies working in these provinces to help to start a medical school for Christian women somewhere in the north of India." This appeal met with encouragement, and the Baptist Zenana Missionary Society set one of their lady doctors free to act as principal of the school. The school has just commenced work at Indiana "under the auspices of a Committee of Delegates from the various medical missions to women in North India, together with Dr. Valentine, of Agra, the Rev. Dr. Ewing, of Lahore, and others." Committees in aid have been formed at home, and the scheme fairly launched. This school is established for Christian Eurasian and native girls; experience having shown that a four years' course in the government schools, away from Christian influences, in contact with heathen students, and under heathen professors, carries with it great risk to the moral and spiritual life of these young converts. To shield these young girls from such evils, many of whom "have been trained in mission schools, and had their scholarships from mission funds," and to cherish the desire which many of them have to become missionaries, is the laudable aim of this Christian institution. Yet in its infancy, and on its trial, we shall watch its development with prayerful interest, and shall be keenly disappointed if the Christian Churches do not rise to this great opportunity. This is the second time that the missionary bodies working in India have led the way in showing the feasibility of practical union; their former venture, the Madras Christian College, is a well-known and conspicuous success. To us in China there seems to be given rather the genius of talking about union than of exemplifying it. The Shanghai Conference of 1890 gave great prominence to the subject, but beyond the appointment of a few committees, and the exchanging of a few courtesies, nothing seems to have been done. Some time ago it was suggested in this Magazine, that our medical missionary work formed a basis upon which the first stones of union might be laid, and lately Dr. Stuart, of Wuhu, advocated, in these pages, a central China medical school. The thing may not yet be feasible, but we should be working towards it. The problems before us are not so different to those facing our Indian brethren. If we are
ever to bring the benefits of Western surgery and medicine to these suffering people, and to exhibit those benefits along with, and in their proper relation to, the Gospel of the Lord Jesus Christ, the source from whence they flow, we must do it by means of trained native Christians. We need a good central school, replete with every modern help to teaching, with a residential college, and under a Christian head, for the students, and with facilities for clinical work in one or more contiguous hospitals. Such a college should have a four or five years' course and give a recognised diploma. Our American brethren at Pekin and Canton have already done good work in this direction, and so has Dr. Neal at Teng-chow-fu, but their efforts have been largely local and chiefly for their own missions. The unique position of missionary work in the Yang-tsze Valley at once emphasises the need and affords the opportunity for union. Here at least a dozen different societies are at work, most having their own medical missionary agents, and yet no one strong enough, in money or men, to establish the needed institution. Feeling deeply, as they all more or less do, the need of a thoroughly trained native medical agency, yet little is being done in this direction, and grand opportunities are being lost. We are probably on the eve of great changes in China; exactly what those changes will be we cannot say, but there is a general expectation that Western education will receive a great impetus. Are we medical missionaries ready with some broad and generous scheme of medical education which will unite us? Believing, most intensely, that such union is possible, and that the Yang-tsze Valley affords the best field for its realisation we commend this subject to the earnest, and prayerful, and practical consideration of our members.
Evangelistic.

FROM DARKNESS TO LIGHT.

Whilst on a visit to the Pao-ning-fu station of the Inland Mission in the early autumn of 1893 I first met the man Liao, of whose brief but bright course I wish in these lines to tell.

He had come from his country home about 140 li from the city, led by relatives, in the hope that something might be done for his sight, which had failed for about two years, till now it was nil.

A work of grace was already in progress in his country side, and he himself was just beginning to take his stand as a seeker for the truth and just learning to pray. Placing before him the nature and prospects of his case, which was one of double (lenticular) cataract, primary, in a man of about thirty-five years, I proposed his visiting us at Ch'en-tu later on. Returning home this proposal was met with many timid objections and forebodings from his wife and mother, who said that he would be so far away that they would hear no news of him, and in all probability he would never return. But his own faith and eagerness overcame, and in the late autumn, with his brother, he started out on his 800 li journey, being all along the way the subject of many questionings as to his intentions and prospects in going to Ch'en-tu. On his arrival it was cheering to see the simple faith in which he resigned himself to God's will and to our care. During the intervals of waiting, between successive stages in which the two eyes were attended to, there was a constant stream of prayers and thanksgiving going up from the bed of this trustful man, and by the time his bandages were off, and he was once more enjoying the luxury of walking about a seeing man, we all felt that he was already a decided and growing Christian, and a bold and joyful witness for the Lord. Being a fairly well-to-do farmer he was able to prolong his stay a few months after treatment, and when in the early months of 1894 I was starting with my wife on a round visit of our out-stations my proposal that he should accompany us and see his fellow Christians in these parts before returning home, was gladly accepted.

And it was a pleasure to have him, for his bright, happy, singing spirit and eager testimony to God's goodness to him, in soul and body, was a constant refreshment to us and a help to the country Christians. He was full of ardour to return and witness among his own people, and after he had returned we heard from the Pao-ning friends that he was carrying out his purpose, and that he had already helped, with simple remedies given him, to save two or three lives from opium suicide. One short year of life in the knowledge of the truth and about half a year in the enjoyment of restored
sight, and then this new-born soul, who had put more into a few months
of serving Christ than some do into years, received his home call very
suddenly.

He was present at the summer reunion of Christians at Pao-ning, at
which he, with some others, was baptized and gave joyful testimony. Whilst
still there, spending a few days, he was seized with an acute illness which, in
spite of all that the friends there could do for him, ran its fatal course in a
week.

It was a sad shock to all, but faith can say, "Thanks be to God who
giveth us the victory," and from the swift but well run course of this native
brother we feel a fresh force in the words, "Wherefore, my beloved brethren,
be ye stedfast, unmoveable, always abounding in the work of the Lord,
forasmuch as ye know that your labour is not vain in the Lord."

H. Parry.

JOTTINGS FROM MY JOURNAL.

By M. E. P., Wesleyan Women's Hospital, Hankow.

Perhaps it is well that we should sometimes realize keenly the dense
dullness that seems to render futile our endeavours to impart a little know-
ledge or kindle interest in unseen things. Last evening, during our chat
with the patients in the ward, we addressed ourselves especially to one new
patient. Speaking of the soul we found the idea of a soul was new to her.
How were we to explain? The Chinese nurse tried, and asked her where
her soul would go when she died? "Into the country!" was the prompt
reply.

We tried to tell her that unseen things were real, and said, "You see
your hand?" looking at the big sleeve, and thinking to take said hand to
enforce the illustration. But no! the hand was withdrawn from the sleeve
and tucked snugly inside the loose, warm garment, after the well known
manner of Chinese women.

"And your soul seems just as un-get-at-able" we thought. Perhaps
the feeling of failure was depicted in our face, for the Christian nurse spoke
unwonted words of appreciation of what was said. She talked very patiently,
till our auditor certainly brightened wonderfully, and we hope a prolonged
stay may be such means of good to her as it has been to others.

Last evening (Sunday) when we went down, the two girls, each with her
Bible, (they have both been in our day-school and read very well), were
repeating and explaining the morning's text and the Golden Text of the
Sunday-school lesson and talking them over with the patients. The elder
nurse has been recently baptized, and is, we believe, sincere and earnest in
helping to reach the patients.

We had one of the chats last night that one sometimes drifts into when
speaking a word of cheer to a patient. The nurses came round the bed, and
conversation turned on a walk outside, and the familiar cry of "Yang Quei
Tsê" (foreign devil) that greeted us. "Ah!" said one of the nurses, "if
'Shiao Chi' knew all the things they say and how wicked they are! Up
above us here, and below, and all around us, are people who do such bad
things—both men and women. How nice it must be in England, where
girls can walk outside and travel safely!" and the patient took hold of my
hand and told me how she had been "ma'd" (cursed) for her unsightly
lips, and because all her children had died. "Yes," added another girl, "if
a person has lost a tooth, or hair, there are bad words used and swearing,
and the little children know all the evil things that are done and said."
Which last we can verify.

"When all Chinese people know your doctrine how different it will be,"
gave on the other woman.

"Yes," we thought, "we will keep on sowing the word of truth; and,
though the sowing seems long and often retarded, the seed shall surely grow."

We saw a "touch of nature" in the dispensary the other day. Two
women came with a little boy who had a boil on his neck, needing the knife.
The woman, who in reply to our inquiries said she was the mother, held the
child during the little operation, and though she was very kindly concerned
at the little boy's pain we were struck with the other woman, who behaved
as though the knife were applied to herself. The child, when released, threw
itself into her arms, and was received in right motherly fashion. "Why, it is
evident you have the mother's heart—how is it?" And then they explained.
It is the custom if the elder brother has several sons, and the younger none,
that the former shall present the latter with one of his own. In this case the
son had not long been made over to the foster parents.

We extract the following from The Central China Wesleyan Mission
Prayer Union:

"I have thought, perhaps, our friends would like to know how a mis-
sionary, seeking health at the bungalow, spends his time. Of course a great
deal will depend upon how ill he is. Some can do little but lie day by day
enjoying the cool breezes and thanking God for such perfect rest and quiet
until strength slowly returns. Then gradually come clair rides, and then
walks, until strength enables him to fill up the hours with occasional study.
But the rest is not always so perfect. Curious but friendly women from
neighbouring villages come, sometimes in good numbers and not infrequently with their husbands and friends, to see the foreigners and their house, and one's longing for quiet has, for the Master's sake, to be repressed, whilst, as far as possible, they are allowed to wander over the place, or sit and chat and drink tea. Sometimes they arrive at the time of morning prayers, or on Sunday during worship, and then the opportunity is embraced to preach Jesus. Some, if not most, have some ailment they want cured; and attention to their wants creates kindly feelings and disposes hearts on future occasions to receive the Word of Truth. Thus in reading, or studying, in receiving visitors, or in quiet restfulness, the morning passes on. The more quiet afternoon gives time and opportunity for prayer and united Bible readings; and very much blessed we have been this year in reading through the 1st Epistle of St. John and the Epistle to the Galatians. In the cool of the evening comes the healthful scramble along the hills, or an occasional visit to a sick one in some village, and as our walks often take us through villages we find a kindly notice of the little babies, and a kiss by an English mother, reaches a China woman's heart as readily as an English mother's. We trust that, some day, as the ground is thus being prepared, our brethren at Wu-sueh may have a good work spring up on the opposite side of the river. One evidence that our occasional residence has not been without its effect year by year has been this year by the erection of a hut shrine, with an idol, specially brought from a distance, close to our bungalow. The natives avow that the object is to counteract our teaching on those who continually visit us. Again, as always, the coming of the Truth arouses the people from their lethargy. As the day closes we gather for prayers on the verandah, and with the silence of the hills around, with the waters of the great Yangtze gleaming far below us in the silvery moonlight, we have again and again sung

"Lord! it is good for us to be
High in the mountain here with Thee;
Here in an ampler, purer air,
Above the stir of toil and care."

