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TWO CASES OF ABDOMINAL SURGERY.

Cancer of the Rectum. Iliac Colotomy.

By W. J. Milles, M.D., F.R.C.S., Shanghai.

A woman aged 50 was admitted into the Chinese Hospital, Shantung Road, on 8th April, 1893, with a history of having suffered for the last two years from constipation, with increasing difficulty and pain in defecation. She was thin, and had a pale pasty complexion. The motions were passed with great straining, and were scanty and covered with blood and pus; the abdomen was swollen and tympanitic. The rectal mucous membrane was everted and deeply congested; on introducing the finger, a firm nodular mass was felt about an inch and a half from the anus, and there was a rectal stricture that would only admit a medium sized catheter. This was slowly dilated, and at the end of a few days the fore-finger could be passed, but the upper limit of the tumour could be felt neither by the rectum nor the vagina. The tumour was probably a columnar celled epithelioma; it had not the hard feeling of a scirrhus cancer. As its upper limit was not accessible, the question of excision of the rectum was excluded. Colotomy was the only alternative, and iliac colotomy was decided upon, as its superiority to lumbar colotomy seemed to be evident through recently improved methods of operation.

I followed the details described by Mr. Harrison Cripps, taking an imaginary line from the anterior superior spine of the ilium to the umbilicus: the incision, which is two and a half inches long, crosses this line at right angles, half above and half below, being an inch and a half from the superior spine. The colon appeared directly the peritoneum was divided, and was drawn into the wound. Mr. Cripps says:— "In order to avoid the prolapse which is likely to occur if loose folds of the sigmoid flexure remain
immediately above the opening, I gently draw out as much loose bowel as will readily come, passing it in at the lower angle, as it is drawn out from above. In this way after passing through one's fingers an amount varying from one to several inches, no more will come." This manipulation was carried out, but when three or four inches had been drawn out, the bowel was found to turn downwards towards the pelvis, so that the part which apparently led upwards to the descending colon, was really connected with the rectum, owing to a half turn made by a coil of the gut. I had therefore to retrace and attach the other end to the abdominal opening. This complication is of small importance in an ordinary inguinal colotomy, but would probably prove fatal if it passed undetected in a modification of the operation, where it is advised to divide the bowel completely, stitch up the lower end, and return it to the belly. The parietal peritoneum was now attached to the skin, and the colon fixed in position by a number of fine stitches, passed through the lower longitudinal band on one side, and close to the mesenteric border on the other; two-thirds of the circumference of the gut were thus included between the sutures. Through the abdominal incision a part of the tumour could be felt, reaching along the bowel nearly to the upper level of the pelvis. The wound was covered with protective, and an antiseptic dressing firmly applied.

Five days after the operation the bowel was opened and the part between the sutures was cut away with scissors. It had undergone considerable oedematous thickening. Three days later there was a passage of faeces through the artificial anus; from that time none passed by the rectum, the removal of two-thirds of the circumference of the gut forming an effective spur.

The woman made an uninterrupted recovery, and left the Hospital in a fortnight, with a firm pad over the opening. Some weeks after I was informed by her friends that a large part of the bowel was projecting from the wound; she was brought to the hospital again, but there was no vestige of prolapse, in spite of the fact that all bandages and pads had been discarded. Her health had greatly improved. She had a regular action of the bowels every day through the artificial anus, and she was free from all pain.

Six perforating wounds of the small intestine, with recovery.

A lad aged 17 was brought to the Hospital at 8 p.m. on the 30th March. There had been a quarrel with some other boys, while they were kite-flying. He had been stabbed in the belly between four and five o'clock. He was taken to the Sinza village near Shanghai, and later on to the police station; from thence he was at once carried to the Hospital. The knife with which he had been stabbed was dagger-shaped, with a blade fully five inches long.

There was a perforating wound of the belly extending 4½ inches from the upper part of the left lumbar region downwards and forwards to the middle
Two Cases of Abdominal Surgery.

line, the small intestine was hanging out in numerous coils, covered with dirt; bleeding was occurring from the deep part of the wound. The lad was collapsed and almost pulseless, and had evidently lost a large quantity of blood. He was placed on the operating table, and chloroform was administered, towels soaked in a warm solution of carbolic lotion being wrapped round the protruding gut. All dirt was washed away by irrigation and careful sponging; the greater part of the haemorrhage came from a divided branch of the mesenteric artery, where the bowel had been wounded close to its mesenteric attachment, and was easily controlled by a ligature. There were found to be six perforating wounds of the small intestine, of different sizes. Some of them being two inches long. They were all sutured with a plain sewing needle carrying fine silk. Halstead's plain quilt suture was employed: it is a modification of Lembert's interrupted suture, and is more rapidly applied than Lembert's, as only half the number of knots are required. The needle is passed at right angles to the line of the wound, and close to its edge, picking up a fold of the serous and muscular coat, and if possible the tough submucous coat, about one-tenth of an inch wide; it is then carried to the corresponding spot on the other side of the wound, a similar fold being taken up. The next stitch passes back in the reverse manner, the silk is cut long, and a loop thus formed, including four stitches, two on each side. The ends of the loop are conveniently held in pressure forceps, and not tied till all the stitches have been introduced. With a little practice the coats of the bowel can be picked up rapidly and safely, without any risk of perforation by the needle: there should be about ten stitches to the inch: in some of the larger wounds as many as twenty to twenty-five were required. There were two wounds at the mesenteric attachment of the bowel, which gave a good deal of trouble, as it was found difficult to obtain accurate adaptation of their edges: but even in these there was complete invagination of the margins of the wound, when the loops were tightened up: the serous coat coming at once into close contact. Sponges were now insinuated between the coils of intestine, and some blood removed from the lower part of the pelvis: the peritoneal cavity was not irrigated. The protruding bowel had a final washing with warm carbolic lotion (1-100), and was returned without difficulty. During the process of suturing the wounds a large round worm was felt in one of the coils of the bowel, and passed some days afterwards. There was some delay in firmly uniting the wound of the abdominal wall, as the oblique thrust of the knife had divided the muscles to a much wider extent than the skin. Eight silk worm gut sutures were introduced, passing through the whole thickness of the parietes, and including the peritoneum. Two of these had to be entered where the skin was undivided and produced some temporary puckering.
The patient was kept under the influence of opium, and only water was given for the first 24 hours. The temperature remained normal, but the pulse was rapid for some days; food was given cautiously and in small quantities at first; an action of the bowels occurred on the 5th day, and the stitches were removed on the 10th day. The wound had healed in a fortnight, with no signs of bulging, and recovery was complete in three weeks.

HINTS ON THE CANADIAN PACIFIC ROUTE TO ENGLAND.

BY W. T. A. BARBER, M.A., LANCESTON, ENGLAND.

The following pages will be of little use to American missionaries; but an increasing number of English missionaries with their families will be using the Canadian Pacific Route home, and to most of them the countries traversed will be so new that they may save inconvenience and expense by a few hints from the experience of one of their predecessors. It has been suggested to me that a few notes which I sent for the use of my own mission would find a fitting place in the pages of the Medical Journal. My own return in the early summer of 1892 was owing to the continuous ill-health of my wife and I was actually in charge of an invalid all the way to England.

We started in May, and remained over a steamer in Japan, landing at Kobe, travelling by land to Yokohama, and there joining the next boat. The C. P. R. are in this matter of "stop-overs" as in every other most obliging; the times and arrangement of the journey being practically absolutely at the wish of the passenger.

Of Japan as a sanitarium there is scarcely need to speak here. After such a climate as ours in the Yangtsze Valley it is a splendid restorer. Expense will be a main consideration with all missionaries. If possible one should aim at hill-life, such as that at Arima or still better tent-life, such as that of the A. B. C. F. M. on Hieizan near Kyoto. The latter of course is only available through the kindness of private friendship. If a higher but still moderate expense be possible, I most strongly recommend the perfect comfort, good table, luxurious baths and glorious scenery of the Fujiaga Hotel at Miyano-shita—terms $2.25 to $3.80 a day. It is 1,400 feet above the sea, and easily accessible from Yokohama by train, tram and jinricksha or kago. Hakone with its delightful lake is 1,000 feet higher and beyond; but here are only Japanese houses and Japanese talk. Japanese servants would be needed mostly and the expense need not mount to more than $1 to $1.50 a day.
Hints on the Canadian Pacific Route to England.

On Arima, referred to above, a further note may be of use as it is so near China—a few hours' ride from the first station out of Kobe. The Japanese hotel will provide very fair food for visitors whose quarters are in little Japanese houses scattered about the village, at a similar cost to that of Hakone. A sort of annual religious convention held there will be an attraction or deterrent according to varying ideas of what is profitable for health.

On leaving Yokohama for Vancouver it is well to remember that in June, one day out from port it is quite cold; ulsters and rugs being needed. Cabins on the maindeck are usually very airy and comfortable; those on the upper deck are not suitable for ladies, and the passages outside then are almost too cold.

On the land journey across Canada light clothing is essential; cool nights are however the rule except in the extreme east.

At Victoria the agent comes aboard and receives the wishes of passengers as to their route. Then at Vancouver he gives a bundle of tickets according to that chosen. I should advise taking the lake steamers from Fort William to Owen Sound as a relief to the monotony and strain.

Baggage not wanted before the Atlantic can be bonded through to Montreal or New York. Baggage checks presented after two months' interval identified my packages and a small payment for stowage liberated them. Trunks containing what is wanted in the journey can be carried in the luggage van; but it is well to have a small bag containing just what is wanted for the night in the cars and nothing else with one. Be careful to pay a lump sum in Shanghai for sleepers and meals across the continent. The saving in trouble is endless and in money considerable.

The meal tickets thus bought give three good meals a day, valued at 75 cents each. Sometimes one feels this too much, and at certain stations one can get out and take a 25 cent cup of tea instead of a meal. No money is however refunded on meal tickets. If in the railway hotels in the Rocky Mountains you find that they will accept meal tickets in part payment of bills it would be wise to use a few thus. If the passenger go by lake steamer the meals are provided on board and this gives a further overplus of meal tickets.

A passenger stopping over at any railway station should always give the station master a day's notice of need of a sleeper on resuming the day's journey.

I should advise stops-over at North Bend, Glacier, Field, and Banff in the Rocky Mountains. Other places according to taste; a stop-over at other places between the Rockies and Toronto (save Winnipeg) involves the sacrifice of the ticket for the sleeper.

At the three first places named above there are charming little railway hotels at a charge of $3.00 gold per diem. At Banff the Railway Hotel is
large and more expensive. I found the Grand View Hotel at Banff homely and really very comfortable. Its ordinary charge is I believe $2 a day, and special terms are made for long stays. These places are all from three to six thousand feet above the sea with magnificent scenery. The mosquitoes are worse than in Hankow!

As a whole this is not a route for young children or much baggage.

The first class ticket Shanghai to London includes first class across the Atlantic. This is said to be worth $100, but is really less. The big lines, Cunard, White Star, etc., charge extra for their outside cabins. With a family I think a slower line (e.g. from Montreal) would give more comfort. The C. P. R. agents will telegraph for passengers from Vancouver, Winnipeg or elsewhere securing passages by any particular boat, but of course one has in that case to take one's chance of cabins. If there be time the best way, especially for single men, is to go to the Atlantic office oneself, choose cabin, then in payment hand in the exchange order given at Vancouver. Otherwise they rather fight shy of exchange orders for good berths; no doubt there is some discount in their value.

Most people will be wise, even at some considerable addition of expense, to spend some little time over the land journey, it is a life-long memory. But it mustn't be forgotten that the heat in the plains is something overpowering. Hotels grow more expensive further East; but with care comfortable hotel accommodation may be generally obtained for an average of $3 a day or so. Really good hotels in Toronto, Montreal and especially New York are decidedly dear.

A CASE OF DECAPITATION.

By JAMES A. GREIG, F.R.C.S., Edin., Kirin.

Early on the morning of July 22nd I was called in to a case that presents some points of interest. The messenger sent for me exhibited more than usual eagerness for me to render assistance and for a callous Eastern seemed highly excited. He stated that a neighbour's wife had been in labour for two days and three nights and was now nearly dead from exhaustion; that the midwives had succeeded in delivering the body of the child but that they could not extract the head that the husband of the woman in sheer desperation had severed the body from the head and now the head had retracted beyond reach.

I hastened on horseback to render help, taking such instruments and lotions as I considered likely to be required, my two native assistants accom-
panying me. The patient's home we found to be a miserable one-roomed house in a densely populated part of the city, but fortunately the neighbours were friendly and curbed their natural curiosity at seeing the foreigner feeling that the serious crisis had been reached. If the strange doctor cannot save her she must die. The patient I found to be a short muscular woman of 28. Breasts and chest were well developed. No apparent signs of mal development, deformity or strumous disease. She was lying on the left side on the brick bed groaning heavily when I entered, her aged mother bending tenderly over her keeping a swarm of flies from settling on her face. Her husband informed me that this was her second confinement, but that the previous child had been delivered with the utmost difficulty after a long labour, dead and much contused. He said that the previous evening after the midwives had used great force to extract the head, but which would not move, he severed the neck with scissors. I asked to see the body and on it being produced I found it had been severed about the 4th cervical vertebra. The body seemed small for a full time child but was otherwise normal.

Proceeding to examination the conditions discovered were: Pulse 84 fairly strong. Respirations rapid with groaning. Not the expulsive screams of a normal second stage.

Abdomen enlarged and somewhat tense as if from fluid—very tender, I presume from the belabouring the midwives had given it. The child's head could not be palpated though there was more sense of resistance below the umbilicus. The lacerated cord made fast to an old shoe I then discovered under the coverlet. Tracing it up the vagina I made out the sacral promontory very low down and not more than two inches from the symphysis pubis. With two fingers I reached what I took to be a partially dilated cervix pretty high up. This however I found on introducing the whole hand into the vagina not to be the cervix but the remains of the child's neck. The cervix was fully dilated and the cord could be traced up behind the stump of the neck. As I could feel the cervical vertebra my diagnosis was now sufficiently definite. Accordingly chloroform was administered. Whilst this was being done the room was disinfected with Condy's fluid as well as possible. This cleared the room of the sickening smell coming from the yellowish green putrid discharge which was coming away. Hands and instruments having been well carbolized as a preliminary I introduced the catheter and was not surprised at drawing off a large basinful of urine. This relieved the tenseness of the abdomen considerably and while pressure was made by a bandage I again introduced my whole hand into the vagina and this time managed to reach the child's head. Not having a hook however I could not get a grip of it and had to give it up and send off one of my assistants for a hook. In about an hour he came back unable to find it, but with a volsella and a pair of
oesophageal forceps. With these I tried again and soon succeeded in steady-
ing the head with the volsella whilst I perforated the skull and crushed.
Gentle pressure above and traction from below delivered the head—the
placenta following immediately. As there was no bleeding whatever I suppose
the placenta had been separated previously. Keeping up pressure over the
lower part of the abdomen I then washed out the uterus thoroughly with hot
hydrarg perchlor: 1 in 5000 and made the external genitals as aseptic as
possible placing a pad of carbolized wool to catch the discharges. A hypo-
dermic of ergotine was administered to strengthen the uterine contractions
and powders of five grains each salicylate of soda and quinine ordered to be
given three times a day.