MEDICAL MISSION WORK IN CENTRAL CHINA.

The natives have a saying, "The winds of Kuei-cheo and the sunshine of Sz-chuan" (i.e., the southern part of Sz-chuan). This well describes the climate.

Its altitude above the sea: Sz-chuan as far as Chen-tu 1,000 feet, Kuei-cheo 4,000 feet, and Yun-nan 6,000 feet and upwards to Burma and Thibet.

In these three provinces, though Dr. G. John made an early itineration, and Rev. Spencer Lewis has long worked in Chung-king, the C. I. M.
have, second to the Roman Catholics, been the pioneer missionaries of the Gospel. During the last nine years the Lord who openeth, and no man shutteth, has given us many open doors for teaching His word to the people. At first there were only two Protestant stations in Sz-chuan, now twelve; in Yun-nan formerly two, now five; in Kuei-cheo one, now four stations. Seven and a half years ago Dr. Parry and the writer commenced two medical missions in Chên-tu. Before long we gave chloroform to a Manchu boy in the garrison city and cured him of harelip; and a year later chloroform to a Chinese hawker and removed a fibrous tumour, size of a child's head, from his arm; twenty years previously a native surgeon had ligatured a small one for him. In January, 1889, by means of midwifery forceps I saved a Chinese woman and child, Miss Fosbery helping. These were probably the first cases of their kind in the west of China. Independently of the medical work crowds of Manchu women and children came to visit my wife and child, Mary, and heard from our companions the Gospel; in addition twice a week I preached in all their avenues and received many invitations to attend Manchu patients in their homes. Thus during the two and a half years of our stay in Chên-tu all they who dwelt in the garrison city heard the word of the Lord Jesus, besides many Chinese in our neighbourhood, and of these latter five persons confessed their faith by baptism, while Dr. Parry at the old mission chapel had many more accessions to the former congregation of Chinese. But of the Manchus none, I think, except a few Roman Catholics, have professed Christianity.

One day I entered a guest hall just as the eldest son had finished worshipping a copy of the Sacred Edict put up instead of an idol, as it was the 15th day of the month. And in the country I witnessed a Chinaman enter a temple and, after noticing which was the biggest idol, make his obeisance in thanksgiving for protection when ascending the mountain. I then asked this old man whom he was worshipping. He felt that he was taken by surprise and stammered out, "I do not know." I remembered our Lord's words (John iv. 22) and told him of the only true God. Five years later 500 miles from this mountain a coolie said to me, "I remember your preaching at that idol temple."

After leaving Chên-tu we removed to the capital of Kuei-cheo province. Here Mr. Windsor had treated 200 Chinese as in-patients for opium-smoking, daily instructing them in the way of salvation, and in the mandarin's houses had saved many attempted suicides. This prepared the people to admit me to their homes for serious cases and come to the dispensary again and again for milder illness.

During our four years' residence there were 4,000 patients, of whom 400 were attended in their homes. Four of the most interesting cases are the
following. A silver refiner, treated many months for dropsy, was tapped three times; but one night his neighbour's house caught on fire, and he had to spend the night on the street. This resulted in a fatal chill; but, having often heard the Gospel, the morning before his death he destroyed every image and vestige of idolatry in his house, and that evening in the presence of his family looked upwards saying, "O God! let me depart in peace," and in a few minutes gently breathed his last.

The Chi-fu of a distant city had a small piece of bone chiselled from his jaw in our house, and recommended us to many mandarin families.

A cow-herd boy running away from home fell from the city wall breaking his left thigh bone and left side of his jaw. Next day the Superintendent of Police committed him to my charge, as the local doctors were unable to get him to take food. In three months he quite recovered and learnt from my mother the text John iii. 16. An ex-secretary having broken the neck of his left femur, and hearing of the boy's recovery, endured the long splint for ten days and lesser means for other twenty days and quite recovered. He read a copy of one of the Gospels through at least once.

During these four years one woman neighbour, and one lad—my medical student—were converted, and many patients frequently attended the Sunday services. But the work has been essentially sowing the seed, and watering where others have sown.

W. L. FREDEN.

We extract the following from the Fourth Annual Report of Ichow-fu Dispensary of the American Presbyterian Mission, under the care of Drs. C. F. Johnson and Anna Larson.

"One day a man came with the following story, which he told the gate-keeper. He said: "Some time ago two men from this place were over in my part of the country selling and giving away books. I got a small book, which I began to read, and in that it told about a man who was so wise and powerful and good that if the sick people only touched his garment they got well. Now I said why should not I go and get my disease cured? (he had been nearly deaf for over twenty years). I will go to-day, and now I am here can I go in and touch the doctor's garment and be cured?" Nothing much could be done for his deafness, but the book he had read was explained to him, and others given him which, it is hoped, will lead him to trust as fully in the Great Physician for eternal healing as he seemed ready to do in the doctor for healing for his disease.

Four short itinerating trips have been made—two by Dr. Larson, one by Dr. Johnson and one by the native assistant. These aggregated twenty-
eight days (28), and the total number of cases treated were seven hundred
and ninety-seven (797).

There have been sixty-seven (67) visits made to patients in their homes. These have been to people of all classes, from the poorest up to some of the wealthiest and most prominent families in the city.

While the surgical cases have been more than last year they have only been such as could be done in the dispensary and the patient go to his home at once, as we have no place for in-patients.

The dispensary has been open every day during the year (Sundays and the customary New Year’s vacation excepted).

| Number of cases treated at the dispensary  | Men     | 6,516 |
|                                           | Women   | 3,182 |
|                                           | Total   | 9,698 |
| Number of cases treated in the country    | Men     | 308   |
|                                           | Women   | 489   |
|                                           | Total   | 797   |
| Number of cases visited in their homes    | Men     | 34    |
|                                           | Women   | 33    |
|                                           | Total   | 67    |

Grand total number of patients 10,562

Of these 6,129 were first visits and 4,433 were return visits.

This gives an average daily attendance of over thirty-three; the largest number seen in any one day being ninety-four.”

THE CHURCH MISSIONARY SOCIETY'S PIONEER MISSION IN KIEN-NING, NORTH-WEST FUHKIEN.

By Dr. John Rigg.

(From the Edinburgh Medical Missionary Society's Magazine.)

Part I.

In the province of Fuokien, South China, the Church Missionary Society has for the last forty years carried on a promising and developing work. For the first ten years no fruit gladdened the workers, but they were not wearied so as to lose faith, and though, through illness and death, the work was often in the hands of one solitary labourer, yet in 1876, when Messrs. Lloyd and Stewart reached Foochow, they found Mr. Wolfe superintending a network of stations, manned by native catechists, and extending north and south of Foochow for 150 to 200 miles, with 1,700 enquirers and baptised members. Since that time ten more clergymen, two medical missionaries, and
about thirty ladies, chiefly of the Zenana Missionary Society, have been added to the staff, and now there is a native Church of over 11,000 baptised and enquirers. Self-support exists to the amount of $4,000 a year, and self-government is being developed. In the districts of Hok-chiang, Ku-cheng, and Hing-hwa, robust and growing native congregations are to be found, while in Fuh-ning, Lo-nguong, and Foochow, there are bodies of Christians slowly increasing in number, though at times they have a hard struggle to keep a footing among the multitudes of heathen who surround them.

The Methodist Episcopal Church of America, and the American Board of Missions are also at work in Fuhkien, the former having a body of converts almost equal to those of the Church Missionary Society. The American Board is less developed, their mission being smaller, and less outspread from the centre of Foochow. At Amoy are other missions, notably the English Presbyterian one, but these come little into contact with those which centre in Foochow. These may to some people appear ample forces for one province of China, but what are they among 15,000,000 of heathen, speaking at least half a-dozen dialects, differing as much as English from French?

In the north-west of Fuhkien, where the river Min gathers its waters from range upon range of hills, which rise like huge billows one behind the other, and where Fuhkien borders on the adjacent province of Kiang-si, there lies the Kien-ning prefecture, covering a tract of land of about the size of Lancashire, and containing from one-and-a-half to two millions of people. The chief city is Kien-ning Fu, which lies on a small plain, surrounded by ranges of high hills. At the city two rivers meet, one from the north and the other from the north-east. Up these rivers we may journey for from two to six days against an adverse current, and so come to the hens or district cities of Ching-ho, Kien-yang, Tsung-ning, Pu-ching, and Sung-ki, on our way passing through wild mountainous regions, including the Bohea Hills with their fantastic outlines, and finding in addition to these cities a number of villages, some of which are really populous market towns.

Kien-ning Fu is 150 miles north-west of Foochow, and is a busy mart for a large district producing and exporting much rice, building-wood, bamboos, and fragrant mushrooms, and manufacturing large quantities of paper made from bamboos. Its population of about 200,000 is said to be composed of Kiang-si people to the extent of a third, another third consisting of immigrants from other parts of the Fuhkien province, and the remainder of natives of the Kien-ning district. The artisans and many of the shop-keepers are immigrants, the natives are the gentry, and literati, and field-workers. The city has a reputation all through Fuhkien for turbulence, independence, and dislike to strangers, especially foreigners. To these characteristics we, foreigners, are able from experience to add those of suspicion, caution, doggedness, and deter-
mination. It is said that the scum of the province finds its way to Kien-ning Fu, and that masons and carpenters, who in other places are too unskilled to make a livelihood, are able to do so and to flourish in Kien-ning Fu. To reach its people effectually three dialects have to be used, viz., the Kien-ning, the Foochow, and the Western Mandarin, while within the district, further to the north and west, the brogue of the Kien-ning dialect is so strong as to necessitate in a stranger a residence of a few weeks, before the common people can be spoken with. The women of all parts are zealous devotees of the Buddhist cult, and give largely of their time and substance to its support. Their chief aim is to accumulate merit, which in some indefinite way will avail them in the future life. Taoism also flourishes, and by the roadsides the shrines of Buddhist and Taoist idols show by their neatness and cleanliness the devotion of the people. Propitiation of demons, worship of ancestors, cultivation of the Fung-shui superstition—these represent the daily worship of the people, while the literati are proud, intolerant and tyrannical, outwardly idolators, but really self-satisfied materialists.

No Protestant Church had as yet reached the prefecture, neither had the Roman Catholic Church entered it. With the eye and heart of a Christian statesman, Mr. Wolfe sent his native catechists north, south, and west in Fu-hkien, and in 1875 Mr. Ling, a convert of superior piety, who afterwards was ordained a clergyman, took up his abode in Kien-ning Fu, so being practically a missionary in a foreign country. He was a native of Kucheng, and could not speak the Kien-ning dialect. For eleven months he received all who came to him, and, in a quiet way, did what Christian work he was able. Then chronic persecution rose to a head; he and his comrades were severely beaten and otherwise cruelly treated, and compelled to leave the district. Mr. Ling never fully recovered from the shock; he ultimately became insane and committed suicide. After three more years, viz., in 1878, another attempt was made to get a foothold for preachers of the Gospel, and property was bought in the city, with the result that the vendors were seized by the magistrate and imprisoned,—one for two-and-a-half years, the other for over a year. One of them died in prison, and his son, who as a child came into the care of the Mission, is now a trained medical worker in the city which was the scene of so much sorrow to his family. The houses were wrecked, and now began a long interval with no witnesses for God in Kien-ning city or district—an interval of twelve years—broken only in 1884 by a feeble attempt lasting two weeks.

In 1888 the Church Missionary Society designated a pioneer party of three for the opening of the Kien-ning district; these were the Rev. H. C. Knox, of Balliol College, Oxford; the Rev. H. S. Phillips, of Ridley Hall, Cambridge; and Dr. John Rigg, a medical graduate of Edinburgh. A market
town, named Nang-wa, on the nearest confines of the prefecture, and fifteen English miles from Kien-ning Fu, was chosen for the temporary head-quarters, and here a tea manufactory was secured, and made to answer for hospital and residence. A native catechist of some ability was chosen to help, and four medical students were associated with the hospital work. Before the hospital was got ready, a storm of persecution almost swept away the new comers, but patience and prayer prevailed, and, soon after opening the hospital, friendliness and approval took the place of hatred and suspicion. Opium patients were received at the rate of over 100 per annum, and about 5,000 out-patients were treated annually. The in-patients, at any one time, varied from twelve or so to fifty; evangelical preaching, and itineration with the sale of books were vigorously carried on, and in 1890 it was felt that so much favour had been obtained for the Mission that a cautious attempt might be made to do direct work in Kien-ning Fu itself. After some difficulty a small cottage, or rather a hovel, was rented within a stone's throw of the city wall, and, with a supply of medicine and appliances, a medical assistant, trained by Dr. Taylor of Fu-hsing Fu, along with the catechist before mentioned, took up their residence there. So many patients came that two students had to go up to assist, but Dr. Rigg, with his family, remained in charge of Nang-wa. He, however, visited the Kien-ning Fu hospital at intervals of a month or so. The prejudices of the people were too strong, and failure would have been too serious to allow of a foreigner residing on the spot. In the first year 10,000 patients were treated, and to as many of them as possible the Gospel was preached. Twice over, serious attempts were made to dislodge the workers, but these were frustrated in answer to earnest prayer. Another year passed, in which much useful work was done both in Kien-ning Fu and in Nang-wa, and in the surrounding districts. Through ill-health, Mr. Knox was compelled to return to England, but Mr. Phillips went forward to reside and preach in the district city of Kien-yang, two days' journey beyond Kien-ning Fu. The Rev. J. S. Collins, of Trinity College, Dublin, volunteered to fill the vacancy left by Mr. Knox's withdrawal.

(To be continued.)
Medical and Surgical Progress.

REMARKS ON THE FLAP METHOD OF OPERATING.

By John Chiene, M.D., F.R.C.S., Edin., F.R.S.E., Professor of Surgery in the University of Edinburgh.

When Victor Horsley, in the British Medical Journal of October 9th, 1886, recommended the flap method of trephining he revolutionised, in my opinion, intracranial operations. He prevented hernia cerebri; he gave us a means of safely establishing a safety valve to relieve intracranial pressure; he diminished greatly the risks of intracranial sepsis. Many patients are now alive in consequence of this simple suggestion. In October, 1892, I applied the same principle to general surgery, and have used it systematically ever since.

Now, before any operation I ask myself this question, Can I apply the flap method? In opening the abdomen, in opening joints, in dividing tendons (structures which depend for their integrity on their free mobility and non-adhesion to the skin) in tumours in which the skin is non-adherent these were amongst the first cases in which I applied the method. Week by week the range of cases is being added to, and the result has been so satisfactory that I desire to bring it under the notice of the profession.

The advantages are that the wound in the deeper parts is at a distance from the skin wound, the skin over the deeper wound is not interfered with, it supports the deeper tissues which have been divided; rapid healing takes place. The risk of infection of the deeper parts from impure skin is reduced to a minimum. The purification of the hands and instruments is comparatively easy, the purification of the deeper layers of skin of the patient is the difficulty in aseptic surgery.

Some surgeons go the length of saying that the skin cannot be thoroughly purified. Hence the great value of this method. The flap is composed of skin and subcutaneous tissue. It should, as a rule, be crescentic, and not horseshoe-shaped. The incision should be made as far as possible from sources of septic infection. The main blood supply should enter the base of the flap. This supply, however, is of secondary importance to the first essential that the skin incision should be away from sources of septic infection.

One of the first cases on which I operated by this method was in October, 1892 for the removal of a loose internal semilunar cartilage in the knee joint. Since that time all similar cases have been operated on in the same way. In the radical cure of hernia it is a decided improvement. After the operation for strangulated hernia a truss can be applied at an earlier date. In femoral hernia a flap is turned inwards towards the middle line. In inguinal hernia a flap is turned downwards and inwards, exposing the inguinal canal. In umbilical hernia, if the skin over the hernial protrusion is of sufficient thickness, a flap is turned downwards. In incision of the knee the apex of the anterior flap is made at a lower level than the anterior tubercle of the tibia. In the elbow a flap can be turned upwards. In the operation for fractured patella and fractured olecranon this method will become the rule. In the removal of
tuberculous glands and in subcutaneous tuberculous areas Mr. Stiles has applied the flap method. The value of the flap method in tuberculosis is very great, because the risk of infecting the tuberculous area by septic skin organisms is avoided.

Every surgeon knows the evil of mixed infection in these cases. If a muscle, as the sterno-mastoid in wry-neck, or the tendo achillis in club-foot, is thus exposed the muscle or tendon afterwards works smoothly under the skin. No adhesions form between the skin and deeper parts.

Recently I excised an acromion with a tumour attached to it by means of a skin flap turned up from the deltoid. I then stitched the loose end of the clavicle to the deep tissues, replacing the flap. In dislocation of the outer end of the clavicle the difficulty of keeping the bone in position is so great that the surgeon will turn up a flap, unite with buried suture the clavicle to the acromion and replace the flap.

In the division of a bone to remedy deformity or lameness, in the excision or division of bones in aggravated cases of club-foot, in exploring the gall bladder, kidney (by anterior incision) and in gastrotomy* the method will be found most valuable. If in suprapubic cystotomy the surgeon intends to unite the bladder wound after exploring the viscera he should turn down a flap to expose the recti. In time it may come to be the case that in cases of tumours under muscles the flap will consist of muscular tissue along with the skin. In stitching the skin horsehair is used. In this connexion I may state that I have during the last year been gradually giving up knots to fix the stitches. The thread is simply passed three or four or five times, as in the first part of a common knot. Mr. Johnson, one of my dressers, has worked out the tension which such a method will hear. He finds that if a double horsehair is used four turns bear a strain of 35 ounces, three turns 24 ounces, two turns 12 ounces, one turn 4 of an ounce.

It will in all probability be found that the larger the loop the greater the distance between the points of emergence—the more numerous will be the turns. In other words, all the portion of the circle which is exposed will consist of a series of turns. By this stitch the approximation of the edges is more easily attained. If on tightening the edges do not fit closely and accurately it can easily be loosened and again tightened. Lastly, to keep the flap out of the way it can be hooked back, fixing the hooks with india-rubber bands to a piece of lead. The simplest way is to stitch it back with a temporary horsehair stitch.

I am of opinion that the flap method is worthy of systematic application to general surgery. If surgeons will give it a trial I think that they will continue its use in suitable cases.

P. S.—After the paper was read I was informed by a distinguished ophthalmologist that the flap method had been used in operations of the eye for many years. It was from Horsley that I got the hint, and to him I give the credit. I am well aware that there is “nothing new under the sun.”—(Reproduced from the M. B. J.)
The China Medical Missionary Journal.

The following remarks on counter-irritation, extracted from Dr. Argyll Robertson's presidential address before the Ophthalmological Society of the United Kingdom, are of practical utility, as we can attest from personal experience:

"Another example of a somewhat discredited method of treatment is that of counter-irritation. Blisters, like leeches, can scarcely be ranked among agreeable remedies, but my experience as an oculist has convinced me of their value.

I appeal to your experience as to the effect of counter-irritation in subacute corneal inflammations and ulcerations. Have you not found its action as striking in them as the surgeon is accustomed to find it in the somewhat analogous condition of inflammation and ulceration of articular cartilages? But I think something further may be learnt from studying the effects of different methods of producing counter-irritation in corneal affections. As the result of clinical experience and observation I am inclined to believe that the efficiency of counter-irritation very much depends upon the relation of the part blistered to the inflamed organ. In other words, to produce a thorough effect the region of irritation must bear some close and definite nervous relationship to the part inflamed. We are not yet able from anatomical considerations to fix on these regions, and it is only clinical experience, or experimental investigations, that will serve as a guide. Thus I am convinced that irritation produced in the eyelids has a much more subtle influence in altering the vascular condition of an inflamed eye than an irritant application to the temporal or post-aural regions. I have often had cases that had been subjected to the application of fly blisters in the temple or behind the ear, or even had a seton introduced over the zygoma with comparatively little benefit, but where blistering of the eyelid was followed by rapid and marked improvement.