Nothing noteworthy was observed in the head or the placenta.

The after history was disappointing yet not surprising. All went well
for the first week, according to the patient’s husband, who came every second
day to report. He was well supplied with antiseptics for washing the
external parts, and morphia was given occasionally, when the after pains were
severe. My assistant visited her and reported her doing well. On the tenth
day however the message brought was that she was suffering from diarrhoea
and pains in the abdomen. From false delicacy, fearing to run contrary to
the Chinese prejudices regarding male attendance in such cases I did not go
myself to see the patient till the twelfth day. I then went because the
symptoms did not seem to be improving, not fearing any serious complications.
How saddened, disappointed and humiliated I felt when I found her in a
deplorable condition of filth and neglect. The room was smelling. The
discharges had excoriated the thighs, vulva and buttocks. There had been no
attempt at keeping her clean and she was in high fever with pulse 100
per minute and abdomen tympanitic and painful on pressure. Her only
chance was clearly again to wash out the uterus, and if possible arrest the
sapræmia. This I did at once, and in doing so discovered that a vesico-
vaginal fistula had formed, probably from the long continued pressure of the
head causing sloughing of the anterior vaginal wall. The antiseptic used was
again hydrarg perchlor : 1—5000. She recovered from the operation well and
I expected she would yet be saved. She sank however and died the following
morning.

I cannot but reproach myself for not insisting upon seeing the patient
myself daily till she was out of danger, and thus preventing being misled by
the favourable reports brought from day to day by her husband.

If this lesson makes me more careful in the future, and the recording of
it is of any service to my brother medical missionaries, perhaps some other
poor sufferer in this suffering land may reap the benefit.
ABSTRACT OF AN ADDRESS ON CHOLERA NURSERIES
AND THEIR SUPPRESSION.


By Mr. Ernest Hart.

I claim to have now established on an overwhelming basis of evidence collected from every part of Europe the dicta—founded upon the original investigations by Snow and Simon on the British epidemics of 1848 and 1854, and by myself and Radcliffe of the East London epidemic of 1866:

1. "That cholera is a filth disease, carried by dirty people to dirty places, and diffused by specifically poisoned water."

2. "That you may eat cholera and drink cholera, but you cannot catch cholera."

3. "That cholera may be considered for all practical purposes as an exclusively water-carried disease, and that it is carried only by water poisoned by human discharges."

I may venture to add that these plain propositions are essential British additions to our public health knowledge; that they have rid England of the panic formerly excited by the approach of cholera, and have pointed the way to the measures by which she and other countries may be rendered insusceptible of cholera. Cholera can find no lodgment where the whole of the potable water is absolutely pure and unpolluted.

I do not stop here to defend these propositions. The proofs—the overwhelming proofs—are set out in the analysis of every European epidemic since 1848, and having recently been endorsed by the American Medical Association at Milwaukee, at the close of my address "On Cholera, a Water-borne and Preventable Disease," and forwarded with their endorsement to all the sanitary authorities of the United States, they may be considered to be pretty universally accepted on both sides of the Atlantic.

They received their last crowning proof at Hamburg, Altona and Niethalben, which paid a terrible penalty for continuously neglecting them; and are now being rewarded by relative immunity for having tardily and lazily acted upon them.

To rely upon quarantine or medical inspection for the prevention of cholera is to

Bolt the Gate with a Boiled Carrot.

At such a bolt and bar commercial egotism laughs, and the needs of commerce and of modern travel snap it at every port. Neither quarantine nor medical inspection ever yet kept out cholera successfully for any length of
time. It is a sieve and not an armour plate, a pervious stockade and not an impregnable wall; cholera will creep under it and climb over it, outflanking the cordons and the custom house officers who man the walls.

We should be in a parlous state—spite of all our precautions at our ports—if we had not spent more than a hundred millions during the last twenty years in waterworks and drainage works to purify our water and soil. France, Spain, Italy and other Continental countries have learnt this lesson from us slowly, and owing to their neglect of it, and according to the measure of that neglect, have since 1866 been successively subject to fearful ravages of cholera epidemics, from which we have during all that time (without much port inspection, or with none at all) been free.

The extinction of cholera as a European epidemic is an object which I believe can be attained without no great difficulty, and I predict will be attained within no great distance of time. Two ways are open, both of which can be simultaneously followed. The one is to render the European countries impervious to its incursions by universal and close attention to the purity of the drinking water. Wherever this is not attained and the civic sin is committed of supplying suspicious or polluted water to the population, the habit of boiling it should be universally inculcated. This would have saved Worthing from its epidemic of typhoid, and would now stop the extension of that epidemic.

But pending the sanitation and purification of the European water supply (and that work is very far from complete, even in Great Britain), there remains another way of keeping off cholera, on which I venture to bring before you to-day some details and propositions, which I am inclined to hope you will consider of international importance, and worthy of the attention of our own and other governments.

The Stronghold of Cholera and its Sally Gates.

So long as the whole of Europe and America lay themselves open to the incursions of cholera and its ravages by maintaining certain sanitary neglects, we should act wisely by tracking it to its lair and dealing with it there, instead of relying on any such measures as fumigation, railroad or frontier quarantines, "libations and sprinklings" with antiseptic powders and fluids—all vain ceremonies and mere sacrifices to popular ignorance and prejudice; the idolatrous homage which dirt pays to cleanliness.

Cholera has its entrenched fortresses and its sally gates. The advent of cholera is no longer mysterious, nor are the ways and incidents of its diffusion unknown. It is a man-created epidemic, carried along the lines of human communication. Its home is in India, and its gathering grounds and sally gates are the Indian fairs and the Meccan pilgrimages. Its routes are mainly
two: one across the Caucasus, through Russia to the Baltic ports, and thence westward, either directly or through Hamburg—a frequent distributing agency; the other through Mecca, by pilgrim caravans and boats, via Suez to Europe. We used to talk of thunder as mysterious, and of cholera as a visitation of Providence, in face of which man is powerless. The latter is a piece of presumptuous ignorance clothed in the guise of religion.

We are all-powerful against the propagation of cholera now that medical investigation has ascertained the methods of its diffusion; far from its being a disease which comes by Providence and goes by drugs, it is one which comes by neglect, travels by caravans and steamers, and railroads; is propagated and fostered by man in its areas of chronic prevalence, and is carried by man along definite and well-known lines of human intercourse. To observe this for yourselves, you have only to examine the maps which I show you. I now propose to you

A Working Plan of Campaign, with Detailed Directions against Cholera in its Stronghold and at its Gates of Issue.

Mr. Hart then drew attention to

Cholera, and the Perennial Danger

caused to Europe and the world by the insanitary state of Mecca. Cholera could only advance from India to Europe by stages, and Mecca, with its thousands of pilgrims coming and going every year, was a half-way-house, an advanced post, a base of attack which gave cholera a great advantage, and which left Europe constantly exposed to its incursions. Great misapprehension had existed as to the mode of diffusion of the disease.

Cholera had been spoken of as

A Water-borne Disease,

and people had chosen to interpret that as meaning that it floated down rivers; nothing could be more inaccurate. By this phrase I mean, said Mr. Hart, that it is caused by a living poison, which is swallowed, and which, in 99 cases out of 100, is carried to the mouth in water. Within the body this poison grows, multiplies, and in its growth causes the disease, in the course of which it is discharged, and is then ready to take up the other phase of its life, to grow in damp earth, to breed in dirty water, to be washed by rain into watercourses, to soak through porous soil into wells, in some rare cases, perhaps, where cholera is very rife and filthy habits are over-abundant, to be blown by gusts of wind or carried by the hand into food, and thus, by one means or another, but in an infinitely large proportion of cases by means of water, to get round to another person's mouth, to be swallowed, and again set
up the whole cycle of events. It is not a mere matter of rivers and water-sheds but of cooking utensils, drinking cups, water bottles, and especially of cisterns and reservoirs. The disease is water-borne, because it is carried by water to the mouth, but that is only the last stage of a journey, circuitous and often difficult to trace, by which it has travelled from its past to its present host. Inside the body the poison passes quickly from the mouth to its exit, often killing the patient in its passage; outside its course is halting, erratic, various in manner and intensity, depending largely on the physical surroundings in which it finds itself (the soil, the water, the temperature) by which oftentimes it is destroyed or amid which it dies out; but if it lives through its adventures and lands again in the body of a man susceptible to its influence, then again it has its chance and sets up afresh the whole disease. If we fully grasp this conception of the malady facts fall into their places. The seasonal curve becomes a curve depending on the proper heat and moisture requisite for the development of the most active outside life of the contagion, on thirst causing large drinks, on scanty and therefore foul water, on rains washing accumulated filth into the tanks and watercourse, on a mass of physical causes, and not on the spread of an "epidemic influence." The varied susceptibilities of individuals point to varied powers of digesting, and thus destroying the contagion, and the greater liability of some nations to be attacked depends on their greater willingness to drink faecally-contaminated water. Truly cholera is a filth disease.

The region of the Lower Ganges is

_The Home of Cholera._

but that is largely in consequence of the habits of the people, and their constant use of foul water for drinking purposes.

_The Hindu Fairs: Hotbeds of Cholera._

Mr. Ernest Hart described the fairs and bathing festivals which are such a marked feature in Hindu life, and pointed out their influence in disseminating disease. They are annually frequented by thousands of pilgrims. Nor are these merely local worshippers, drawn only from the great water-shed which the Ganges drains. Wherever the Hindu faith extends there the legend of the Ganges is believed, and so from every village in India come pilgrims to the holy stream, bringing with them germs of such diseases as may then happen to be epidemic in their midst, or taking back with them to their villages such infections as they may pick up at the holy place. The fair is not only an exchange for merchandise, it becomes a veritable clearing-house for contagion, to which each brings what he has and takes away what he can carry.
Many illustrations were given showing how disease was transported into distant villages by returning villagers. At these fairs and festivals the very aim and object of their pilgrimage is to bathe in the sacred river and drink of its holy waters. Is it then to be wondered at that they suffer? Amid so great a crowd, largely drawn from the "endemic area," some one or other is sure to have the cholera and to foul the stream, giving to those who drink the fetid water in hope of sanctity an infection which quickly brings about their death.

The pilgrims, however, are not the only sufferers. Soon after the festival is over they are scattered to the four winds of heaven, carrying with them the infection. Some drag their weary bodies homewards till they drop by the wayside and die; others by boat or train are carried to distant parts, where, if they do not die en route, they set up fresh foci of disease, from which infection spreads amongst their neighbours. Hardwâr fair is by far the chief disseminator of cholera.

The danger attaching to these vast gatherings at Hardwâr, and especially to the great Kumbh fair, is very real. Regarding them a sanitary commissioner says that previous to 1867 "very little remains on record, but that little is

A Record of Disease and Death."

In 1867, and again in 1879, the festival was followed by an outbreak of epidemic cholera, which, on the latter occasion, rapidly extended to the western districts, and, in its extreme virulence, carried off large numbers of the hill people.

The Great Sanitary Experiment of 1891.

A grand experiment, however, had been tried in 1891. A definite attempt had been made to deal with one of the greatest, and hitherto most dangerous, of these fairs, the Kumbh fair at Hardwâr, on sanitary principles, and to see whether by that means it could be prevented from becoming the starting point of further mischief. Mr. Hart gave a picturesque description of the proceedings at the fair, and stated in detail the sanitary and administrative precautions which were taken, the extent of which will be best appreciated by the fact that although the fair did not take place till April, the preparations were commenced in the preceding December, and that at the time of the festival, besides Bengal cavalry, upwards of 1,000 police were on duty to keep order, that there was a large sanitary patrol always inspecting the town and camp, and that a force of 1,342 sweepers was engaged for conservancy purposes, and eight temporary hospitals erected. When the trial came
Cholera was prevalent in the eastern districts, and cases were reported from the pilgrim centres of Benares, Fyzabad, and Allahabad during the period of the fair. The pilgrims coming from cholera-infected districts brought the infection with them, and two people died of undoubted cholera at Hardwar during the most crowded period, but they were promptly isolated, and the infection did not spread. No more cases arose in the town or camp, nor did the disease develop on the track of the dispersing pilgrims. And thus we had the novel experience of a Kumbh fair at Hardwar without an epidemic of cholera spreading all over the surrounding country concurrently with the dispersion of the gathering.

*The Perils of Mecca, and the Remedy.*

We must now, said Mr. Hart, turn our attention to another great religious festival. A different religion, a different people, a concourse drawn together from a far wider area, but one which, like the Hardwar fair of old, has become a focus and a diffusion point of cholera—a cause of death and disaster to the pilgrims and of danger to the world.

Mohammedanism is not dead, and Islam still remains the faith of two hundred millions, or fourteen per cent. of the human race; a faith which is absolute and obedient, and which leads intelligent men—men of position, and whose lives are cast in pleasant places—to suffer pains and discomforts which to an ordinary dilettante Christian would be absolutely intolerable, rather than break the Commandments.

Amongst the ordinances, which to the faithful are commands, is that of pilgrimage to Mecca. From Turkey, from a belt of country extending eastwards across Asia to the furthest confines of Malay and from the whole of Africa, pilgrims set out every year, turning their steps towards Mecca, in obedience to this command.

*Some fall sick, many die.*

From about 60,000 to over 100,000 each year attain their end, months, and sometimes years, having been devoted to the task, and sufferings and hardships undergone which it would be difficult to describe.