If you will bear with me I would like to describe a method of counter-irritation that has been employed in Edinburgh for at any rate above thirty years, and which is, to my mind, by far the most efficient. It consists in moistening the skin of the upper lid and then rubbing a stick of lunar caustic three or four times across the moistened surface. Within a few minutes a burning pain is experienced in the lid, the skin becomes reddened, and the lid oedematous, while the epidermis at the part to which the caustic was applied presents an ashy grey tint. The severe pain lasts from half an hour to an hour, but the surface of the lid remains tender to the touch for two or three days. The oedema speedily subsides. A black crust, consisting of the deadened epidermis tinted by the silver, forms on the surface, but is cast off in the course of six or eight days, and leaves no permanent mark behind.

I am willing to admit that some of the beneficial effect may be attributable to the rest of the eye and freedom from friction produced by the oedema of the lid, and also in part to the circumstance that the tender surface of the lid prevented the patient constantly rubbing the eye; but I am inclined to view the intimate nervous relationship between the lid and the globe as the main explanation of the great advantage that results from this form of counter-irritation.

Let general physicians and surgeons who stand in doubt as to the utility of blisters observe for a few weeks their value in eye cases, and I think they will soon have their doubts resolved.—Trans. Ophthal. Soc. of U. K. Vol. xiv.

SALICYLIC ACID INJECTIONS IN THE TREATMENT OF INOPERABLE CARCINOMA.

BY DR. F. X. BERNHARDT (MUNICH).

The author has obtained very satisfactory results in the treatment of inoperable carcinoma of the uterus by the injection
of salicylic acid. He experimented upon a carcinoma of the cervix with a 6 per cent solution of salicylic acid in 60 per cent of alcohol. Parenchymatous injections were made into the ulcerated mass. The effect was marked. The discharge, which had been profuse, and the pain abated after the first day. It was observed that an actual retraction took place at the place of injection. The injection was repeated on the fourth day, and the same improvement followed. This treatment was continued for two months, at the end of which time the offensive discharge and the pain had entirely ceased; the appetite improved; the temperature subsided; and the patient felt in every way much better. An ulcerating metastasis, the size of a pea, situated in the middle of the anterior vaginal wall, was twice injected. Three days after the first injection the ulceration was healed; and a second injection caused the ulceration to disappear. The primary cervical tumor became contracted, hard, and scar like. Its firm surface became covered with epithelium.

Five other such cases were treated by the same method, and the results found to be satisfactory.

The injections were done in the following manner: A Braud's syringe was used, having a long needle of small calibre. Injections were made in various parts of the growth, but not more than two cubic centimetres was injected at one sitting. The injections caused more or less pain, which soon subsided.

The author thinks that this method approaches very near to actually curing the disease.—Centralblatt für Gynäkologie, No. 39. 1893.

MALARIAL PSEUDO-TUBERCULOSIS.

Charles Dura (Journ. de Méd., November 10th, 1894) describes this condition as not infrequent in malarial countries. It attacks persons who for some considerable period have been affected with ague, and begins with marked weakness, depression, loss of appetite, and emaciation. A dry hacking cough, together with dyspnoea and irregular temperature, especially towards night, supervenes. Hæmoptysis sometimes occurs. Physical examination shows evidence of apical consolidation. Examination of the sputa, however, does not show the presence of tubercle bacilli. The cases recover under the influence of quinine and arsenic, provided the cachexia be not too advanced. The explanation of this condition, which may so easily be mistaken for true tuberculosis, seems to be that a local pneumatic process is started at the apices by an accumulation of pigments in the circulating blood. (Cf. a case of malarial disease published in Vol. iii., No. 4, p. 174 of this Journal.—Ed.)

STERILIZATION OF CATGUT.

B. L. Eastman, M. D., in a paper on this subject in the Annals of Surgery (Part xix., p. 56) comes to the following conclusions: "Catgut subjected to the ether-alcohol-bichloride process is unreliable as to its asepticity, and if kept long in bichloride becomes brittle and hard. Catgut in juniper oil is unreliable. Sterilization by boiling in alcohol is practised to some extent. Without considerable apparatus the method is difficult and expensive. Catgut can be rendered sterile by heating in olive oil to a temperature of 212° F. for three hours. The method is reliable, cheap and rapid. The quality is not impaired, and just so treated is more satisfactory as to strength and smoothness than if subjected to the ether-alcohol-bichloride process. A temperature higher than 212° F. is not necessary for sterilizing, and is an injury to the gut." The best method of sterilizing is to wind the gut on reels, immerse in olive oil in a wide-mouthed glass-stoppered bottle, seal and place the whole in a water-bath; cover the vessel and raise the temperature to boiling point. The heat frequently causes
the oil to become turbid and cloudy; but this clears up of itself after two or three days, and does not, in any way, impair the gut.

AFTER COURSE OF SKIN GRAFTS.

A series of researches have been carried out at the surgical clinic of Professor Kraske in Friberg for the purpose of throwing light upon the process of repair in the method of grafting invented by Thiersch. "The chief conclusion of clinical value is that the positive healing of skin transplanted after the method of Thiersch is not accomplished fully till the end of a period involving several weeks or even months, and not until this time has elapsed is the newly-implanted skin fully resistant and as capable of withstanding trauma and disturbances of nourishment as the normal skin; and, moreover, that a better vitality is assured when the skin is planted upon the normal soft parts than when granulation or scar-tissue forms bed upon which the grafting is done"—Annals of Surgery.

ON THE INFLUENCE OF CHLOROFORM ON THE KIDNEYS.

BY DR. RINDSKOFF (BERLIN).

The writer has systematically examined the urine of 100 individuals who had been chloroformed. Only normal urine was chosen, which was examined at least twice before anaesthesia, and the last time a few hours before the operation. Both the official and Pictel's chloroform were employed. In thirty-one of ninety-three specimens which were available for examination, he found positive alterations where all other influences, except the chloroform, could be excluded. In six there was albumen alone, in six albumen and casts, in nineteen cylindroids, in twenty-one numerous leucocytes, and in nineteen epithelium of different origins. In eighty-four there were red blood-corpuscles, which were, probably, of traumatic origin. As to the albumen, it was nearly always in mere traces which allowed of no volumetric determination. It was mostly found in the first urine passed after anaesthesia, and by the third day it had entirely disappeared. A similar cyclic, though more distinct, course was followed by the casts. They were most numerous on the morning after the operation, but they gradually disappeared, in the successive specimens, until by sixty to seventy hours after operation they had wholly disappeared. They were exclusively hyaline. The leucocytosis was the last to be noticed. Both the quantity of chloroform and the length of anaesthesia have an influence. Though the changes were only of transitory and reparable nature, yet they might be dangerous in renal affections in case of protracted anaesthesia. In order to limit its action as much as possible he advises the use of the drop-by-drop method of administration. In case of anaesthetization of one with renal disease he recommends careful examination of the urine and care in administration of the anesthetic. He warns against chloroforming the same person on two successive days.—Deutsche Medicinische Wochenschrift. No. 40. 1893.

THE ABBE STRING SAW IN URETHRAL SURGERY.

BY G. FRANK LYDSTON, M.D. (CHICAGO).

The author reports a recent case which demonstrates a novel field in which the ingenious invention of Dr. Abbe, of New York, may be used. The case was that of a young man who presented a traumatic stricture in the bulbo-membranous region, and hard and tortuous multiple gonorrhoeal strictures in the penile urethra. Midway between the peno-scrotal and perineal scrotal angles there was a very tight contraction, through which could barely be passed a No. 1 filiform. After three weeks' fruitless attempts at preliminary dilatation, perineal section was performed. Even under anaesthesia it was impossible to introduce a bougie larger than No. 1.
After opening the urethra and dividing the deep traumatic stricture it was found impossible to introduce a urethrotome through the penile portion of the canal, even with a guide. The stricture was so hard, tortuous and cartilaginous that the attempt was given up after repeated trials. He then tied a fine silk thread to the filiform bougie in the perineum and drew the instrument out at the meatus, leaving the string in the canal. After a few seconds' sawing of the string, the pressure of the string being directed towards the roof of the canal, he drew through, by aid of the first string, a large silk ligature, and by the same sawing motion so enlarged the strictures that in a very few seconds he was enabled to pass a bougie of good size. The operation was then completed by means of the dilating urethrotome.

The author considers this method much more convenient and far safer than attempting to force the blades of the urethrotome through a narrow and tortuous canal, whether with or without a guide.—Author's Abstract in A. of S.

NEW TREATMENT OF HYDROCELE.

BY J. NEUMANN (MUCHLHEIM, GERMANY).

The writer describes a new method of treating hydrocele which he has employed successfully in six cases. After careful disinfection a trocar is introduced into the tumour. After withdrawal of the stillette, while the fluid is escaping, the canula is pushed up still farther, covered with a slightly compressing dressing of cotton and a bandage. This is left in place for two or three days. In all of his cases adhesion took place without either inflammation or suppuration. After removal of the canula treatment is limited to local application of lead-water to the still reddened and swollen scrotal skin. The advantages of this method are its simplicity and short period of healing as contrasted with the treatment by injection, its slight painfulness and greater assurance against consequent inflammation. Adhesion of the walls of the sac is probably due to the local influence of the canula, the alteration in pressure, and the efflux of fluid which facilitates emigration of leucocytes which, decomposing, produce a fibrinogenous ferment which causes conglutination of the serum. With the slight compression of the bandage the surplus serum flows out, and adhesion of the two serous surfaces is permitted with rigid antisepsis without inflammation.—Wien Medizinische Prese. No. 45. 1893. Abst. in A. of S.

EXPERIMENTAL INQUIRIES RESPECTING THE PHYSIOLOGICAL EFFECTS OF ALCOHOL.*

BY J. H. KELLOGG, M.D.

Preliminary Note.