The city of Mecca is mostly modern, having been frequently devastated by winter torrents from the hills around; the streets are, for an eastern city, broad and airy, but unpaved and filthy. Drainage does not exist; water there is in plenty. The population is about 60,000, and is mainly supported by the proceeds of the annual pilgrimage and by the manufacture of sacred relics. Compared with the problem of dealing with an Indian fair the purification of Mecca would seem by no means an insuperable difficulty. Clean dry rocks,
pure water, and a blazing desiccating sun, are the materials on which we have to work; man, and man only, is the difficulty. No infection need defile the water, which constantly flows through the underground conduit from the mountainous district beyond Arafæ; no local disease need reappear in the food, which all comes from afar; no difficulty need be found in dealing with excreta which, buried in the sand, quickly dry up into a harmless powder, and might be made by degrees to fertilise the arid soil. The inhabitants, however, choose to live crowded together, and to surround their houses with refuse and filth, they choose to foul the water supply, and from immemorial usage they regard the pilgrims as victims to be fleeced rather than as co-religionists to be protected. The result is that while Mecca may be well enough suited for the Meccans in ordinary times, it is not in any way prepared for the strain which comes upon it during the annual pilgrimage, and if a disease such as cholera be then introduced, it straightway

*Spreads like Wild Fire.*

If however we inquire how it spreads, by what means the infection is distributed, we find that here, as in India and everywhere else, the main factor, the constant cause, is the drinking of cholera polluted water.

*How Cholera is spread there.*

The proceedings of the pilgrims themselves, the ritual gone through by them during their stay, none of which they like to miss, little as its meaning may be understood, also tend to the spread of the disease, if once it be implanted among them. The march to Arafæ, the night spent there in devotion, or in the crowded coffee booths, the “stand” by the Hill of Mercy, the rush to Mina, the sacrifices, the intolerable stench from the thousands of slaughtered animals, the “tawaf” or seven-fold circuit of the sanctuary, each of the many thousand pilgrims kissing the black stone as he passes, the blazing heat, the intolerable thirst, the religious fervour which leads them to accept everything as holy which belongs to Mecca, all drive the unfortunate pilgrims to the consumption of the vilest fluids under the name of water. The natural functions must be attended to, the ground is defiled, there is no attempt at conservancy, the wells are poisoned by filth, and if that happens to be choleraic, cholera breaks out.

*The Well Zamzam.*

One of the observances is especially dangerous. Next to the Ka'ba, the principal point of interest in the Mosque is the Well Zamzam (Well of Hagar), a deep shaft said to be the source from which Hagar drew water for her son Ishmael. The pilgrims are many, the well, however, is but one, and its water not plentiful at the best. Yet everyone wishes to drink and to bathe in these
miraculous waters. Each pilgrim in turn, stripped to the waist, stands beside the well while a bucket of the water is poured over him; of this he eagerly drinks as it flows from the bucket, the rest flowing over his naked body, soaking through his loin cloth, and streaming back into the well—to be used again. His place is immediately taken by another, and another, and so on,

Each drinking the Washings of the Rest.

Can we wonder, then, that this water on analysis is found to have the characteristics of bad specimens of sewage, or that after the pilgrimage is over the roadside should be found strewn for a dozen miles with the dead bodies of the faithful, killed by a draught of dirty water, after all the difficulties and dangers they have overcome? There is a bathos about it which would appeal almost to one's sense of humour were it not so serious an affair. This is an actual business of to-day. I am not speaking now of things which happened years ago.

The Story of the Pilgrims of 1893.

From June 8th to June 25th this year there were 2,201 deaths at Mecca; and in one day, June 26th, there were 499 at Minah and 500 at Mecca, making in one day 999 deaths.

A Thousand Deaths a Day.

From June 26th to July 24th there were 499 deaths at Minah, 3,408 at Mecca, and 303 at Jidda. I have an account of the state of Mecca, written by Dr. Chaffey, an Egyptian Moslem sent by the Quarantine Board as their sanitary correspondent to Mecca, which reveals a ghastly state of things happening one may say, almost at the door of Europe, taking account of rapid steam communication. Dr. Chaffey says: "On arrival at Mecca I commenced at once an inspection in the town. The hospital, private houses, and tents were full of people suffering from cholera. I sent you by telegraph the number of deaths declared officially, but, on account of the extraordinary mortality, it must be admitted that the number of deaths could not be precisely known, and it may certainly be considered to have been double of that officially declared, even more.

The Dead lie in Heaps.

"At Moona it was impossible to bury all the dead, which lay here and there in heaps. Round about the Syrian caravan (Mahmal) there was a large number of bodies lying unburied. Returning from Moona to Mecca I found the route strewn with dead. In the town of Mecca itself dead bodies were lying about in a state of putrefaction, and when they were at last transported to the cemetery they were thrown down there, and left lying for days unburied from want of a sufficient number of grave-diggers."
Abstract of an Address on Cholera Nurseries, etc. 241

In 1891 Dr. Saleh Soubby,* the Egyptian delegate to the Hedjez, reports that out of 46,953 pilgrims who arrived by sea, only 25,253 returned, the remainder—that is 21,700—having died, chiefly of cholera.

The whole affair is horrible, the place is a slaughter-house, where the best men of the Mohammedan world are being every year destroyed. For it must be borne in mind that the injunction to visit Mecca is not imposed on everyone, but on those only who are able to devote the time, and able to provide for their families while away. We make a great mistake if we class the Meccan pilgrims with the poor, the miserable, and the helpless; the cream of the faithful go to Mecca; and as years go by, and the knowledge spreads that cholera is a preventable disease, a mere filth disease, spread by dirty customs and dirty water, Mohammedans are awaking to the fact that their best men are being gratuitously sacrificed, and from sheer ignorance and stupidity exposed to a danger never contemplated when the duty of pilgrimage was imposed upon them. But no nation, no part of the world, can isolate itself or afford to stand aloof from the rest. This is not a mere Mohammedan question—what is a danger to the pilgrims is a danger also to the world, for it is through Mecca and its pilgrims that cholera spreads to Egypt, and thus to all the ports of Europe. It is not, however, by quarantining the pilgrims and setting up a series of lazarettos, which themselves become fresh centres of infection, that cholera can be stopped, but by looking after the pilgrims' resting places, and rendering them so clean that if cholera arrive it shall not spread, and shall not set out again on its forward march.

Mecca is the Place

in which to stop the cholera. From every point where cholera can originate pilgrims set out, each of whom may bring with him the infection. All pilgrims, however, go to Mecca, where they wait time enough to trap the cholera, and render it harmless if Mecca were but a cleanly place. Again, when the days of pilgrimage are over the Hajjis set out on their return, radiating from Mecca to every quarter of the compass, and carrying such infection as they may have gained. This, however, is not now the infection which was brought from India, but a fresh generation born at Mecca, which would never have come into existence at all but for the uncleanliness of the place. Mecca then is the one place where one can put the foot down firmly upon cholera, whether coming in or going out. If the disease arrives at all it comes there one by one, but it goes out by thousands, and it is giving it an enormous start to let it get to Egypt before it is interfered with. Egypt is practically part of Europe.

*British Medical Journal, 1891, ii, p. 1370.
The China Medical Missionary Journal.

The difficulty is who is to undertake the work. The nominal ruler is the Sultan, who, being the religious head of the Mohammedan world, would probably hesitate to incur the odium of being dictated by the Christian powers in such a matter. The actual ruler is the hereditary Shereef of Mecca, who is so firmly fixed in his position that the Sultan might well decline to enter into conflict with him, risking as he certainly would thereby a split among his followers.

Direct interference by any single European power is hopeless. Any government making the attempt would soon find itself involved in the mazy labyrinths of the Eastern question. To wait for the spread of education in sanitary matters to such dark places is to wait till doomsday.

The Sultan is the Man.

The only person who can usefully interfere is the Sultan, but to interfere with efficacy he must be supported by a strong backing of Mohammedan opinion. This can only be done by the united action of the leading men in the various centres of that religion. If they can be brought to a knowledge not only of the greatness of the evil, which by personal and family experience they know well enough, but of the direction in which the true cure lies, there may be hope of some action being taken.

What to do.

Let me then, said Mr. Hart, formulate the steps which ought to be taken to save the Mohammedans from the danger caused by their pilgrimages, to save the world from the danger caused by Mecca.

1. The Indian sanitary services should be re-organised.
2. A complete sanitary regulation of all Indian fairs should be undertaken, the precautions so successfully taken at Hardwar in 1891 and of which full details have already been given, being taken as a type.
3. A rigid system of medical inspection of all pilgrims should be instituted at the ports from which they start. The sick being detained and the healthy alone allowed to proceed. This, it may be added, would be all the more effectual in regard to Indian ports, from the fact that a second weeding out of the infected can take place at Camaran.
4. The medical inspection at Camaran should be so conducted as to ensure its complete efficiency.

Women Doctors for Indian Women.

Among the inspectors should be qualified medical women, without whose assistance the medical inspection of Mohammedan women must be either a farce or a great cause of offence, and if possible these medical women should
be selected from among Mohammedan women doctors, of whom numbers are now educated in India.

5. At Jidda the sick would again be weeded out.

6. The sanitation of Mecca should be thoroughly re-organised under the auspices of the Turkish authorities. The water supply from its source to its distribution should be carefully inspected and protected from contamination.

Clean out the Poison Well.

The poison Well Zamzam should be cleaned and provided with a larger supply and a continued change of water, and the most complete precautions taken that the water used to bathe the pilgrims should at once run away, and under no circumstances return to the well.

7. During the time of pilgrimage a complete system of conservancy should be carried out on the Hardwar plan, the strictest precautions being enforced to insure the immediate removal of all refuse and the prompt isolation of all sick.

Mohammedan Public Opinion.

I am glad to be able to say that the Mohammedans both of India and Turkey are now moved to solicit some such system as I have above sketched. The Mohammedans of Madura have met in public to consider the outline proposals of my essay on this subject in the Nineteenth Century, and have resolved to support them by petition. Mr. Ahmed, the President of a Mohammedan Association in London, writes to me this week as follows:—

"Common Room, Middle Temple, July 26th, 1893.

"My Dear Sir,—I have learnt with much pleasure from you that you are actively taking up the subject of the sanitation of our Holy City, and of the sanitary supervision of Mecca pilgrims during the period of pilgrimage, with a view to the diminution, and if possible the prevention, of the fearful mortality which accompanies the pilgrimage from cholera and other zymotic diseases, and with a further view to the prevention of the diffusion of Asiatic cholera from a centre of infection so dangerous alike to Asia and to Europe. This matter has already engaged the attention of many Mohammedans both in India and in Europe, as may be seen from copies of published communications by myself and others. On my visit to Constantinople last year, I had personally brought the matter to the notice of an influential aide-de-camp of the Sultan, who promised me to lay my views on the subject before His Majesty, and let me have a reply at his earliest convenience. As I am particularly interested in the matter personally, I shall be happy to give every assistance in carrying out this object. Taking into consideration the annual loss to the Mohammedans of thousands of precious and promising lives, I have every reason to think that all enlightened Mohammedans will give their cordial support to suitable representations to His Majesty the Sultan on this subject. You must not overlook, however, the religious and financial difficulties attending the question, and I must therefore, in conclusion, tell you that all sanitary reforms in the Holy City can only be
carried on through the agency of learned and enlightened Mohammedans.—
With best wishes, I remain, my Dear Sir,

Yours faithfully,

Rafiuddin Ahmed."

"Ernest Hart, Esq.

Thus we may expect the active independent co-operation of enlightened Mohammedans in approaching His Imperial Highness the Sultan, the Shereef of Mecca, and our Indian Government in urging their co-operation in the campaign against the diffusion of cholera from its chief breeding places.

A SIMPLE AND ECONOMICAL TRACHEOTOMY TUBE.

Dr Hastings, late of the Children's Hospital, Shadwell, Lon-
don, suggests that after the track has become fairly free by wearing a silver tube for two or three days, a soft and efficient tube can be easily made with a piece of india-rubber drainage-tube.

The accompanying wood - cuts render needless any descrip-
tion of the apparatus.

In inserting the tube the opening must be turned to-
wards the back of the trachea, so that it may take the place of the window which is found at the angle of many metal tracheotomy tubes; the part below the win-
dow then lies in the trachea without any tilting. Dr. Hastings had successfully used these tubes in cases in which the metal ones had kept up tracheal irritation.—

Soft Tracheotomy Tubes.
A MODERN CHINESE ANATOMIST.

BY JOHN DUDGEON, M.D., Imperial Maritime Customs, Peking.

Wang Ch'ing-jen (王清任), a native of U-t'ien hsien (玉田县), about 200 li (70 miles) to the east of Peking, published a book called I-lin-kai-tso (医林改错) in the 29th year of the reign Tao Kwang (道光) (1850). The work is in one small octavo volume, divided into two chapters, the first being anatomical, in which are pointed out, according to the writer's ideas, the mistakes and misapprehensions of the ancients, with his own views of the structure and functions of the body, and the second is taken up with a system of practical medicine founded upon his observations and consisting, for the most part, of the remedies which he or others found useful in various diseases. With the latter chapter we have now nothing to do, but the first is so interesting from a physiological point of view as presenting us with the ancient medical knowledge possessed by the Chinese with the writer's criticisms and his investigations into human anatomy exemplifying such a rare spirit of enquiry—a spirit altogether foreign to the Chinese mind. If such a man as Dr. Wang, of a truly enquiring and scientific turn of mind, had happened to come across a Western physician, medical missionary or any of our works (but unfortunately at that time none had been translated into Chinese. Dr. Hobson's anatomy was first published at Canton in 1851) he must have proved an apt pupil. He would have had his gropings after the truth directed, his false inferences corrected, and he would have produced a work which would have dethroned the Nei-ching (内经), the Ling-shu (灵樞) and Su-wen (素問), and all the successive medical writers who have followed so slavishly these ancient books long antecedent to our Christian era. As it is he exposes their errors and inconsistencies by quoting one against another, a style of writing of which he seems to be a perfect master, as far as his own partially enlightened knowledge can lead him. The spirit in which he follows out his investigations is to be highly commended; he is often right and justly severe upon his country's medical writers, but in many cases too the ancients are nearer the truth than he is. His fundamental error lies in mistaking the arteries for air vessels, an error certainly pardonable when we consider that up to the time of our own immortal Harvey some 300 years ago we ourselves did not know that the arteries contained blood and our name for these blood vessels still retains our earlier misconception, viz., arteria air vessels. But for this serious error he might have hit upon the true circulation of the blood. He never seems to have seen a divided artery and the spurting of the blood and an ordinary execution might have convinced him of his
error regarding the air vessels. He never seems to have noticed the different characters of the red and venous blood. On account of this blemish his new system of the body and its functions is as difficult to understand as that of Hwang Ti (黃帝) and Chi Po (岐伯) 2000 years before our era. His work, although known in this part of China by the literati, has not produced any effect upon their medical stereotyped ideas nor led so far as I know to further enquiry and investigation, but the work is useful as indicating his careful and numerous examinations, his unremitting research and general honesty and modesty and therefore is a pattern for future Chinese workers in this and other departments. With so many opportunities around the Chinese in the slaughtering of oxen, sheep, pigs, etc., on the streets, with the viscera, especially the heart and lungs everywhere exposed at the butchers' shops, with the country dotted over with graves, many of which are exposed by the ravages of the weather, dogs, pigs or wolves, or the exigencies of cultivation, the customs of the Mongols of leaving the bodies of their dead unburied to be devoured by wild beasts and birds, one might have imagined there was here a splendid field for anatomical research. With such opportunities in our country in all probability the passing of an Anatomy Bill over 60 years ago would never have been rendered necessary, because the dearth of bodies for dissection would in all probability never have been felt. We should not then have been punishable at one and the same time for not knowing our profession and for trying to learn it in the only effectual manner. Law, religion, filial piety and prejudice have put dissections out of this question in China. The principle in China is that the body received from one's parents should be kept complete and unmutilated. To allow it to be maimed or disfigured or they themselves to do so, except for the nourishment of these same parents as in the case of soup made from their flesh, is to slight and undervalue the gift of their parents and would be reckoned among the sins of filial impiety and deservedly punished, if not in this life, most certainly in the next.