These researches relate to five lines of inquiry, as follows:—

1. The influence of alcohol upon nerve sensibility, relating specially to the tactile sense and the temperature sense.
2. The influence of alcohol upon the rate of mental action.
3. Influence of alcohol in small doses upon muscular co-ordination.
4. The influence of alcohol upon muscular strength.
5. The effects of alcohol upon digestion.

None of the questions which this inquiry has been undertaken to solve may be new, although as regards some of them I am not aware that researches have heretofore been undertaken for their solution. My purpose in undertaking the inquiry has been to obtain more exact data by the employment of methods of precision which have not heretofore been brought to bear upon the study of this question.

The first three lines of investigation, relating to the influence of alcohol upon

* Paper read at the annual meeting of the American Medical Temperance Association held at Milwaukee, Wis., in May, 1893.
sensibility, mental activity, and muscular co-ordination, have been carried on by means of an instrument known as a chronometer, a beautiful mechanism for the measurement of very small periods of time, designed by Verdin, of Paris. This instrument measures time in hundredths of a second, and is useful in a great variety of physiological investigations.

In the study of the influence of alcohol upon muscular strength I have employed a mercurial dynamometer, in which an air-column in a closed graduated tube is used as the resistance. I spent some years in perfecting this instrument, and have now for several years employed it as a means of testing the strength of each group of muscles in the body, in connexion with the employment of muscular exercise as a therapeutic means in the treatment of various chronic disorders. From the results obtained in the examination of nearly 2,000 persons by this instrument I have constructed charts upon which the relative strength of each group of muscles in the body, when compared with each other group of muscles and with the muscles of an average man, may be graphically represented. The chart also affords an easy means of representing both the actual and the relative strength of arms, legs, trunk, or any other particular section of the body, compared with that of the whole.

The study of the effects of alcohol upon digestion has been made by means of an exact method originated nearly fifty years ago by Golding Bird, an eminent English physician connected with Guy's Hospital, London, and recently perfected by Hayem and Winter, two eminent French physiologists. This method consists in an exact determination of the amount and condition of the chlorine found in the gastro juice by means of quantitative analyses, together with other important data. To this method I have added the methods for determining the condition of the nitrogenous and farinaceous elements of food, as regards their advancement in the digestive process, which are furnished by modern physiological chemistry.

The results of these several lines of investigation may be briefly presented as follows:

A healthy young man of eighteen years was carefully examined with reference to the length of time required for the perception of tactile sensation and the sensation of heat and cold. The average time for the recognition of tactile sensations was found to be .140 second; for the recognition of heat, .389 seconds; and for the recognition of cold, .323 seconds. The influence of alcohol upon the mental activity was tested by touching the instrument successively to different parts of the patient's body instead of to the same part, and noting the greater length of time which elapsed before the subject was able to make the signal. This method of examination prevents the patient from shortening the time by getting the basal ganglia in readiness for action with reference to a particular part of the body. The time required was found to be .158 seconds, an increase of .018 seconds. The accommodation was tested by making the subject look at a small dot on a sheet of white paper, then close his eyes and place the end of his index finger upon the dot, or as nearly to it as possible. The average distance was found to be 8.1 millimeters. The total strength, adding together the results obtained in testing each group of muscles in the body—extensors as well as flexors—was found to be equivalent to lifting 4,881 pounds. In the following table I have placed side by side the above results, and those obtained after the administration of two ounces of pure whisky:

<table>
<thead>
<tr>
<th>Reaction</th>
<th>Normal</th>
<th>After taking 2 oz. whisky</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tactile reaction</td>
<td>.140 sec.</td>
<td>.203 sec.</td>
</tr>
<tr>
<td>Temperature reaction (heat)</td>
<td>.369 &quot;</td>
<td>.789 &quot;</td>
</tr>
<tr>
<td>Temperature reaction (cold)</td>
<td>.323 &quot;</td>
<td>.750 &quot;</td>
</tr>
<tr>
<td>Accommodation</td>
<td>5.1 M.</td>
<td>19.2 M.</td>
</tr>
<tr>
<td>Strength</td>
<td>4881 lbs.</td>
<td>3,385 lbs.</td>
</tr>
<tr>
<td>(2 hours after)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The experiment was repeated in different persons and with essentially the same results in each one.

Instead of acting as a stimulant, or increasing the muscular and nervous energy of the body, as it is generally supposed to be capable of doing, alcohol actually diminishes both, and in a notable degree, as is clearly seen in the results of this experiment. It shows the actual strength to have been diminished nearly 1,500 pounds, or about one-third.

The following results were obtained in the experiments for determining the effect of alcohol upon digestion:

The persons experimented upon were given a test breakfast consisting of 1½ oz. of dried, unfermented bread made from flour and water only, with the addition of 8 grains of salt and 8 ounces of water. Then one hour from the beginning of the meal, the contents of the stomach were evacuated by means of a stomach tube, carefully filtered, and the following facts noted:

1. Total acidity.
2. Total chlorine.
3. The free HCl.
4. The combined chlorine.
5. The fixed chlorines.
6. The coefficient of stomach work.

Case I.—B——, a young man aged 19. The analysis of stomach fluid gave, with the usual test breakfast and without brandy, the figures shown in the following comparative table, which relate to the number of milligrams of chlorine expressed in HCl found in 100 c. c. of filtered stomach fluid:

<table>
<thead>
<tr>
<th></th>
<th>Usual Test Breakfast with 4 oz. of Claret</th>
<th>Usual Test Breakfast with 2 oz. of Brandy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total acidity</td>
<td>.240</td>
<td>.086</td>
</tr>
<tr>
<td>Total chlorine</td>
<td>.328</td>
<td>.226</td>
</tr>
<tr>
<td>Free HCl</td>
<td>.032</td>
<td>.000</td>
</tr>
<tr>
<td>Combined chlorine</td>
<td>.268</td>
<td>.129</td>
</tr>
<tr>
<td>Fixed chlorine</td>
<td>.008</td>
<td>.116</td>
</tr>
<tr>
<td>Coefficient</td>
<td>.77</td>
<td>.72</td>
</tr>
</tbody>
</table>
minutes after the administration of the alcohol showed a small increase, but a repetition of the test two hours later showed a diminution of more than 900 lbs., and ten hours later the patient's muscular strength was still 800 lbs., below his normal standard. The explanation of the apparent increase of strength immediately after taking the brandy is found in the remark made by the young man, that he felt more ready for work than he did before, and lifted with greater ease. He thought he could lift as much again, but the result of his effort fell far short of his expectations. This first effect was evidently due, not to any strength derived from the alcohol, but to the benumbing influence of alcohol upon the nerve centers, and the production of a state of mental exhilaration arising from the increased flow of blood to the brain. If any great strength would have been derived from the alcohol, it would have been more apparent two hours later, when sufficient time had elapsed for complete absorption and assimilation of the drug, rather than immediately after it had been swallowed. The notable diminution in strength which appeared within two hours after the alcohol was taken, and was still present at the end of ten hours, is most conclusive evidence that the drug possesses no value as a food, and cannot be regarded as a source of muscular energy.

One curious result which I invariably noted in the studies of the effect of alcohol upon muscular strength, is the fact that the most notable diminution in strength is always to be observed in the lower extremities.

It will be observed that these results agree with those obtained by Reichert in experiments upon the heart of the frog, and by Parkes of England in experiments upon soldiers at work. It would seem that no further evidence could be required that alcohol is a narcotic and an anaesthetic rather than a stimulant, and that its use as a supporting and tonic remedy, is a practice without foundation in either scientific theory or natural clinical experience.

I have made many more experiments relative to the effects of alcohol upon the various functions, including sphygmographic studies of the effect upon the heart and the blood pressure, the results of which I shall undertake to give, together with a more complete study of the facts mentioned in this note, in a fuller report which I hope to present in a future paper.

Professor Anastasius Hass recommends the following ointment for burns, asserting that it will produce a rapid cure:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aristol</td>
<td>5.0-10.0</td>
</tr>
<tr>
<td>Ol. oliv.</td>
<td></td>
</tr>
<tr>
<td>Sol. adde</td>
<td></td>
</tr>
<tr>
<td>Vaseline</td>
<td>40.0</td>
</tr>
<tr>
<td>Lanolin</td>
<td></td>
</tr>
</tbody>
</table>

**CANNABIS INDICA.**

Dr. Stephen Mackenzie says that cannabis indica is less frequently employed than it deserves. His experience has proved it to be particularly efficient as an analgesic in combating pain associated with spasmodic phenomena; it seems to exert a favourable influence in all the forms of cephalalgia, especially in violent cephalalgia occasioned by cerebral tumours. He recommends its use also especially in chronic uræmia, where the employment of morphine is believed by many to be contra-indicated. But where he has found the remedy to be well-nigh a specific, is in the more or less continuous form of cephalalgia. The type in question commences at the patient's awakening, and lasts the whole day. He generally uses it in the form of an extract, administering this at first in the dose of $\frac{1}{2}$ to 3 centigrammes (1-12th to $\frac{3}{4}$ grn.) in pills, evenings and mornings. If these doses prove insufficient, he prescribes 6 centigrammes (1 grn.) in the evening, and 3 centigrammes ($\frac{3}{4}$ grn.) in the morning.

The addition of a small amount of sugar is said to greatly increase the solubility of borax. It will also rapidly liquefy a solution of gum arabic which has become gelatinous from the presence of borax.
BALSAM OF PERU IN DIARRHOEA.

Nuggia (Rev. des Mal. de l'Enf. 1894) recommends the following method of prescribing Balsam of Peru in the treatment of gastro-intestinal diseases in children. Troinosau, Pidoux and others have found the balsam useful in chronic intestinal catarrh, especially in diarrhoea with or without tenesmus, in dysentery, and in typhoid fever:

- Balsam of Peru ... gr. 3
- Alcohol ... ... dr. i.
- Syrup of lemons ... dr. iv.
- Water ... ... oz. iii.

— British Medical Journal.

CORYZA.

Hayen (Therap. Leist) recommends the following in the early stage of coryza:

- Pure carbolic acid ... 5 parts.
- Liquor ammonie ... 5 .
- Alcohol ... ... 10 .
- Distilled water ... 10 .

A few drops are poured on blotting paper, and the vapour inhaled for a few seconds.— British Medical Journal.