After several prefaces by friends by way of introducing and commending his book, a practice everywhere common in China, and a picture of the author, the work begins by exposing the main errors of the ancients and so preparing the way for, and showing the importance of, his discoveries. To cure disease, he sets out by remarking, we must know the viscera. According to the ideas of curing disease, held by the ancients, discoursing on the viscera and origin of disease, the real fons et origo malit is completely lost sight of and notwithstanding one's ability, one cannot explain disease by reference to the viscera. Among those who have written on the viscera and have given delineations of them there is not a single point in which one agrees with the other. One author shows that the ancients among themselves differ widely and therefore that both cannot be true and his object is to point out their errors and
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indicate what is true and therefore reliable. Then follow examples of the want of agreement among themselves. The ancients said, e.g., that the spleen is related to earth, that earth governs the immovable and therefore the spleen does not move and if it move there is no rest; how then at the same time do they say that when it hears a sound it moves. They also say when it moves it grinds the stomach and dissolves the food, but if it do not move then he food is not digested. So you have here the mistake of the spleen moving and not moving. The lungs again are said to be empty and to resemble a wasp's nest, that they have no openings below, that in inspiration they are full and in expiration empty while at the same time it is said the lungs have 24 openings, placed in rows and divided into sections and that they communicate with the air of the viscera. This relates to the error of the 24 openings. Regarding the kidneys there are said to be two, and the moving air in the middle of them is said to be the ming-men (命門), door of life, if so why do others say the left is the kidney and the right is the Door of Life. The two kidneys have one body and what reason is there for giving them two different names. If the moving air is the gate of life what is its nature? This is the mistake in regard to the kidneys. The liver is said to have two roads or blood vessels proceeding from the two sides of the ribs; one ascending to the head and eyes, the other going downwards, surrounding the yin-chi (陰器), genital organs or organs related to the dark or female principle in nature and thereafter descending to the big toe. If there are then two vessels, a right and a left, why is it said by others the liver is on the left side of the body and that the left ribs are related to the liver. There can therefore be only one vessel. Why in discoursing do they speak of right and left. How is this? (The Chinese are perfectly at sea in regard to the number, position and function of the various viscera.) The heart is the sovereign. The five functions of the brain are all said to be stored in the heart. But how about the spleen which, according to others, is the seat of the will, the kidney of ingenuity, the liver of policy, the gall bladder of determining, so that in this way all the viscera take part in the mental processes and yet some of the ancients say that the heart only is concerned about these things. Each part has an intellective apparatus and no one has condescended to tell us what is, or where it is stored. This is a sample of the unintelligible way in which they discourse upon the heart. The stomach is said to govern the digestion of water and the cereals. Others say that the movement of the spleen is the cause of digestion; the upper mouth of the stomach is the pên-mên (實門), cardiac orifice; food enter the stomach; the delicate air from the pên-mên ascends and is relegated to the spleen and thence is dispersed to all the pulses. According to my idea these views have no reason on their side. The lower door of the stomach is the yen-mên (幽門) (pylorus); this is the upper mouth of the small intestines,
The ancients discoursing on the small intestines considered its office that or receiving and storing and the digested matters issued therefrom, and the food entered the small intestines and became faeces; below in the lan-mên (ileo-cecal valve, that is, the lower door of the small intestines and the fine and coarse are here divided; the faeces went to the large intestines and passed out at the anus; the water to the bladder and became urine. According to this view the urine percolates out from the faeces, fen (粪), which would make the urine of a very fetid odour; indeed people have used children's urine as a vehicle for the administration of medicines or people themselves have used their own urine to cure eye diseases; the taste is said to be saltish not fetid; again if food and water unite together to form faeces, the latter should be very thin and we should have diarrhoea. Fowls and ducks have no separate urinary apparatus, food and water pass together. This condition of food and water going together in them is therefore all right; in horses and cows where there is the existence of the small convenience, penis (小便) this principle does not hold; in man it is still more so. As regards what the ancients say of the small intestines digesting food and water and passing out by the lan-men (闕門) (ileo-cecal valve), everybody is convulsed at the very idea. Such views do not need refutation. They have been a subject of ridicule all down the ages.

The pericardium is said to be a delicate tendon like silk fibres connecting the heart and lungs. Others say the yellow fat outside the heart is the pericardium. Others say the pericardium is the yellow fat below the heart, above the horizontal membrane (diaphragm) (膈) and below the vertical membrane (mediastinum). Others say it is in the centre of the sternum or thereabouts, having a name but without form. Although it is said to have a name and to be without substance, how is it said that the shao-chueh-yin (厥陰脈) pulse is the ching (road or vessel) of the pericardium? So many have discoursed on the pericardium, what after all we would ask is it? How can it be so many different things?

Discoursing of the three divisions is a still greater subject for laughter. The Ling-shu (靈樞) (one of the oldest of the Chinese medicine books) says that the shou-shao-yin (手少陰) of the three chiao (or divisions of the body) (三焦) is above and the tsu-tai-yang (足太陽) three divisions are below. According to this view then there are two, three divisions. The Nanching (難經) in its 31st section which is wholly taken up with this subject, says that the upper chiao is above the stomach; it takes in but does not put out things; the middle chiao is placed at the central part of the stomach and its function is to dissolve the food and fluids; the lower chiao is below the umbilicus and separates the urine and faeces. It is also said that the three chiao is the road taken by the food and water, thus giving the three chiao a shape or body. The
Nanching also says that the space between the two kidneys is that where the air originates and is the root of the three divisions. In this sense, therefore, the three chiao have no form. So we are, according to the Nanching, that it has no form and that it has form and that there are two, three chiaos. Wang-shu-ho (王叔和) (a celebrated physician) speaks of the three divisions as having a name without a body thus following the Nanching. Chen-wu-chao (陳無擇) of the Sung dynasty (10th century) understood the omentum to be the three divisions (脂膜). Yuen Chun-fu (袁淳甫) says that the three divisions are the reddish coloured lining of the body (the mucus membrane). U T'ien-min (虞天民) points to the hollow in the chest as the three divisions. Chin I-lung (金一龍) says that in front are three chiao and behind are also three chiao. The ancients, therefore, are quite at sea about these three chiao of the body. The various ideas regarding these san-chiao cannot be calculated on the fingers by nipping the thumb. Whether it has a body or not you see, according to them is uncertain. Why do they say that the ching of the ring finger is the ching of the shou-shao-yang three chiao. There is here the very utmost confusion. Later writers have disputed and given the lie to these statements. The mistake goes back to its origin; when the source is wrong all else proceeding from it is wrong. I have always had a strong inclination for correcting errors but never having seen the viscera I got quite angry with myself. How could I bring out a work and myself never had seen the viscera. To produce such a book under such circumstances would have been foolish and like a man dreaming. If the doctors do not understand the viscera, they are like the blind groping their way along the street, so that no matter with what intelligence and diligence the medical art may be practised, what avails it? For ten years I have been daily engaged in correcting these errors and there has not been one single day that the subject has not occupied my thoughts. In the second year of the reign of Ki. Ching (1798) I was thirty years old. Early in the 4th moon I was at Lan-chow (蘭洲), at a place called Tao-ti-chen (稻地鎮), east of Peking when an epidemic of measles and severe dysentery was raging fiercely among children. Of nine or ten who took ill at least eight or nine died. The poor people wrapped up the bodies in mats and buried them quite superficially, according to the custom of the place in order that the dogs might tear them and eat them, with the idea that subsequent births might be spared to them. I went out daily and examined these dead bodies in the public burying place and saw daily over 100, and daily I rode past on horseback. At first from the bad odours of the place I held my nose but afterwards on account of the mistakes made by the ancients because they had not seen the viscera, I did not any longer think of the fested odours but every morning went to the burial place and closely examined the viscera of the children, many of which I found exposed. The
dogs left chiefly the intestines and stomach but very few hearts and livers, so I examined first this and then that. In ten I found about three complete and for ten consecutive days I examined them. I thus saw about thirty perfect bodies and in this way I came to know and compared the various parts with the ancient drawings and found they did not agree. The number and position of the viscera did not at all coincide. There was one thing I failed to understand fully and that was the very thin partition called the diaphragm. I failed to see whether it was above or below the heart, whether even or inclined. It was thin and torn. In the 4th year of Kia King 1800, and the 6th moon I happened to be in Feng-tien-fu (奉天府) and had an opportunity of investigating this point. A woman 26 years of age was mad and had killed her husband and her father-in-law. She was tried and condemned and afterwards taken outside of the West Gate to be cut into 10,000 pieces. (The west of the provincial cities is invariably selected for executions because it is in the direction of the Western Heaven or Paradise of the Buddhists). I followed hoping to have my anatomical curiosity satisfied. I thought it was a splendid opportunity for examining the viscera. But upon reflexion I bethought myself that the culprit being a woman, it would be highly delicate and therefore inconvenient, when suddenly as I passed the executioner tore out the heart, liver and lungs before my very eyes and which I therefore saw plainly and this tallied in every respect with what I had formerly seen. At Peking in the reign of Kia King, in the year of the cycle Keng-shên (庚申) there was a man found guilty of killing his mother. He lived outside of the Hata Gate (哈囉門) south of the bridge. I was allowed to visit the place and follow the prisoner. On arriving at the scene, although I saw the viscera, the diaphragm was unfortunately torn. In the 8th year of Tao Kwang 1828, the 5th moon and the 14th day there was a man to suffer ling-chih (凌遲) (the punishment of being cut into ten thousand pieces) and when I got to the place I could not get to the front to see the viscera. In the 9th year of the same reign 1829, the 12th moon and 13th day, in the evening, in the Anting Gate St. (安定門) in the Pan-chang-rh lane (板廠胡同) at the house of Mr. Heng (恒宅) I was invited to attend one in the family who was ill. In the course of conversation we got on to the subject of the diaphragm. I said I had been examining this point for forty years and had not yet succeeded in investigating it thoroughly. Among those present during the conversation was one Heng Ching-kung (恒敬公) who had been an officer in Hami (哈密) and was in charge of soldiers leading them to Kashgar and had seen many executed and knew all about the midriff most minutely. I rejoiced when I heard this and questioned him carefully about it and seeing how interested I was he told me all most readily. I have been examining the viscera for 42 years now and this is the first opportunity I have had of hearing accurately about them, and
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consequently I have been able to draw my diagrams. My idea is to publish them for the benefit of succeeding generations so that all may know this matter of the viscera. I fear that people succeeding me will not themselves examine the viscera; they will say that I have controverted the statements of the ancients and they will not be able to decide (which is right). They will condemn me for not agreeing with the ancients. But if I do not on this account publish my work, medical learners will go on for centuries perpetuating these errors of the ancients. I have thought of Hwang Ti (黃帝) who feared that the people would suffer from disease. We have the writers of the Su-wên (素問) and Ling-shu, but if they knew for certain, they could teach the people, but if what they knew was groundless, they should have further investigated the matters. Why if they themselves were ignorant, did they presume to teach others, and in this way injuring all who come after them? Afterwards the men of Ch’in and Tsueh (秦越) made the book Nanching (3rd century B.C.) to explain the obscurity of the Lu-wên and Ling-shu. In the Ming dynasty in the early part of the 16th century Chang Shih-hsien (張世賢) published his work illustrated by diagrams and commentaries; he weighed the heart, liver and lungs, determining the weight of each and the length of the intestines, the capacity of the stomach, the number of tow and sheng (pints and gills) it can contain; his language looks very like the truth but really he had not seen the viscera; his statements are without proof, and were made with the intention of deceiving; he has in consequence obtained an empty reputation, and posterity reaps the disadvantage. If a man steal another’s wealth, he is designated a thief; if he steal another’s reputation is he not also a thief? For more than a thousand years it is not certain that there has been even one who knew these statements of the ancients to be errors. I have had these figures cut according to my ideas, not with the view of deciding that the ancients were wrong, neither that posterity may know me, and I don’t care whether posterity blackguards me or not in consequence. My only desire is that the medical faculty should see the illustrations and then their minds will be clear in regard to the matter and their eyes when they see them will understand at a glance and they will know how to treat disease intelligently and will not resemble the ancients, following the cart rest. (In front a cart behind the rest), and their patients will not suffer injury from the ignorance of the faculty. This is what I earnestly look for. I hope for people who will understand that it was no easy matter for me to put out this book and will think of the condition of my heart in these circumstances. So much for the preface of the author.

To understand the viscera and their structure it is first necessary to know inspiration, expiration and the alimentary canal. The ancients called the part behind the tongue the hōro (喉) larynx because it waits upon the inspiration and expiration of the air. The how comes from the hōw (喉) of waiting.
This is the upper mouth of the lung vessel (trachea). Behind the larynx is the yen (咽) or gullet so called from the yen (嚦) of swallowing. By the gullet the food enters the stomach and so forms the upper mouth of the stomach vessels (wei-kwan 胃管). The yen (gullet) receives the food; the how (larynx) the air. For the last 4000 years this has been most surely believed. The book Ling-shu asserts this and no one has dared to correct or challenge the statement. All understand that what is swallowed enters the stomach but there is a serious misunderstanding about the larynx and inspiration and expiration, arising out of a want of knowledge and examination that the large faces of the two lobes of the lungs are turned to the back or spine; that above there are four apices or peaks which are directed to the chest and that below there is a small piece which also looks to the chest; that the lung vessel below divides into two branches (the right and left trachea) which enter the two lobes of the lungs; that each branch divides again into nine middle bifurcations and each of these again into nine little branches and these again into still more minute branches; that at the end of these minute divisions there are no openings; that in appearance they resemble the chi-lin (麒麟), a certain vegetable; that the outer skin (pleura) of the lungs has also no openings. Inside, the lungs contain light white froth. Below the lungs are no openings whatever, so the 24 holes of the ancients have no existence. The ancients said that in inspiration the lungs were filled and that in expiration they were empty. At present I need not minutely controvert this mistake. In inspiration the abdomen is enlarged and not the lungs; in expiration the abdomen becomes small and not the lungs. Inspiration, expiration, the expectoration of phlegm mucus, saliva and such like have nothing to do with the lungs.

Behind the lung vessel (trachea), in front of the stomach vessel (the œsophagus), on the right and left hollow spaces are the two roots of the air vessel, in appearance like tendons, the upper mouth is situated below the (hwei-yen 胸厭) (epiglottis). On the left is the air door (chi-mên 气門), on the right the right air door, and these are the vessels from which proceed the phlegm, mucus, saliva, etc.

The ancients considered cough, asthma, hooping cough as lung diseases, because they came from the chest. In treating these diseases which were owing to external causes, they used diaphoretics and so cured the malady; in treating the warm phlegm, they administered cool remedies and cured the disease; with inside inflammation, they used purgatives; in weakness of the air they prescribed tonics; if the blood got obstructed, they used remedies to disperse it and seeing all these methods successful, they were naturally elated and left books on the subject stating that these were diseases of the lungs. In this way this belief became established; but the ancients were ignorant of
the fact that two air doors, a right and left, descend on each sure half way down on the front of the lung vessel where they unite to form one trunk, like two branches uniting to form one stem, like a tendon, it proceeds downwards and enters the heart and again about the size of a writing pencil, emerging from the heart it turns to the left and proceeds to the back of the heart. On the left side of the lung vessel it passes the lungs and enters in front of the spine and proceeds downwards to the coccyx (the caudal extremity.) This is the wei-tsung vessel (胃 總管) (the all defending vessel), popularly called the yao (腰) (lumbar) vessel. Within the abdomen there are two vessels, like tendons, the upper goes to the ch'hi-fu (氣 居) (air residence); ch'hi-fu = to the great omentum or caul or cock's comb oil because it resembles the han-ying (鷄冠花) flower, so called from the cock's comb. The upper vessel here described may be the gastro-epiploic artery, coming from the cælic axis or probably the superior mesenteric artery. The ch'hi-fu covers and protects the small intestines. The small intestines lie horizontally in the ch'hi-fu. Outside the small intestines and inside the ch'hi-fu the original or constitutional air of man is stored and preserved. The original air is fire and this fire is the original air. This fire is the vital root of man's life. The food enters the stomach and small intestines and is dissolved by this original air. When this original air is sufficient digestion is easily performed and vice versâ difficult. The above relates to the upper abdominal vessel. The lower or descending vessel on the other hand is connected probably with the male spermatic road and the female uterus. I took great pains to accurately observe this latter vessel. I was unable to satisfy myself that I understood it at all well, so I still remain in doubt but I hope some medical scholars who come after me, if they find a good opportunity will with diligence investigate this point and so fill up here my deficiency. This lower vessel is either the inferior mesenteric artery or spermatic arteries which rise from the aorta below the renal arteries.

From the wei-tsung vessel at the back of the heart are two vessels, like a tendon in size, which go to the two shoulders (the subclavian arteries); opposite the lumbar region there are also two vessels which enter the two kidneys (the renal arteries. Below the lumbar region are two vessels which go to the haunch (the iliac arteries.) Above the lumbar region immediately opposite the middle of the spine there are eleven short vessels* which connect with the back bone. This is the road the air and lymph juices take. If the air be sufficient the fire increases and the juices become thick; the thick is called phlegm (t'ân 疳). If the air is weak the heat is diminished and it cannot boil the juices which therefore remain thin and watery and are called thin or

* These are without doubt the intercostal arteries, branches of the descending aorta. They are usually ten in number on each side. In the diagram they leave the vessel between the subclavian to the renal arteries. If the superior intercostal were not a branch of the subclavian, our author's number would be correct.
imperfect phlegm (yin 氣). Inside the vessel it is borne up by the air, passes upwards, crosses the heart in front of the lung vessel and in the middle of the air vessel and obtains egress by the right and left air door. The phlegm, juices, saliva, etc., are therefore matters belonging to the root air vessels, i.e., the carotids of our author. The ancients were therefore undoubtedly wrong in asserting that these things belonged to and issue from the lungs because they did not know that in front of the lung vessel there are air vessels which unite. They knew that the phlegm, etc., came from the chest, and so supposed they proceeded from the lungs, never having seen any true diagrams of the viscera nor having personally examined them. Whether we regard the function of the hand grasping things, the feet walking, the head turning, the body rotating, going forwards or backwards, all depend upon this air. When we inspire the air we fill the c'h'i-fu (air residence), when the c'h'i-fu is full the abdomen enlarges. In expiration on the other hand the c'h'i-fu becomes empty, and the abdomen consequently becomes small, therefore the wei-tsung vessel (abdominal aorta) is an air vessel and contains no blood. If there were blood in the c'h'i-fu it would find exit with the air in expiration and there would of necessity be haemoptysis and discoloured phlegm; and if the blood proceeded downwards we should have bloody stools and haematuria. The wei-tsung vessel connects in front with a tendon-like vessel. This is the jung-tsung (榮總管) vessel, the veins of our author, a blood vessel containing blood and in length like the wei-tsung vessel. The blood in this vessel nourishes the hsiēh-fu (血府) (blood receptacle) The blood in this vessel flows into the hsiēh-fu, which is below the chest and forms one piece of the k'o-mol or diaphragm, in thickness like paper but very strong. Its front length is on a line with the concavity of the mouth of the heart (the hollow below the breast bone) and goes from the two sides of the ribs to the upper part of the lumbar region straight but inclined, in front high, behind low; the base is like a pond in the earth, inside it stores blood which is dissolved from the delicate juices. This is the blood residence. The juices will be discussed when we come to speak of the juice door of the stomach. I before spoke of the epiglottis as the white piece behind the tongue which covers the right and left air doors and the door of the larynx.

The organ that receives what is swallowed in birds is called su (嗉), in quadrupeds tu (肚), in man wei (胃). The ancients pictured the stomach with the upper mouth above and called it pên mên (貪門) and the lower mouth as the yen mên (幽門). They spoke therefore of two mouths or doors, an upper and a lower but they did not know that the stomach has three doors. They drew it vertically, whereas it is not only horizontal but it is placed in a flat position with one side up; the pen-mên is directed to the back, the base towards the abdomen, the lower mouth yen-mên is also at the upper part on
the right side and is directed to the spine. About an inch to the left of the yen-men there is another door called the chin-men (津門) juice above the chin door is the chin-kwan (津管). This is the road by which the delicate juice and watery juice comes out of the stomach, but it is difficult to investigate this matter of the juice vessel because above it there is the tsung-ti (總才) pancreas* which covers it. The tsung-ti is popularly called i-tse (胰子). The body of the tsung-ti is on the right of the yen-men and left of the yen-men, and completely covers the chin-men. Below the tsung-ti and connected with the c'hi-fu in front are the small intestines; behind it the c'hi-fu connects with the large intestines; above the stomach it connects with the liver and the liver connects with the spine. These are all situated below the diaphragm and the tsung-ti connects with the body of the stomach, liver, small and large intestines. Food enters the stomach; the chyme flows first out of the chin-men and enters the chin-kwan and outside an inch or more this vessel divides into three divisions, the delicate chyle enters the marrow residence (sui-fu 腦府) and forms marrow; the thicker sort goes by the upper branch and along with the blood enters the hsieh-fu and is converted into blood, the watery juice goes by the lower division and from the centre of the liver passes over to the spleen. In the centre of the spleen there is a vessel which resembles a ling-lung (玲瓏) and is called lung-kwan (瓊管), a vessel resembling a gem with interspaces, the whole in the form of a dragon. The watery portion in this vessel divides into two sides and enters the outgoing water road, which road resembles a fish net, i-wang (魚網), and is popularly called wang-yen (網油). The water percolates through the water road and enters the bladder and becomes urine. This part is indeed difficult to investigate. In the second year of Kia Ching 1798, when I investigated the viscera there were found bells full of water and some without water, and as I could not examine this point fully, so I cannot speak of it with certainty. Sometime afterwards I happened to be attending some patients with diseases of a very chronic character, who died; some of them drank much water, some little and some none at all, so that afterwards there was water still in the abdomen and although according to my earlier investigations of the outgoing water road I seemed to have reason on my side, yet I cannot definitely say it is so. Afterwards I compared it with animals and on killing them after they had drunk water, the bells of the wang-yen contained water, and if for three or four days they were not fed they had no water bells and so I came to the conclusion that water issued out of the water way. I have said above that food and water enter the stomach;

* The Chinese medical works do not acknowledge the existence of the pancreas as a viscus and on account of its absence our European physicians in their translations have taken the term (總才).

(By the way is not 甜肉 Sweet Flesh used by the modern medical translator, even as 網油 was the ancient medical term? the literal rendering here (thick oil) is somewhat obscure, yet we take it that these characters represented the pancreas itself irrespective of conveying any very distinctive meaning).—(Ed.)
the coarse parts of the food remain in the stomach, the chyle and watery juice flows out of the chin-mên; the opening would allow the juice to pass and also watery rice, and it is in this way that the chin-mên, although it is as large as a tendon, the body of the stomach at this place is very thick and compresses the opening all round so that water can pass but not food. Inside the stomach about a line elsewhere said to be an inch to the left of the chin-mên there is a tubercle, of the size of a date called cho-skith (齋食). Its function is to obstruct the food until the juices have run out and afterwards the dry food is dissolved and enters the small intestines and becomes faces. But how do the small intestines dissolve the food and form faaces? It is because outside the small bowels there is the c'hi-fu which surrounds and embraces them and outside the bowels and inside the c'hi-fu there is stored up the primordial air which is a food dissolver, after which it enters the large intestines and goes out by the seat anus (肛門).

(To be continued).

ADVICE GRATIS.

By A. W. Douthwaite, M.D.

In The Medical Missionary Record, New York, March 1893, appeared an "editorial" on the need of advice to medical missionaries designated for work in heathen lands. Emphasis was laid on the need of counsel as to medical "outfit," as missionaries "often grope in the dark on the subject, and after getting to the field find that they have brought many things they did not need, and vice versa."

This, however, is by no means the most important side of the question, for a man may bring out the finest outfit of drugs and instruments which money can procure, and yet "often grope in the dark" when called upon to put his outfit into use in the battle against disease, and in the performance of operations with which he is familiar in name only. Before a man undertakes the arduous duties of a medical missionary in China, it is well that he should know what will be required of him, and to see to it that he is fully qualified for the service.

(I say nothing here about spiritual qualifications, taking it for granted that no society would send out a man who had not given evidence of spiritual fitness for mission work, and that no man would volunteer for such work unless satisfied that such was the will of God concerning him).

The opinion obtains pretty generally at home that for a man of high professional attainments to give himself to mission work is a waste of talent,
Advice Gratis.

but in the providence of God many such have been “thrust forth into the harvest field” and have found full scope for the exercise of all their powers. In fact it is just such men that are needed in this country, and only such can hope to be really successful medical missionaries. “Inferior” men may pass in the professional crowd at home, where help of the best kind is obtainable at a moment’s notice, but place such men in isolated positions, cut off from all help, as many of our brethren in China are, and what will they accomplish?

Medical missionaries located in the ports, or in the greater centres of missionary activity are highly favoured in comparison with their brethren in the interior, for they can readily obtain supplies, and have seldom any difficulty in getting whatever advice or assistance they need. But most of these posts are already occupied, and the men who join our ranks in the future must pass on to the interior, to begin work in new centres. They may be located—as some already are—in far off inland cities many weeks journey from the nearest port. They have to acquire a difficult language, train their own assistants, and when they begin work they will often be called upon to perform the most difficult operations single-handed, or, what may be still worse, with unreliable helpers, when “treating” the most complicated cases they will have to rely entirely on their own knowledge and skill, which will often be severely tested, and in dealing with cases among their fellow-missionaries they will probably have to act as nurses as well as doctors.

Far be it from me to discourage any young man or woman who may be looking forward to medical work among the heathen as their service for Christ, I consider it the noblest and most god-like work to which they could devote their lives, and it is to prevent their becoming subsequently discouraged that I would urge them on no account to enter the mission field with merely the experience gained in a medical school. Two years spent in past-graduate practice and in attendance at the clinics of the specialists who abound in the great cities of Europe and America, will enable a man to test himself, and show him the weak points of his education which need strengthening ere he strikes out on an independent and unaided course. In addition to this, I would advise every young medical missionary to work for six months with one or more of the older men on the field—if it can be so arranged—that he may profit from their experience before beginning to work out his own.

Medical Outfit.

Unless there is something substantial to be gained by bringing out a supply of drugs, etc. I think it advisable to leave them at home, until the missionary has given at least a year to the study of the language of the people among whom he is to labour. If he has his armamentarium with him he
will hardly be able to resist the temptation to practice, and the importunity of those about him will add to the difficulty.

But should he decide on bringing his medical outfit with him, he need be under no uncertainty as to choice of supplies, for whatever drugs and instruments he has been accustomed to use at home he will find equally useful in China.

His surgical outfit should be as complete as his means will allow, for he can never foretell when his instruments may be called into requisition.

A list of the diseases most commonly met with in our dispensaries will enable intending missionaries to decide for themselves what drugs to bring out. I give the names in the order of frequency as noted in my Dispensary Register:

**Diseases of the Organs of Digestion**—

Acid Dyspepsia, Worms (chiefly Ascaris Lumbricoides), Diarrhoea, Dysentery, Constipation.

**Diseases of the Skin**—

Itch, Ulcers, Boils, Eczema, Lichen, Carbuncle, Leprosy, Lupus.

**Diseases of the Organs of Respiration**—

Chronic Bronchitis, Asthma, Laryngitis, Phthisis.

**Diseases of the Eye**—

Conjunctivitis, Ulcer of Cornea, Granular Lids, Trichiasis, Entropion, Blepharitis, Pterygium, Ophthalmia, Cataract.

**Diseases of the Urino-genital Organ**—

Leucorrhoea, Amenorrhoea, Menorrhagia, Gonorrhoea, Chancre, Nephritis.