[We take the following from the B. M. J.'s report of the Royal Med. and Chirurgical Society's meeting of Nov. 27, 1894. With iodoform at 21s. per lb. and sulphur at 2d. the hint is worth following up. We have, ourselves, in two cases, one of a large sloughing carbuncle in the neck, tried the suggestion with conspicuous success.—Ed.]

A YEAR'S EXPERIENCE OF THE USE OF SULPHUR IN SURGERY.

Mr. W. Arbuthnot Lane, in this paper, stated that in consequence of his losing a patient by iodoform poisoning last year, he looked about for some material which, like iodoform, would act, under the influence of living tissues, by the production of powerful germicidal or inhibitory agents without possessing the poisonous elements which that drug occasionally exhibits. It occurred to him that sulphur, which when applied to cutaneous surfaces is able to destroy the organisms which cause such diseases as acne, scabies, eczema, tinea tonsurans, &c. (probably by the formation of sulphurous acid) might also, if placed in the tissues of the living body, result in the development of a germicidal agent in a quantity sufficient to destroy, or at least influence prejudicially the growth of any organism with which it might come in contact. He first applied sulphur in Sept., 1893, and most successfully, in a case of very extensive and destructive disease of the hip-joint, when he found that it produced a powerful counter action upon the living tissues, associated with the escape of what appeared to be sulphuretted hydrogen. Since that period he had used it constantly for the treatment, not only of tuberculous disease, which to that time had resisted, too often successfully, every attempt of the surgeon, but also of disease resulting from the presence in the tissues of any form of organism. The paper was illustrated by details of cases of extensive tuberculous disease of the elbow, knee, tarsus, prostate, and spine, of acute septic spreading gangrene of the leg, of traumatic injection of the forearm, of lupus, and of carbuncle. Mr. Lane had arrived at the following conclusions as to the effect of sulphur: (1.) Neither sulphur nor the products generated by its decomposition act prejudicially upon the life or health of the individual into whose body it is introduced. (2.) If placed in contact with recently incised healthy tissues, twenty-four hours suffice to render the parts sterile as far as organisms are concerned. (3.) If the recently incised or scraped surface be but poorly supplied with blood as, for example, the brawny edge of a carbuncle or the spreading gangrene of a limb, sulphur may be left in contact with the tissues advantageously for a considerably longer period. This also applies to the granulating surface. (4.) The entry of other organisms into a tuberculous cavity does not influence the action of the drug, since it destroy all organisms, whether free in the cavity or intending into
the surrounding living tissues forming its wall. (5.) The action exerted by sulphur is a painless one.

__Queries and Answers.__

It is proposed to establish a column, under this heading, for mutual counsel and co-operation in work. We all of us have many puzzling cases, for the treatment of which we should like suggestions. Many who are too busy to write a lengthy article can find time to send a query on some difficult case. The editor invites such communications, and will endeavour to have all such queries fully answered.

__Operation for the Cure of Cancer of the Breast.__

__By William S. Halsted, M.D., Professor of Surgery in Johns Hopkins University, Baltimore.__

(The following is an extract from a long and interesting paper by Dr. Halsted which appears in the *Annals of Surgery*. New series, part xxiii. The whole paper is well worthy of a careful perusal.)

The pectoralis major muscle, entire or all except its clavicular portions, should be excised in every case of cancer of the breast, because the operator is enabled thereby to remove in one piece all of the suspected tissues.

The suspected tissues should be removed in one piece (1), lest the wound become infected by the division of tissues invaded by the disease, or of lymphatic vessels containing cancer cells, and (2) because shreds or pieces of cancerous tissues might readily be overlooked in a piecemeal extirpation.

The operation which has been attended with such surprisingly good results in our hands is performed as follows:—

(1.) The skin incision is carried at once and everywhere through the fat.

(2.) The triangular flap of skin, \(ab\ c\) (vide Plate I) is reflected back to its base line, \(c\ b\). There is nothing but skin in this flap. The fat which lined it is dissected back to the lower edge of the pectoralis major muscle where it is continuous with the fat of the axilla.

(3.) The costal insertions of the pectoralis major muscle are severed, and the splitting of the muscle, usually between its clavicular and costal portions, is begun, and continued to a point about opposite the scalenus tubercle on the clavicle.

(4.) At this point the clavicular portion of the pectoralis major muscle and the skin overlying it are cut through hard up to the clavicle. This cut exposes the apex of the axilla.

(5) The loose tissue under the clavicular portion (the portion usually left behind) of the pectoralis major is carefully dissected from this muscle as the latter is drawn upward by a broad, sharp retractor. This tissue is rich in lymphatics, and is sometimes infiltrated with cancer (an important fact).

(6.) The splitting of the muscle is continued out to the humerus, and the part of the muscle to be removed is now cut through close to its humeral attachment.

(7.) The whole mass, skin, breast, areolar tissue, and fat, circumscribed by the original skin incision, is raised up with some force, to put the submuscular fascia on the stretch as it is stripped from the thorax close to the ribs and pectoralis minor muscle. It is well to include the delicate sheath of the minor muscle when this is practicable.

(8.) The lower outer border of the minor muscle having been passed and clearly exposed, this muscle is divided at right angles to its fibres, and at a point a little below its middle.

(9.) The tissue, more or less rich in lymphatics and often cancerous, over the minor muscle near its coracoïd insertion is divided as far out as possible, and then reflected inward in order to liberate or prepare for the reflection upward of this part of the minor muscle.

(10.) The upper, outer portion of the minor muscle is drawn upward (vide Plate
II) with a broad, sharp retractor. This liberates the retractor which until now has been holding back the clavicular portion of the pectoralis major muscle.

(11.) The small blood-vessels (chiefly veins) under the minor muscle near its insertion must be separated from the muscle with the greatest care. These are embedded in loose connective tissue which seems to be rich in lymphatics, and contains more or less fat. This fat is often infiltrated with cancer. These blood-vessels should be dissected out very clean, and immediately ligated close to the axillary vein. The ligation of these very delicate vessels should not be postponed, for the clamps occluding them might of their own weight drop off or accidentally be pulled off; or the vessels themselves might be torn away by the clamps. Furthermore, the clamps, so many of them, if left on the veins, would be in the way of the operator.

(12.) Having exposed the subclavian vein at the highest possible subclavicular point, the contents of the axilla are dissected away with scrupulous care, also with the sharpest possible knife. The glands and fat should not be pulled out with the fingers, as advised, I am sorry to say, in modern text-books and as practised very often by operators. The axillary vein should be stripped absolutely clean. Not a particle of extraneous tissue should be included in the ligatures which are applied to the branches sometimes very minute, of the axillary vessels. In liberating the vein from the tissues to be removed it is best to push the vein away from the tissues rather than, holding the vein, to push the tissues away from it. It may not always be necessary to expose the artery, but I think that it is well to do this. For sometimes, not usually, the issue above the large vessels is infiltrated; and we should not trust our eyes and fingers to decide this point. It is best to err on the safe side and to remove in all cases the loose tissue above the vessels and about the axillary plexus of nerves.

(13.) Having cleaned the vessels we may proceed more rapidly to strip the axillary contents from the inner wall of the axilla—the lateral wall of the thorax. We must grasp the mass to be removed firmly with the left hand, and pull it outward and slightly upward with sufficient force to put on the stretch the delicate fascia which still binds it to the chest. This fascia is cut away close to the ribs and serratus magnus muscle.

(14.) When we have reached the junction of the posterior and lateral walls of the axilla, or a little sooner, an assistant takes hold of the triangular flap of skin and draws it outward, to assist in spreading out the tissues which lie on the subscapularis, teres major, and latissimus dorsi muscles. The operator having taken a different hold of the tumor, cleans from within outward the posterior wall of the axilla. Proceeding in this way we make easy and bloodless a part of the operation which used to be troublesome and bloody. The subscapular vessels become nicely exposed and caught before they are divided. The subscapular nerves may or may not be removed at the discretion of the operator. KÜSTER lays great stress upon the importance of these nerves for the subsequent usefulness of the arm. We have not as yet decided this point to our entire satisfaction, but I think that they may often be spared to the patient with safety.

(15.) Having passed these nerves the operator has only to turn the mass back in its normal position, and to sever its connection with the body of the patient by a stroke of the knife from b to c, repeating the first cut through the skin.

The operation, as we perform it, is literally an almost bloodless one. From the first to the last each bleeding point is stopped with an artery forceps as quickly as possible. When practicable the vessels are clamped before they are divided. If no blood is lost there is no perceptible shock from the operation. This is true of almost every opera-
tion. The symptoms which are so often ascribed to shock are due almost invariably to loss of blood. I have performed this operation for breast cancer on patients whose pulse before the operation was so feeble that the anaesthetizer and by-standers have pronounced it barely perceptible. As a rule, the pulse is little, if any, feeble after the operation than it was before it.

The edges of the wound are approximated by a buried purse-string suture of strong silk. Of the triangular flap of skin (a b c) only the base is included in this suture. The rest of this flap is used as a lining for the fornix of the axilla. The apex of this flap is consequently shifted to a new and lower position. The axilla is never drained, and invariably heals by first intention. The uncovered wound often heals by the so called organization of the blood-clot.
Correspondence.

CHRIST HOSPITAL,
March 12th, 1895.

DEAR DR. HODGE,

I had a very profitable and enjoyable time at home. From the latter part of June till the first of October I spent most of the time in Chicago. I took a course in the “Post Graduate” on gynecology and attended Senn’s clinic at Rush. He is a great surgeon and good lecturer, and has a splendid run of operations. I saw MARTIN, DUDLEY, BYFORD and other Chicago operators do work not to be surpassed in any other city of the United States. I saw such men as PRICE, EASTMAN of Indianapolis and others who were visiting Chicago.

Of course the great thing was the World’s Fair, and the White City was glorious to behold—like a fairy city. Medicine and surgery were well represented in excellently equipped hospitals, and the drug and instrument exhibits were complete in every way. Merck had a beautiful display of drugs and preparations.