**Diseases of the Nervous System**—

Anaesthesia, Neuralgia, Epilepsy, Paralysis.

**Fever**—

Typhus, Typhoid, Malarial; remittent and intermittent.

**General Diseases**—

Rheumatism, Syphilis, Anaemia, etc.

In a large country like China the prevailing diseases will vary considerably in different provinces. In one district diseases of the eye would preponderate, while in another malarial fever would head the list. For this reason, as well as for that already given, it is advisable for a new arrival to spend some time in the place to which he is designated ere he procures his supply of drugs, as he would have an opportunity of considering the nature and probable extent of his future practice.

**Local Resources.**

Drugs of all kinds can be bought of the European druggists in Hongkong and Shanghai at an advance of about 50% on the English wholesale
prices, and good Spirits of Wine, 60° O. P. can be obtained from the Hongkong Sugar Refinery, at 80 cents a gallon, in quantities of not less than 36 gallons.

Native whiskey, suitable for making the weaker tinctures, can be had anywhere in the empire, and by careful re-distillation it can be raised to the strength of Rectified Spirit.

Chinese drugs are, with few exceptions, so freely adulterated, and often so dirty, as to be unusable.


These are of fairly good quality, but with the exception of those marked *, I find it cheaper to get them from England.

In many parts of Inland China bottles suitable for holding medicine are unknown, hence it is well to provide drugs in the form of powders, pills or tabloids rather than solutions or tincture.

1 The root of Alpinia galanga or A. officinarum—it is stimulant and aromatic.—[Ed.]

THE TREATMENT OF LIVER ABSCESS.

By Neil Macleod, M.D., Edin.

In the British Medical Journal of 26th December, 1891, I published a paper entitled "A Contribution to the Treatment of Hepatic Abscess, with Cases," containing an account of a simple appliance which had been found useful in operating on these abscesses. Further experience having justified what was then said of it and having suggested something additional in the way of improvement, a further reference to the subject, in a journal like this read chiefly by medical men who are sure to meet with such cases in their work, does not seem to me amiss.

Fortunately most of these abscesses are associated with adhesions, in most of which if they are single, any method of treatment will succeed if it supplies aseptic, free drainage. Occasionally difficulties arise which may cause much anxiety and even risk to life if we are not prepared to deal with them. Given a case of liver abscess in which no signs or symptoms of perihepatitis are or have been present and therefore there are probably no adhesions between the organ and the body wall, how are these adhesions best to be secured? The points that have to be faced are these: pus is flowing from an
aspirator trochar indicating the position of the abscess; the liver is moving up and down with every breath; it will tend to change position with every change of position of the body; vomiting may occur before the patient recovers consciousness and perhaps for some time after, violent movement of the liver being the result. The liver and wall surfaces are in apposition so long as neither air nor fluid can intervene. If an incision be made down to the liver as some propose, air will enter. The proposition to stitch the liver to the side has only to be tried to demonstrate its futility—even if the stitches could be tightened without cutting through the liver substance—the movements of the body, of deep respiration or of vomiting would part them. While this procedure is being carried out, the aspirator trochar is still sticking in the liver moving up and down, an incision has been made down to the liver surface and it is to be presumed that it is the edge of an incision in the liver that is to be stitched to the wall. Meantime pus is welling through the liver incision, and how is this incision to be maintained opposite that in the wall. On the fresh, still, dead body I found it impracticable to tighten the stitches satisfactorily.

Whatever method of operation be adopted, to be successful it must produce a local peritonitis and some of the abscess contents will probably find their way between the liver and the wall in the neighbourhood of the drainage track. If adhesions in that region be the only result of this process, it will be a beneficial one. If the pus finds free and easy exit through the tube that is used, it is the less likely to force its way into the peritoneum. A drainage tube therefore of large calibre, that cannot collapse or kink is the most desirable. A metal tube best supplies these requirements, besides affording a bigger calibre than a rubber tube of the same external diameter, at the same time making a better anchor for restraining the liver movements. Oval instead of round, it will be more suitable for insertion between ribs when the opening has to be made in that quarter, and the ease with which it can be rapidly introduced by means of the guide supplied with the apparatus will be appreciated by those who have had trouble in introducing and keeping in position rubber drainage tubes in these cases. These considerations are by no means fanciful but have been suggested by difficulties met with in treatment as may be seen on consulting the original paper. Since the date of its publication four other cases have been dealt with, but instead of the forceps recommended for the purpose of dilating the opening, in three of these a straight dilator was employed, made on the principle of Otis' urethral dilator but with points free, in size and shape like that of the ordinary fistula forceps. With this instrument, dilatation of the trochar track to the exact size of the drainage tube is rapid, easy and certain, and by limiting the amount of the dilatation in this way no more damage is done to the surrounding tissue than is necessary. This instrument passes easily along the director
groove into the abscess cavity, and its use is less likely to give rise to hemorrhage than incision with a knife.

Where adhesions are believed to be absent, withdrawal of the aspirator trochar from the abscess may lead to the escape of pus into the abdominal cavity and it may not be possible to re-enter the abscess by the same route. Here it would be safer to leave the aspirator trochar in position and introduce the larger one alongside of it, only withdrawing the former after the opening is dilated and pus flowing freely.

For the benefit of those who may not have had an opportunity of seeing the paper in which the description of the apparatus referred to first appeared, the following account of it may be useful: 1. A trochar and canula, the latter 5 inches long and \( \frac{1}{2} \) inch in diameter. 2. A probe 11 inches long and grooved one half of its length as a director and fitting the canula. 3. Four nickel-plated drainage tubes, 4, 3\( \frac{1}{4} \), 2\( \frac{1}{2} \) and 1\( \frac{1}{2} \) inches in length respectively; oval in calibre, largest diameter \( \frac{3}{8} \) and smallest \( \frac{1}{4} \) of an inch, each tube having two oval lateral openings at one end for drainage and two small openings at the other to admit of the passage of a safety pin as guard. 4. Another tube called the guiding tube, \( \frac{3}{8} \) of an inch longer than the longest of the drainage tubes and accurately fitting its interior, furnished at one end with a flange at right angles to its length, and tapering to a cone at the other end where it is open enough to allow the passage of the grooved probe. 5. The dilator before referred to. These with an ordinary knitting needle, a knife and any aspirator with a trochar large enough to admit the knitting needle, complete the number of instruments necessary for the operation which I am in the habit of performing as follows: Instruments, skin, etc., being rendered aseptic, the aspirating trochar and canula are passed, preferably at a point chosen where dulness is absolute and where there may have been stitch-like pain felt or friction heard. If pus be found on aspiration, the knitting needle then introduced through the canula into the abscess tilted in various directions and measurements made of how far the needle can be passed in these directions, will determine if the point of exploration be fairly opposite the centre of the cavity, failing which, another point is chosen from the data thus afforded and the process repeated. When a satisfactory point is thus obtained, the larger trochar and canula are entered thereat and the trochar is next replaced by the director, and the canula then withdrawn. A single vertical incision about an inch in length, through superficial and deep structures, is then made, and the dilator next passed down the groove into the abscess, its blades opened and then withdrawn. Through the opening thus made, the drainage tube with the guiding tube in its interior is slipped into the abscess threaded on the director, which is then withdrawn along with the guiding tube, and a safety pin passed through the holes in the end of the drainage
tube as a guard. After the pus has ceased to flow or does so but slowly, a dressing is applied. At each dressing the director probe can be passed into the abscess to ascertain the degree of contraction, and used as a guide for slipping in a fresh tube, which will thus enter the cavity each time with certainty and without pain.

MEDICAL NOTES FOR NON-MEDICAL READERS.

No. 6. Cholera. (First Paper).

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

True Asiatic Cholera is a not infrequent visitor to China, and when once it gains a footing becomes epidemic with frightful rapidity. In truth one wonders not at its occurrence, but at the comparative fewness of its visits. Sporadic cases may arise at any time, and there are few more anxious situations for a lonely missionary to be placed in than to have to do his best for a companion seized with Cholera.

But what do we mean by the term Cholera? In this paper it will be used as indicating true Asiatic Cholera, a disease "characterized by violent vomiting and purging, with rice-water evacuations, cramps, prostration, collapse and other striking symptoms and tending to run a rapidly fatal course." But explaining what we mean by the term Cholera does not tell us what Cholera is and, alas! we cannot yet say that we do know. Our clinical knowledge of the disease is, by now, very full, and, within the last few years the cause of the disease has been placed almost beyond reasonable question. It is universally agreed that the symptoms of this dread disease depend upon a germ, the Cholera bacillus, which if it gains access to the human stomach will, under suitable conditions, rapidly multiply and produce a poison which is absorbed into the blood. We are learning more and more about this germ, its conditions of life, etc., and may fairly hope in the near future to be in a position to combat the enemy successfully; but the day has not yet arrived. Meanwhile we know enough to enable us to take such precautions that the danger of being attacked is reduced to a minimum or, if attacked, to stop the progress of the disease in its earliest manifestations.

These three things are important:—

1. A knowledge of how Cholera is propagated.
2. A knowledge of what precautions should be taken against it.
3. A strong conviction of the success and importance of early treatment and intelligent ideas as to what that treatment should be.
**Medical Notes for Non-Medical Readers.**

**How is Cholera propagated?**

We can say, almost positively, now that the poisonous germ resides in the vomit and bowel discharges of the sick, and that the disease can only be spread by contaminated water and certain kinds of foods conveying the living organism into the alimentary canal. In civilised communities the water and milk supply are the chief sources of danger, owing to bad drainage. In China both these dangers are intensified—the discharges of the sick, never disinfected, are allowed to percolate through the ground and thus contaminate all the surface wells; or to dry on the surface of the ground; or, if passed into a receptacle, are promptly distributed over the neighbouring vegetable gardens, to carry death to all who eat of the produce. Not only so, in one and the same pool one woman will be washing her rice or vegetables, a second will be washing the garments of a fatal case of Cholera, while your water coolie is filling his buckets with the water for your kongs. Linen and clothes of various sorts, stained by Cholera dejecta can carry the disease from place to place, as the germ can exist in a dry state on such garments ready to revive into fatal activity under suitable conditions. It has long been recognised that to handle or wash linen soiled by Cholera ejections is very dangerous, and in all the great Cholera epidemics the washerwomen have suffered heavily. As there is not a particle of evidence pointing to absorption of the poison by the skin, the probability is that by neglecting to disinfect their hands they are constantly, in various ways carrying the contagion to their mouths. The danger is a very real one for all who come in contact with the sick. We are further told by competent observers that during an epidemic of Cholera the poison frequently locates itself in particular towns, streets and houses. This is probably due to the fact that although thorough desiccations will kill the Cholera bacillus yet any degree of dryness short of this will preserve it in all its virulence. Such desiccation probably does occur in pure, fresh air and thus explains the correctness of the general belief that the disease is not usually thus propagated; but in the moist, unhealthy air of narrow streets, or in unventilated sick chambers the germ would increase and multiply.

All this shows us that Cholera is neither contagious nor infectious as those terms are ordinarily understood—and that, broadly speaking, intelligent precautions will carry most people untouched through an epidemic.

What those precautions should be is the next question for us to answer.

First and foremost we should never forget that God has given us one great safeguard which we should always endeavour to preserve unimpaired—and that is a healthy stomach. In these days of microscopical research, when
fresh bacilli, all eager to prey upon us, are being announced with unpleasant haste, it is a cause of profound thankfulness that these destructive germs require a suitable soil to grow in—how unpleasant the outlook would be, were it otherwise, I leave my readers to imagine. So it comes to pass that the normal gastric juice of a healthy stomach is quickly fatal to the Cholera bacillus, and adventurous investigators of vigorous digestion, have several times swallowed it with no serious consequences. It is of the utmost importance therefore that during a Cholera epidemic "not only should indigestible things in general be avoided but anything which particular individuals know, from their own experience, will produce such an effect upon them." Next be careful that, as far as is possible, you protect yourself against swallowing the germ. All water should be boiled thoroughly for fifteen minutes before use, simple filtration is not sufficient—if you then pass it through your Maignen's filter it will become aerated, and pleasant to drink, in the process. See that your filter is not foul; the best of filters will fail you if you do not take the trouble to clean it. Fresh milk is always a source of infection and needs careful attention. Like water milk should be boiled for fifteen minutes, and consumed as soon as boiled. This last injunction is important, for experiments tend to show that should such boiled milk again become contaminated the germ will multiply much more rapidly than in unboiled milk. See that your cooking utensils and cutlery are washed in pure boiled water, and I should advise warm or hot water for washing and bathing in, not because the skin absorbs the contagion, but because sponges and other things can get infected and easily carry the poison to the mouth; besides, using hot water is the easiest and safest way of making sure that the water is comparatively pure. Avoid all salads and green stuffs (for reasons already stated) and also the skins of fruits. Remove all decaying animal and vegetable matters from around your dwellings. Avoid fatigue but take plenty of gentle exercise; look to the thorough ventilation of your rooms, especially your sleeping rooms. Keep the skin active by proper clothing, and avoid chill—be sure and wear your abdominal belt at night, so that, should you be restless and kick the clothes off, the abdomen may not get chilled. If to all these precautions you add a calm and even temperament, a mind kept in perfect peace, you will most probably pass safely through the epidemic. It is well to remind anxious mothers that "infants are said to enjoy a most marked immunity from Cholera, and many instances are on record of women who, while suckling their infants, were attacked with cholera and the infants remained unaffected." (Indian Medical Gazette.)