Electric apparatus of the choicest patterns were seen in the electric building. My heart almost sank, for though excellent it will be a long time before this best equipment can be found in mission hospitals. A fine exhibit was to be seen in the agricultural building, showing the composition of various food stuffs. Large glass tubes held the original substance, and then other tubes held the various ingredients, and the height in the tube showed the amount of each constituent. For instance milk was held in one tube, the tube being full, next the water partly filling the second tube, then the caseine in another tube, the cream in the bottom of another and the salts in small bulk at the bottom of another. There were such tubes with bread, meat and other articles of food, both for men and animals, and as the tubes were of the same size one could see at a glance the quantitative analysis of various foods. In September I attended various congresses as the Labor Congresses, Catholic Congresses and the “Single Tax” Congresses. I became a zealous believer in the last idea, which is HENRY GEORGE’S plan of taking ground rent for taxes and taking all tax off what men do.

I attended the great Parliament of Religions, and though the enemy may take some advantage of our liberality, and though the Buddhist representatives may have somewhat strengthened theosophy and Unitarianism and universalism, yet to those who think it was a good thing to bring all religions together to present their various views.

The winter I spent in New York, reviewed my anatomy by dissecting at the college of physicians and surgeons, had a talk in their pathological laboratory and did some pathology and bacteriology. I visited most of the clinics of the city. There are some wonderful operating rooms costing up in the hundreds of thousands, marble lined with tile floors. The Sym’s room at the Roosevelt, the Crane operating room at Bellevue and the operating room at the Presbyterian Hospital are a picture to the medical man, and yet antisepsis or asepsis are simpler now than ten years ago.

Mr. Burney leads the way as an operator, but he has many who fall very little behind him. I cannot tell you all I saw in New York; and I visited clinics in Boston, Philadelphia, Baltimore, Washington and other places. These cities are full of grand operators, and it is a treat to see their work.

Yours sincerely,

W. E. Macklin.
The China Medical Missionary Journal.

FOOCHOW,
March, 1895.

DR. SYDNEY R. HODGE,
Editor, Medical Missionary Journal.

DEAR DOCTOR,

As there are many kinds of medical societies in these days the missionary doctors in Foochow have thought it a good plan to establish a medical prayer meeting to meet monthly at the physician's residence nearest the place where the monthly concert of prayer is to be held on the same afternoon.

The first meeting was held at the hospital home of the American Board, Foochow city. Drs. Lyon, Masters, Whitney, Nieberg and Woodhull were present. Eph. vi. 10-18 was read, special requests for prayer made, and very earnest prayers were offered that we might have the help of the Spirit to keep our spiritual weapons bright and have constant help in the work of healing, of training students, and in planning for the best methods of evangelistic work in hospitals, dispensaries, etc.

The reasons given for a special prayer meeting for physicians were two:

1. Our work is so absorbing that we have greater need to "watch and pray."

2. The enemy has a deeper hatred towards the medical work, because he knows it is his worst foe. So he is more willing in his efforts to hinder and spoil the spiritual life of physicians.

After the meeting as there was still a little time before the concert of prayer, we went over the hospital. It has recently been repainted, and the drug-room fitted up with uniform bottles, giving to the premises a cheerful appearance. New paint and fresh whitewash will not heal disease, but it makes a good impression on the heathen if the hospital has a thrifty appearance.

One case of interest seen was a young girl who has had an operation for dead bone. About four inches of the tibia was removed, and a large quantity of débris.

There was great loss of blood, and the patient was very weak for several days, but is doing well now, the large cavity filling up nicely. A peculiarity of the case was that the necrosed portion was a very clean white color, and there was entire absence of offensive odor. The leg was soaked in very hot water half an hour daily for several weeks before the operation.

Truly yours,

KATE C. WOODHULL.

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The following extract from a private brief note from Dr. Parrott, will be read with interest. We rejoice at the press of work and its success, and humbly crave the occasional privilege of further rejoicing with them that do rejoice:

LAO-HO-KOU via HANKOW,
March 5th, 1895.

"I wish I could send you some items of interest, but much press of work makes it almost impossible.

The work is steadily progressing, and men are constantly coming from distant cities and towns. Yesterday the private secretary of one of the big mandarins of the strongly anti-foreign city of Nan-yang Fu in Honan sent a messenger for help. I go part way to meet the man next week, the place we meet coming within the range of a little journey I had previously arranged. A journey of only 4 days however."
Queries and Answers.

It is our intention to offer, under this heading, to all needing advice on any particular case an opportunity of briefly stating their difficulties. Many who are too busy to write long articles may be glad of asking a few questions on diagnosis and treatment of particular cases, or questions on general mission policy as far as relates to the medical aspect of it. Those of us who are more experienced will thus be brought in touch with those who are younger and enable us more adequately to bear one another's burdens. The editor trusts that members will avail themselves to the full of the advantages of this column, and he will endeavour, on his part, to see that every query receives an answer from the quarter, or quarters, most competent to give it.

Query No. 1.—That useful work by Dr. F. Porter Smith, of Hankow, entitled "Contributions towards the Materia Medica and Natural History of China for the use of Medical Missionaries and Native Medical Students", published in 1871, has been for some time out of print. Medical missionaries in the interior have doubtless derived considerable advantage from having such a large and carefully prepared English work of reference ready at hand. It is true that a few errors may be found in its pages, but as the first attempt of the kind, and as the result of several years of hard work in compiling from various sources, and in actual examination of many of the native drugs, it has doubtless proved a valuable book in the hands of newcomers as well as of those that have been longer on the field. A revised edition, embracing all new discoveries and investigations as to the nature and use of native drugs, &c., is greatly needed and called for. Probably the Mission Press at Shanghai would be only too glad to reprint the work on its own responsibility; for it would naturally find a ready sale, and pay its own expenses. Has any one made a series or collection of notes that would serve to strengthen and enrich such a new edition? Or will any one who has worked on this line undertake the entire task of revision? Or will any one undertake a section or portion of it?

J. F.
"If there be good in that I wrought, Thy hand compelled it, Master, Thine; Where I have failed to meet Thy thought, I know, through thee, the blame is mine.

One instant's toil to Thee denied, Stands all eternity's offence, Oft what I did with Thee to guide, To Thee, through Thee, be excellence.

Take not that vision from my ken, O whatso'er may spoil or speed— Help me to need no aid from men, That I may help such men as need."

RUDYARD KIPLING.

Against Hurry.

"Faith and Hurry are mutually incompatible. The one must finally banish the other from the soul . . . . . the inward life itself cannot be pressed or hastened. Man's deepest virtues are rooted in the dark, and spring up secretly after many days and nights; he knoweth not how. The heart has its times and seasons: and the best fruits of the spirit only ripen slowly and come to perfection unaware."

Dr. Robertson Nicoll.

"Dark skies must clear, and when the clouds are past, One golden day redeems a weary year; Patient I listen, sure that sweet at last— Will sound His voice of cheer."

UNKNOWN.

"This little life is flesh and bone. With meagre portions of white sleep, And all the world is but a scheme, Of busy children in the street."

_A book of Lyrics by Bliss Carmen._

Forgiveness.

"Forgiveness is not a change in our minds towards God, but a change in God's mind towards us."

Dr. Dale.

"It is one thing for God to be at peace with us, and quite a different thing for us to be at peace with ourselves."

_Ditto._

Judson's Threefold Cord.

2. Self-Denial.
3. Doing Good.

Selections from Judson's Advice to Missionaries.

1. Come out for life.
2. Many die, walk softly: death is narrowly watching your steps.
3. Beware of the reaction which will take place soon after reaching the field.
4. Beware of the greater reaction which will take place after you have acquired the language and become fatigued and worn out with preaching the Gospel to a disobedient and gainsaying people.
5. Beware of that pride which is apt to grow out of the consciousness that we are esteemed by the great and good.
6. Beware of the indulgence which leads to a neglect of bodily exercise.

We extract the following from the _Edinburgh Medical Missionary Society's Magazine:_

OUR OWN WORK ABROAD.

Nazareth.

Dr. Vartan, whom we hope to welcome home on furlough in the spring, writes as follows:

"A Moslem child was brought from a distant village to the dispensary who was suffering from chronic bronchitis. There was a cervical vertebra of a wolf hanging
they may swear a dozen times, no matter whether they are speaking the truth or falsehood, or whether they are talking seriously or in jest. The word ‘wallah’ (by God) is uttered without the least thought about it. They are of course always, when noticed, reminded of the unlawfulness of the liberty they take, and in many instances, I am glad to say, without any offence. I was prescribing for a Moslem lady some days ago in her house, and a friend of hers in the room was relating some incidents, and as usual she was uttering freely God’s name, without the least necessity, in almost every two or three sentences. I asked her if she knew what was the meaning of expressing God’s name in the way she was doing. She did not know. And when she understood that it meant calling God to be witness for what she was telling (and she was not telling any truth), she was very sorry, and thanked me for enlightening her on the subject, and at the same time she lamented the ignorance and carelessness of her religious teachers.

A common mistake is the seeking, by the poor ignorant people, help from dervishes in cases of nervous ailments. These impostors teach that such ailments are the effect of the displeasure of the genii, and that they have the means of pacifying these invisible beings. A young lad in a distant village, who had been lying forty-eight hours quite unconscious and insensible, was being exercised by several of these unholy men in succession, without any improvement, of course, in his state. The poor creature would have been another victim to the mummeries of these men, if it were allowed a little longer, but fortunately some member of the family had sent for me. The case was diagnosed sunstroke, both from the existing signs and by the history, and I am glad to be able to say that the means I employed, through the blessing of God, brought consciousness in about six hours, and the patient sat and asked for
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food, &c., before another six hours expired. And the immediate result was that these modern prophets of Baal were crestfallen, and the Lord Jesus was exalted, for the relatives began to sing: the Lord Jesus, He is God; the Lord Jesus, He is God.

"Let me close this by telling you briefly the conduct of two women on their death-bed. The one belonged to the Greek community, and was buried in their cemetery. But her only support was Jesus in lingering illness. She was often left alone in her bare little room, but she felt the presence of Jesus was with her. She often was in want, but at such times she consoled herself by thinking of Him who became poor for her, though He was rich. Often she was in pain, but she made light of her sufferings by remembering those of Jesus. And when she was dying she was very glad that she was soon going to be with Him. For some hours before she died she was unconscious, but the sound of Jesus would make her move her eyes towards the sound as if to say she was not afraid crossing the river for He was supporting her.