Should any person in your house be attacked with Cholera, then further precautions are necessary to prevent the other members of the family becoming infected.
All those handling the sick or dead "should be scrupulously careful to disinfect their hands, and soiled clothing at once, and especially before eating or touching articles of food, drinking or culinary vessels." In fact it is safest to disinfect the hands after each contact of them with the patient, but I suppose most people would think this faddish and unnecessary. "Under no circumstances should the attendant, or any one else, eat in the same room with the sick," and although the observance of this precaution may, at times, entail a little inconvenience on those nursing, yet it is highly important not to neglect it. The vomit and bowel dejections must be most scrupulously and promptly attended to. It seems to me that in China, especially in the country, the safest thing to do is to carry them out at once and burn both the discharges and everything that they have fouled, and then bury the ashes deeply. This should be done immediately, for Cholera stools which are but slightly virulent when freshly passed become very rapidly so by keeping. When it is not possible to do this then the best way to proceed is as follows: "The dejecta and the vomited matter should be passed into a vessel containing a quart or more of a strong solution of carbolic acid 1 in 20; or of Jeye's fluid or of Izal 1 in 50, and immediately after the evacuation a sufficient amount of the disinfectant should be added to make the whole quantity equal to the bulk of the evacuated material: the whole should then be gently stirred, and afterwards allowed to stand for twenty minutes, when it should be removed and emptied into a pit containing unslaked lime and be immediately covered by a quantity of the same material." If this is impossible, the mixture should be allowed to stand for two hours, and then buried deeply in the earth. An important point to bear in mind is that all vessels, whether native or otherwise, used for receiving the discharges must be highly glazed—as unglazed ware will absorb, and gradually get saturated with the discharges. All such vessels should be broken and burnt when finished with. Similarly, although it may entail the loss of some expensive material, by far the safest thing is to burn all bedding and soiled linen; for one can never depend upon any disinfection by washing, and thorough desiccation in a hot air oven (the only reliable process) is impracticable. When a patient dies the body should be wrapped in a cloth dipped in one of the disinfectants already mentioned and buried in a deep grave. The room the patient occupied and every part of the home should be thoroughly disinfected, walls and furniture scrubbed and washed with strong disinfectant and all wall-papers removed. The fumes of burning sulphur form one of the most effectual ways of disinfecting a room. All that is necessary is to stand an ordinary native coal brazier upon a tin stand in the centre of the room, and then, having shut up all windows and plastered up every crack with gummed paper, not forgetting the chimney, throw on the top of the coal a couple of
pounds of native sulphur. Shut the door, close up the key hole and leave the room closed for twenty-four hours, and then open every door and window to the fresh air.

"Convalescent patients should remain separated from the rest of the household for ten or fourteen days, dating from the commencement of the attack, then well-wash in a disinfectant bath and put on clean clothes which cannot possibly contain any of the infectious material."

(To be continued.)
The Cholera epidemic of 1892, which raged throughout Europe with such fatal virulence, has necessarily been of great and absorbing interest. Among the many who have instructed us thereon may certainly be mentioned the name of Mr. Ernest Hart, the gifted editor of the British Medical Journal, extracts from whose address, delivered before the Congress of the British Institute of Public Health, Edinburgh, we have now the pleasure of publishing elsewhere for the benefit of those of our readers in China who possibly may not see that valuable publication. And ápropos of that interest which is so universally manifested, and which we in the East must needs have our share, is, the continuation of Dr. Hodge's admirable series of articles in which Cholera most aptly comes to the fore in our present number. Thus in the light of all this it is we deem a logical sequence that we, too, should briefly touch upon some of the writings and experiences of the past year, and for our purpose of review select the first volume of the Annual of the Universal Medical Sciences for 1893, which treats of the prophylaxis and treatment of Cholera. We there gather that Heyes, of Hamburg, has brought forward the researches made by him at Hamburg during the Cholera epidemic. The only remedy which appeared to have a happy effect on the disease was intravenous injection. The sterilized liquid was brought to the barracks in large balloons, from which the irrigator was filled. To avoid infection the tubes of the apparatus were filled with gauze filters. This method was very successful. The solution used contained 90 grs. of sea salt per thousand, and sometimes Heyes added 1½ or 1¾ drachms of alcohol per quart. The choice of the vein is unimportant. Nevertheless, when the injection is repeated (which has been done as many as eight times), it must, as far as possible, be made in another member. The sole medicament of which systematic use was made at Hamburg was calomel, administered in varying doses up to 7½ grains. Heyes prescribed it in doses of from 1½ to 3 grains, until the stool had taken a greenish hue and good effects were obtained. The greater number of other drugs failed, or gave but very imperfect results. Volovski communicates the treatment used successfully by him during the Cholera epidemic of 1872, which was especially directed against the emesis. The patients were given a warm bath, at a temperature...
as high as could be borne, never under 99.5° F. and a bag full of ice was simultaneously placed on the head. The vomiting ceased while the patients were in the bath, the minimum duration of which was half an hour; the patients willingly remained longer, if cracked ice were given them to swallow. A few minutes after the bath, 1½ grains of calomel and 30 grains of castor oil, with wine and brandy, were administered, being then tolerated. On coming out of the bath the patients were rubbed, dried and a large sinapism, prepared in advance, was placed on the abdomen, the sides, and on the epigastrium, up to the middle of the sternum, being kept in place by a bandage. During the whole time of its action the vomiting was found to cease. Volovski declares that if the patient support the sinapism, without complaining, during half an hour, the progress is unfavorable, if he endure it an hour or more a fatal issue is inevitable. On the contrary if the patient quickly begins to complain of pain in the abdomen, and if it be necessary to reason with him in order to induce him to keep it on for fifteen or twenty minutes, one may hope for a cure; if yellow stools occur afterward, recovery is certain. Lesage of Paris has instituted, at the Hôpital St. Antoine, the following treatment against Cholera: Every Cholera patient is plunged into a warm bath for twenty minutes or half an hour, and the bath is sprinkled with mustard during the last few minutes. If there be no reaction a transfusion is made, at 100.4° F. with one quart of artificial serum. If the Cholera is very rapid and severe, the treatment fails. In cases, in which the disease is not so rapid in progress, the patient is systematically submitted to an absolute diet and to the following prescriptions. (a) Solution of lactic acid, ½ ounce per 2 quarts per diem. (b) Tea with rum, ice, and Seltzer Water. (c) In cases of intense and repeated vomiting, the stomach is irrigated with boiled water and filled with 1 pint to 1 quart of lactic acid solution. The warm bath at 104° F. is repeated every two or three hours. The principal results of this practice are:

1. Elevation of the rectal temperature from 0.90° to 3.6° F. according to the case.
2. Increase of the activity of the circulation.
3. The appearance of diaphoresis.
4. The diminution of cramps.
5. If the patient again become algid, in spite of the baths, he must submit to another transfusion, several times repeated.
6. The emission of urine is provoked by filling the bladder with warm boric acid; this often gives good results.
7. As adjuvants to this treatment, caffeine, ether by subcutaneous injection, oxygen inhalations, cupping and wrapping in wadding may be employed, according to indications.
8. The appetite quickly returns by the use of lactic acid. Lesage advises for the first diet coffee, broth and bread. With many patients, milk causes a return of digestive troubles. With this treatment a Cholera reaction has seldom been observed. Winternitz, of Vienna, is a partisan to hydrotherapy as a prophylactic, neurasthenic and
preservative means against chills, as well as a remedy for the so-called pre-
monitory diarrhoea. By this method he has succeeded in curing a large number
of patients already suffering from cramp in the calves, vomiting, cold extremi-
ties, and discolored stools. He practices friction of the skin with a piece of
linen soaked in the coldest water; then a sitz-bath, at a temperature of 44.4°
to 59° F., during fifteen or thirty minutes. The parts of the body not in
contact with the cold water are enveloped in woollen coverings, and the
abdomen is energetically rubbed. Siredey, of Paris, gave his patients lactic
acid, elixir of paregoric, champagne, injection of ether and caffeine, and
oxygen inhalations. He considers transfusion the best means of fighting a
case of grave Cholera, but also advises repeated hypodermatic injections of
artificial serum. These injections are made deeply into the thighs or into the
buttocks 5 to 10 ounces of liquid being injected at a time, and
this repeated four or five times in twenty-four hours. The method was
employed with fifty-four patients, all in a grave state. There were sixteen
recoveries without transfusion. This treatment has the advantage that it
can be tried from the beginning, transfusion being reserved for the end.
Neumann and Garillard, of Paris, both argue in favor of subcutaneous in-
jections of salt water in Cholera. The quantity of liquid injected is from
3\frac{3}{4} to 10 ounces for children, and 1 to 1\frac{1}{2} quarts for adults. The liquid
contains, per quart of water, 11 grs. of chloride of sodium, with or without
the addition of carbonate of sodium, in the proportion of 01 per cent.;
1 per cent. of absolute alcohol may be added. The temperature of the solution
should be from 100.4° to 107.6° F. According to Neumann's method the
tubes and liquid are sterilized by boiling caoutchouc. The cannula, armed
with a fairly-large trocar is plunged, parallel, with the surface of the integu-
ments, into the subcutaneous cellular tissue, by preference in the region of
the flanks. It is pushed slowly in as the liquid flows out. The
swelling caused by the penetration of the liquid under the skin is energeti-
cally rubbed away with the fingers. When the cannula is taken away
the puncture wound is covered with a small piece of diachylon plaster.
Desprez, of St. Quentin, proposes a treatment by chloroform. 1. To destroy
the comma bacilli in the digestive canal, and to neutralize their secretions.
2. To calm the painful cramps of the stomach, which render that organ
incapable of supporting either medicine or drink. 3. To actively stimulate
the functions of the skin, so close connected with those of the digestive canal,
and of the kidneys. 4. When absorption is possible, to introduce into the
economy the principles capable of re-establishing, as far as may be, the normal
composition of the blood; medicaments that will render it fluid and available
for circulation. With this end in view, he employs the following medicaments,
in the form of a potion: —
R. Chloroform 15 grains.
Alcohol 2 drachms.
Ammonia Acetate 2½ "
Water 3½ ounces.
Syrup of hydrochlorate of morphine 1¼ "

Mix. Dose: Tablespoonful every half hour until the symptoms subside.

As a preventive, the author employs chloroform-water, sweetened to taste. Delpeuch, of Paris, made no intra-venous injections in his cases, and in the actual epidemic the statistics of the services where no injections were made were better than the others. In the absence of specific treatment, he treated the symptoms. Irrigation of the stomach alone succeeded in stopping vomiting. Against diarrhoea, opium and lactic acid were rather useless or insufficient. Irrigation with ½ or ¾ drachm of creasote appeared to be more efficacious. Against algidity and cyanosis, hot baths, injection of caffeine and ether had no effect. Injections of sulphate of strychnine, up to ¼ grain in twenty-four hours, alone raised the pulse, or caused it to re-appear after suppression. Dujardin Beaumetz, of Paris, gives the following résumé of the first aid to be given to Cholera patients:

1. To combat the diarrhoea, by administering three tablespoonfuls of the following lemonade, every half hour:

R. Lactic Acid 2¼ drachms.
Syrup of Sugar 3 ounces.
Tincture of orange 30 minims.
Poured into 1 quart of water. M.

2. To arrest the vomittings cracked ice or drinks containing carbonic acid, and, every hour, 20 drops of paregoric.

3. To warm the patient, warm alcoholic drinks, strong coffee with brandy, tea with rum grog; dry energetic friction, warm coverings, hot water bottles or hot bricks around the patient.
NOTICES OF BOOKS.


Thank God there is work for women for the Lord, thank God there is work for her in the Far East. Woman's heart beats for woman in her trials and aspirations, and East or West the favored woman of education and Christian principle must work to uplift the sister who is trammelled by custom, or bound down by ignorance. In the current number of Woman's Work one is perhaps most deeply interested in the work along the line of Temperance and of Foot-binding. The one touching a hoary old custom, which it would seem would bring down all Chinese social life with a crash in its fall; the other only a weakling yet, but the child of a father whose giant strength we know so well maiming and crushing the very flower of youth and vigor in Christian lands. One does not know which makes one feel most helpless, tearful, hand-wringing helplessness, thinking of the generations of past and present suffering little girls, crippled and being crippled, or of the generations to come of Chinese men, who spared by opium shall fall under the liquor curse, crippled too. When to China's women, debased by cruelty and ignorance, is added China's men besotted by opium and strong drink, what can save the nation from decay and death? We rejoice to know that though the enemy has already come in like a flood the spirit of the Lord is lifting up a standard against him, using even such feeble means to noble ends, as the Temperance and Foot-binding societies.

Another interesting article is that which gives a bright, happy answer to the question so often asked about the Chinese, and which was first propounded by Satan about Job—"Does Job serve God for naught?" Thus writes Mrs. Arthur Smith:

"Our poor Christian women have little money for the Master's treasury, but such as they have they bring, helping us out admirably with their time. One young bride gave us eleven days at her busy New Year time. The brightest of our dear Shantung girls spared twenty days from the making of her wedding trousseau to valuable teaching. Another bride gave twenty-one days. Another Christian, with fewer home cares, gave twenty-four days, but the sweet-hearted wife of our gate-keeper carried off the palm with her eighty-four days of faithful labor. Those who could carry on their work from their own homes received no food. Not one of these women received a cash in money. Three hundred and ten days of unpaid labor for the Church by the women and girls of our P'ang-chuang Church! They were given by poor country women and girls, with no ready money and with hard lives already crowded overfull with work."

There are some bright notes of Hospital experiences. It is hard to say which is funnier; the woman who wouldn't swallow and so conquered husband and sons, tacitly saying, in the doctor's words, "I have been too much for these men for many a day; what do you suppose you can do?" or what the doctor did. "As she lay apparently exhausted, but with a furtive eye on me, I prepared another dose and poured aromatic spirits of ammonia upon my handkerchief. Pouring the medicine into her mouth I suddenly clapped the handkerchief to her nose. In her surprise and gasp for breath she swallowed; keeping her attention by
bathing her face, rubbing her head and holding her chin up she forgot to struggle, until it was too late."

There is testimony to the value of Christian Endeavour Societies in stimulating and directing the lay work of the Churches, and a suggestive article on feminine ways of increasing home influence. May God bless His work in the home and the Church. Among the triumphs of the religion of Jesus is the conversion and consistent walk of one of that hardest class to reach, the Chinese soldiery.

The perusal of this last number of Woman's Work makes us feel like echoing Mrs. Smith's opening sentence—"The passing peeps into missionary experiences and lives to be found in this magazine always leaves one hungry for more, and often to bewail one's ignorance of the setting of some attractive picture."

'G.'

We are in receipt of some sample copies of calendars for 1894—two from the Religious Tract and Book Society of Kiukiang, and one from the Central China Religious Tract Society.

In regard to the former we feel like indulging in a little kindly criticism. The object of these calendars, in addition to their prima facie purpose, we take to be the dissemination of the leading principles of Christianity and general information upon other important subjects. Do these two calendars from Kiukiang fulfil this purpose? We think not. No uninstructed man could gather from their perusal any adequate notion of the teaching of the Christian Church, and no information at all in regard to other subjects is given. Upon one we have the picture and the story of Christ walking upon the sea, and that is absolutely all; upon the other a brief article on the printing press, the parable of Dives and Lazarus, the story of Belshazzar's feast, Daniel in the lion's den and a few verses from the N. T.: but no short succinct statement of the Christian faith is to be found.

The calendar from the Central Religious Tract Society will certainly be pleasing to the Chinaman's eye, as some of the illustrations are of objects familiar to him. In this calendar also, an attempt is made to give some account of Christianity, and the other paragraphs contain information of value—as for instance how to deal with cholera and opium poisoning.