"The other was a Moslem, and was likewise buried by her co-religionists. But she died almost, if not a Christian. She loved Jesus in her sickness, because she was assured that He had loved her before with a most tender love, and that He would take her into His everlasting glory, if she only accepted or believed in the offer. She would ask my catechist to read about the trial, death, and resurrection of Jesus, and she would shed tears of penitence and joy during the reading. Frequently muttering the name of Jesus, peacefully she passed away.

"These are a few instances out of many similar ones frequently happening, and I trust the Lord will more abundantly bless our humble instrumentality, as well as all similar instrumentalities throughout the world, and thereby hasten the coming of His Kingdom on earth."

DR. WENYON'S IMPRISONMENT.

The following letter from Dr. Wenyon, from the Methodist Recorder, will be of interest to our readers:

SEVEREK, MESOPOTAMIA, Nov. 19, 1894.

MY DEAR —

I expected to have been far beyond the Turkish empire by this time, but have been seriously delayed by unexpected difficulties.

On Saturday, November 3, I crossed the Euphrates and entered the town of Birededjik. Rev. C. S. Sanders was with me, a missionary of the American Board, long resident in Central Turkey, whose missionary duties occasionally bring him to this neighbourhood. We had selected our lodgings, and were anticipating the refreshment of a quiet Sabbath's rest after a hard week's riding, when one of the Turkish officials came in to see who we were. Mr. Sanders was known to some of the people in the town, but I was, of course, a perfect stranger. The official said that I must go with him to the governor of the town. Mr. Sanders went with me. The governor was sitting on his mat on the floor smoking his nargila, and if he had been the Sultan himself he could not have received us more haughtily. "Where do you come from?" he asked me, "and where are you going?" "I have come from London," I said, "and am going through to the Persian Gulf." I produced my passport and other papers in proof of what I said, but the obstinate old Turk tossed them from him with disdain and said, "I don't believe a word you say—you must go to prison."

I was once arrested by the Russians when crossing their frontier, and detained for several days, but they did not send me to prison, and treated me perhaps as politely as they could under the circumstances. The Turks put less restraint upon their despotism.
There was no charge whatever against me, true or false. The governor bitterly hated the English, because of their supposed sympathy with the persecuted Armenians, and having now an Englishman in his hands he had an opportunity of giving practical expression to that hatred. I learned afterwards at Aleppo that he informed the high officials there that I might be an Armenian revolutionary, for as nothing whatever was known about me all things were possible in the way of discovery, and I might prove to be an Armenian revolutionary or anything. I am told he still believes that if he could have kept me in prison a few months, or years, he would have been able to discover something against me.

I protested against being sent to prison in this way, but in vain. Mr. Sanders offered bail for me, but it was not accepted, and so to prison I had to go.

Turkish prisons, even in the capital, are not models, but they are palaces compared with the vile holes which serve for prisons in remote interior towns like Birejjik. There were four large cells, opening by large iron-barred doors and windows on to two small yards. Capital offenders, brigands, murderers, all were confined in the cells, being allowed to walk about the yard only during certain hours in the day. The less heroic type of prisoners—swindlers, debtors, &c.—were kept night and day in the prison yard.

There were about a hundred prisoners in this jail, a large proportion of them being notorious criminals who were to be sent on to the large metropolitan prison at Aleppo. A strange company we were—Kurds, Circassians, Turcomans, most of them robbers, and not a few convicted murderers as well. One important robber chief was there who had at different times killed eleven soldiers who had attempted to arrest him. On the day after my arrival a band of seventeen desperate looking villains were brought in heavily manacled. They had been ringleaders in the terrible massacre of Christians at Moosh, not less than six thousand having been brutally murdered in one night. Our Moslem guards felt more than half inclined to apologise to these slayers of "the Christian dogs" for their imprisonment. They told them that they had not been arrested by the will of the Sultan, but at the request of the Queen of England, and these grim ruffians felt perhaps a sort of sullen satisfaction at finding that a subject of the monarch who had suggested their arrest was a fellow-prisoner with them.

Mr. Sanders did his very best to help me, and even offered to stay in the prison with me, but this, of course, I could not allow. He sent blankets for me at night, and as I had no bed, no board even, or boarded floor, I spread the blankets on the bare earth and stones. Sleep, however, was impossible, except for a few moments at a time. The prisoners did their best to make the night a time of revelry. One man, a notorious murderer, stood at the window of his cell and crowed like a cock at the moon. The others simultaneously, each in his own language, yelled and screamed and shouted their various robber calls. Once they fought like wild beasts, and the poor soldiers left on guard at night dared not go in to stop them. This uproar continued far on into the night, but usually by about one o'clock in the morning my fellow-prisoners were exhausted and went to sleep. Then all was still, but by that time the vermin, with which the dust in which I had spread my blankets teemed, had got full possession of me, and I was kept occupied till morning.

Mr. Sanders sent my meals to the prison, but the circumstances of that miserable dungeon were no more conducive to appetite than sleep. There was a foul smelling open drain in the middle of the yard, one man was lying sick, with what appeared to me to be typhoid fever, others were shivering with ague, and I only wondered how anyone could possibly live there and be well.
Had not Mr. Sanders been with me I might have been kept in that prison for an indefinite period, for I was arrested so suddenly that I could not have communicated with either friends or Consuls. Mr. Sanders set the wires at work for me, and as telegrams of inquiry from the high officials began to come to the governor respecting me, he thought it would be safer to send me on to the capital. Accordingly, on the morning of the fourth day I was suddenly informed that I was to be sent on as a prisoner to Aleppo, and must start at once. I rode on horseback between two mounted guards. One of these was a Plevna veteran, who wore a medal on his breast, and had upon his head and face other marks more impressive, if less ornamental, of the conflicts in which he had engaged.

We rested at night in one of the miserable khans of the neighbourhood—camels, donkeys, horses, cattle, sheep, and human beings all finding shelter beneath the same roof. On the morning of the third day we reached Aleppo, and I was taken to the courtyard of the Viceroy. A few moments later the great man himself drove in, and shortly afterwards he sent for me to his room. At once he said, "You have been brought to Aleppo as a prisoner, but your arrest has been a mistake; there is no charge against you, and I set you free."

The next morning I started again, by the way I had come, back to the Euphrates and Biredjik, but I soon found that my imprisonment had done me more mischief than I thought. A few hours out from Aleppo a violent fever developed, and as I could not sit in the saddle, and as there was no shelter whatever within ten miles—nothing but bare brown desert as far as the eye could reach on every side—I had to spread my rug and lie down upon the sand and stones. Riding and resting by turns, I managed about two hours after sunset to reach a khan, where I found shelter for the night.

Some days later I again crossed the Euphrates, and entered the town of Biredjik. The officials did not attempt again to molest me, but the effects of their previous treatment of me remained, and for two days I was confined to my bed with a temperature of over 104 degrees.

The people have everywhere been most respectful to me. Whenever I enter a town or village the announcement that a hakim (doctor) has arrived brings me lots of patients. Even when lying helpless with fever at Biredjik women would persist in bringing their sick children to my bedside for medicine.

I am now hundreds of miles away from the place of my imprisonment, and right in the heart of Mesopotamia. My fever has gone, but it has left me limp and weak.

The delay occasioned by the illegal action of the Turkish officials will not be less than three weeks, but I am now, as fast as my strength will allow, pushing on towards the Tigris, which I hope to reach in about nine days. There are no boats on the upper reaches of that river, but there are rafts, and on one of these I expect for twenty days or more to drift with the current through the lovely Arab country to Bagdad. Thence I shall be able to go by steamer direct to the Persian Gulf.—With kind regards, I remain, yours very truly,

CHARLES WENYON.

BIRTH.

At Chungking, 5th Feb., the wife of C. J. Davenport, F.R.C.S., London Mission, of a daughter.

DEATH.

At Canton, on Feb. 28th, 1895, Mrs. Hager, wife of Rev. C. R. Hager, M.D., of the A. B. C. F. M., Canton.

ARRIVALS.

At Shanghai, Jan. 4th, J. R. Wilkinson, M.D., wife and three children, for Southern Presbyterian Mission, Soochow.

At Shanghai, Jan. 31st. Julia M. Donahue, M.D., for M. E. M., Foochow.
At Shanghai, 15th March, Dr. and Mrs. Bennett, for L. M. S.

At Shanghai, 23rd March, Dr. Malcolm (returned), for Can. Presbyterian Mission, Honan.

DEPARTURES.

From Hongkong, Jan. 20th, J. A. Otte, M.D., wife and four children, of the American Reformed Mission, Amoy, for U. S. A. (Grand Rapids, Mich.)

From Shanghai, on 23rd Feb., Dr. and Mrs. Parry and five children; and two sons of Dr. Main, for England.

From Shanghai, 9th March, Dr. Marie Haslep, Am. Epis. Mission, for U. S. A.

From Shanghai, 11th March, Dr. Pruun and child, of C. I. M., for England.

OFFICIAL NOTICES.

The following gentlemen have been duly elected members of the Association:—Francis E. Nieberg, M.D., Univ. of Michigan, of the A. B. C. F. M. Mission in Foochow, and W. F. Seymour, M.D.; also Dr. Chas. A. Oliver, of Philadelphia, to the honorary membership.

The following officers have been elected:—

Vice-President, North China Division:—S. S. McFarlane, L.R.C.P. and S.E.

" Shanghai Division:—Percy Mathews, M.D., F.R.G.S.

" Canton and South China Division:—Chas. Wenyon M.D., M. Ch.

Censors:—W. Wilson, M.B., C.M., L. H. Hoag, M.D., G. A. Stuart, M.D., K. C. Woodhull, M.D.

H. W. Boone, M.D., E. Reifsnyder, M.D and J. Frazer Smith, M.D., who were respectively elected to the posts of Secretary and Treasurer have resigned, and votes are now called to fill up these two offices.

SYDNEY R. HODGE, M.R.C.S., L.R.C.P., (Eng.)

(Sec. pro. int.).

NOTICE.

The Editor is anxious to make a full and useful index of all the back volumes of the Magazine. As such a work can only be undertaken by mutual co-operation, being too tedious for any one busy man, he invites all who are willing to share in the task to communicate with him at once.