We think great stress should be laid upon the importance of care being taken in the preparation of these calendars. They easily find a wide circulation, and if they contain careful compact statements of truths and facts, they may act as a powerful missionary agency.

F. L. H. P.


This diary is a distinct advance on last year, both with regard to its appearance, and usefulness. There are suggestions we deem we could make as to extending that usefulness, but we doubt whether they would equally commend themselves to all—our requirements necessarily being hardly the same. By way of comment we must add that the interleaving with blotting paper would be a great convenience, though, we admit, materially increasing the size of this diary, already numbering some 312 pages. Then as to the advantage to be derived from the extending of some of the departments, whilst curtailing others must remain a moot point. We are aware that owing to circumstances the publishers were unable to carry out some valuable suggestions. Still, we must congratulate our friends at the well known 'Mission Press' on so good a diary, at so fair a price, as 60 cents. The following Contents Table will give a better idea of the Diary than we can:

Diary with Dates of Chinese Festivals, etc., Register of Dispensary Patients (from January to December), Vaccination Regis-
The Missionaries' Anglo-Chinese Diary for 1894.

From the same indefatigable Mission Press have we the pleasure of acknowledging a copy of the above Diary. It occurs to us on looking through it that its thoroughness is mainly attributable to the fact that its editors are more 'at home' with our clerical colleague's requirements. This diary of 316 pages, somewhat exceeding its companion diary, is another handsome well printed book—it is excellently arranged and replete with every convenience for a systematized and profitable arrangement for our daily life and work. The subjoined 'Table of Contents' render any other remarks unnecessary:—

Diary with Dates of Chinese Festivals, etc., Stations Visited, Names, etc., of Enquirers and Candidates for Baptism, Enquirers Examined, Baptisms, Marriages, Funerals, Suspended, Excommunicated, Restored to Communion, Discourses Delivered, Days spent in Itinerating; Distances Travelled; Cost of Itineration, Incidental Expenses of Itineration, School Examinations, Books Sold, etc., Cash Account (from January to December), Cash Summary for 1894, British Postal Rates, United States Postal Rates, Shanghai Local Postal Rates, Japanese Postal Rates, Memoranda.

Outlines of Obstetrics. A Syllabus of Lectures delivered at the Long Island College Hospital. By CHARLES JEWETT, A.M., M.D. and edited by HAROLD F. JEWETT, M.D. W. B. SAUNDERS, 923 Walnut Street, 1894. Price $2.00 (gold.)

To this eminent Philadelphia firm are we indebted for this work. Sufficient warranty of its excellence with the name of Professor CHARLES JEWETT to the fore. The main idea and indeed aim of this syllabus is to help the student in securing a classified knowledge of the outlines of his subject, which it is believed, should be the first step in the pursuit of any branch of learning. This being accomplished, his progress will no longer be difficult. And so, upon a well ordered frame work of general facts and principles further acquisitions classify themselves, and a complete and systematic knowledge of the subject becomes a matter of comparatively easy growth.

The hope is entertained that the work in question may be of some value to the practitioner as a convenient hand-book for reference. We venture to believe it will be of very considerable value, and one we have pleasure in recommending to the profession in China.


To say that this magnificent work, an epitome of the medical progress throughout the world for the year now past, is thoroughly up to that high standard which its predecessor unquestionably attained, is only a just meed of praise. It is a standard work for all practical purposes to date, and yet so condensed as to come within the scope of these five handsome volumes.

The fund of information obtained from the winnowing and garnering of the gist of thousands of medical journals, books, monographs, theses, etc., is incalculable. In short, apart from the universal favour with which this Annual has been received, it is admirably fitted for the library of the medical missionary.
Chinese Calendar for 1894. British and Foreign Bible Society, Shanghai.

This calendar is excellently printed on thin white paper and its general appearance is very attractive. And one special feature of which is the Daily Text.

It has a Map of the Eastern Hemisphere, showing in red characters the position of Judea. Also four engravings in Chinese style, two representing the Broad and Narrow Roads, the others illustrating the story of the Prodigal Son. It also gives some specimens of other languages than Chinese, in which the Bible Society has published Scriptures.

Orders for the same can be directed to the B. and F. Bible Society, 13 Kiukiang Road, Shanghai.
FIRST ANNUAL REPORT OF THE CHUNGKING HOSPITAL, M. E. CHURCH, S.

The Report of this Hospital is interesting as being "the only well-equipped institution of the kind in West China" up to the date of writing. Dr. McCartney speaks most cheerfully of his work. In opening his Report he says: "We know that God has set His seal upon the medical work, and what we have not been enabled to accomplish in the past will come in the future."

There seems to be a very complete equipment for good work, as seen from the description of the Hospital plan.

"The buildings consist of two brick pavilions each 65 by 26 feet (Chinese); they each contain besides one public ward, two private rooms, a medicine room and clothes press."

"An operating room with instrument room attached in a separate building, is well suited to the use that is made of it.

Also a two-storied building containing dining room, kitchen, bath room and room for cast off clothing of patients, as well as rooms for help, and students above.

We have besides these a two-storied native building containing twelve wards, and a bath room."

The results of increased facilities is seen in advance in the work itself.

The work both medical and surgical has been much more satisfactory since we have removed from our temporary Chinese buildings into our foreign hospital.

We are always rejoiced, in the interests of civilization, when we see such statements as the following (we do love sheets and pillow cases in a hospital.)

"We had been told that the Chinese would not take a bath or keep themselves clean, that they would not wear our clean cotton shirts, that they preferred their hard beds to our spring mattress hospital beds; we fear that those who gave this report had never tried the experiment, and we are glad to say that our experiment has been a grand success."

Dr. McCartney gives a hint of what contact with foreigners will do in removing prejudice, and perhaps, what the habit of submitting to authority, inculcated by Romanism.

"We find the Catholic natives more intelligent and more willing to submit to an operation than the heathen."

Among the midwifery cases, we find a case of triplets. Three hundred and forty-four different surgical operations have been performed.

In regard to evangelistic work, while regretting that the seed sown in the dispensary department had, not yet borne fruit, the doctor rejoices in some hopeful conversions in the in-service of the Hospital.

The results during the year have been good, one of the first who claimed to have been brought to us through the influence of the medical work was an old widow by the name of Lieh. She was the attendant upon a patient we had in the city, and who had had a severe operation, when the patient recovered the old lady came to inquire about the doctrine she had heard about and after a time was taken on probation; she has proved faithful.

CHONG.—Orphan boy, necrosis of the bones entering into formations of knee joint,
joint resected, a beautiful recovery, after
this he desired to enter the school and was
accepted.

In a few months on his profession of faith
he was taken on probation and at present is
in full connection.

He has made a bright Christian and a
good student.

LIEU.—A boy brought to us much in the
same way as the last mentioned and with
the same disease. The resection was not
a success and the leg was amputated. He
made a rapid recovery, was taken into the
school and from there into the Church. He
is a bright and promising boy and has proved
himself worthy of all we have done for him.

Mrs. Wex.—In the hospital for suppura-
ing glands of the neck, became greatly in-
terested in the truth while there, left a be-
liever, and attends Sunday service regularly
walking from a distant part of the city each
Sunday.

We regard her as very hopeful and she is
reported by the Chinese as being very warm-
hearted.

One other has been taken on probation
on profession of faith from the opium refuge,
as well as two others from the hospital who
have been faithful thus far and we trust
truly owned of God.

During the cholera last summer we had
an opium patient die who had become a be-
liever and in his last moments prayed to his
Saviour to save him and we trust his prayer
was heard.

As to the result among opium smokers, in
whom all missionaries take so deep an in-
terest, the following testimony is encour-
aging:—

We have seen during the past year and a
half, two brought into the Church, as well as
others having been reclaimed and reinstated
by the means of this work.

We find that about 60 per cent. return to
the pipe, and that the other 40 per cent.
have been greatly benefited, physically and
every other way.

ST. LUKE'S HOSPITAL FOR CHINESE, HONGKIEW,
SHANGHAI

Of this old established Hospital there is
the usual succinct report, for the year 1893.
We make a few excerpts, setting forth the
work done, and the prospects for the future.

The following table gives a summary
of the work done during the year:—

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Native males</td>
<td>1501</td>
</tr>
<tr>
<td>Foreign</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>1498</td>
</tr>
</tbody>
</table>

Purchase of a New Lot.

On the 30th of June we purchased the
lot on the corner of the Seward and
Nanzing Roads, opposite to the Hospital,
thus securing room for the new wards when
they are needed. Taels 1,500 were borrow-
ed at 7 per cent. per annum, to meet the
full payment on this lot, and the Hospital
is now in debt to that amount.

The Report of the Hospital for Women
and Children, in connection with St. Luke's
Hospital we give almost verbatim, Dr. Haslep
says:—

"Our Report this year would be in figures
almost a repetition of that of last year.
About the same number of out-patients were
treated. There was an increase in number of
in-patients and visits." "We feel that
much has been gained. This is shown in
the class of patients. It is much better as
a whole than before. Also in an increase of
confidence in the purely medical work.
This is shown by their willingness to become
in-patients and to remain until well, even
though they must submit to a long treat-
ment and do not for some time see results.
Often those who would willingly have a
surgical operation performed, where they
know what will be done, and they or their
friends can see what is done, unless the
returns are quick, lose faith in medical
treatment; waiting being truly the hardest
work of all. On these lines we have felt
improvement, and it has been decided. Our
greatest need has been more room. We
have been unable to receive all the patients who desired to enter, also to increase our number of nurses or students, owing to our limited accommodation. We expect this year to have an addition to our present quarters. We can but hope in this coming year that our work will continue in the same line of progress. "G."
MEDICAL PROGRESS.

THE TREATMENT OF HEPATIC COLIC.

Grasset is a firm believer in the administration of olive oil in the treatment of acute and subacute hepatic colic. In the acute form the duty of the physician is to relieve the pain. For this purpose may be employed (1) a hot bath, which shall last from half an hour to an hour and a half; (2) he may administer every hour or every half hour a teaspoonful of the following mixture:

R. Chloroform-water, gr. v.
Syrup of orange-flowers, „ v.

In cases where there is vomiting, he advises hypodermic injection of morphine, and by the mouth administers frozen milk or frozen bouillon. When the crisis of the pain is most violent, if the stomach be tolerable, he advises ingestion of small quantities of olive oil every quarter of an hour until half a pint has been taken. The oil may be rendered aromatic by the use of the oil of peppermint. An injection also should be given composed of two drachms of infusion of senna and half an ounce of the sulphate of sodium.

In the treatment of the subacute form, which is more prolonged, of course, he advises (1) ingestion every morning of a wineglassful of aromatized olive oil; (2) every night a hot bath; and (3) every day four doses of from 4 to 10 drops of tincture of boldo; (4) morning and night he orders the administration of the following laxative pill:

R. Extract of belladonna.
Eunonymin.
Pulverized belladonna-leaves, of each, gr. 58.

In some cases it is well to supplant the eunonymin with podophyllin. (5) Every two hours he administers a glass of milk, and in addition adds to this two tablespoonfuls of Vichy water. In other cases where a laxative effect is desired, sulphate of magnesia is useful.—L'Union Médicale, June 3, 1893.—The Therapeutic Gazette.

TREATMENT OF EPITAXIS BY ANTIPYRIN.

Dr. Guenot has frequently found a local application of antipyrin to be of great service in idiopathic epistaxis. He employs a solution of 1 in 5, but in mild cases 1 in 10 solution is strong enough. He directs the patient to pour a little into the hollow of the hand and to inhale it vigorously. In the case of young or intractable children a syringe would be necessary to fill the nostrils, which should be compressed for a moment to allow the antipyrin time to act.—Lancet, Aug. 19, 1893. Indian Medical Chirurgical Review.

For the treatment of ulcers by phosphoric acid, use a ten per cent. solution of pure phosphoric acid in distilled water. The ulcer is covered with a bit of lint dipped in this solution, and the dressing renewed three or four times a day. The patient for the first few minutes feels a slight burning sensation, but this soon passes, and, within twenty-four or thirty-six hours, the ulcer cleans and looks better. Inflammation or eczema of the surrounding parts disappears, and all pruritus ceases. The ulcer cicatrizes rapidly, and the cicatrix is firm and healthy.—H. P. Nottage, M.D.

—The Medical Missionary Record.
MALARIAL HAEMATURIA.

For this dreaded disease our Southern physicians use turpentine with more success than any other drug. It is given in doses of 5-10 drops about every four hours, and the bowels are kept free with saline cathartics, opium being positively forbidden.—(Ib.)

QUININE AS AN APPLICATION TO WOUNDS.

Dr. ALFOLDI (Post. Med.-Chir. Press—N. Y. Med. Jour., May 6, 1883) is convinced that one per cent. solution of quinine sulphate is a more rapid detergent and cicatrizing in cases of infected wounds than either corrosive sublimate or iodoform. He states that wounds that are free from infection also heal with astonishing rapidity under the use of quinine application.

TREATMENT OF INFANTILE CONVULSIONS.

"M. JULES SIMON recommends the following line of treatment of infantile convulsions: 1. Empty the digestive tract by an enema and tickling the fauces to promote vomiting. 2. If the attack continues, administer ether or chloroform on a handkerchief. 3. Administer by the mouth, or if necessary by enemata, repeated doses of the following mixture: Chloral hydrate, fifteen grains; bromide of potassium, fifteen grains; syrup of codeine, ten drops; tincture of musk, ten drops; tincture of aconite, ten drops; orange-flower water, three ounces and a half—this quantity to suffice for twenty-four hours. 4. When the attack is very grave, give a warm bath and apply a small blister to the back of the neck or the epigastrium, leaving it on for three hours. Antiseptic precautions should be observed and a poultice subsequently applied."—Lancet. (Ib.)

FOR TENDER FEET.

Tramps, either amateur or professional, who suffer from sore feet after an unusually long walk, will experience great relief from soaking the feet once or twice a week in a half-pailful of hot water to which a piece of nitrate of potassium the size of a small walnut has been added.

VINEGAR FOR URTICARIA.

After trying many remedies in a severe case of urticaria, Mr. SWAIN found a vinegar lotion gave almost instant relief, and subsequent trials in other cases have been equally successful. One part of water to two parts of vinegar is the strength most suitable.—British Medical Journal.

EXTERNAL TREATMENT OF DIPHTHERIA.

In L’Union Médicale for June 3, 1893, SIMON, in a clinical article, announces his success in the external treatment of diphtheria. He employs to the area which is involved the following topical application:

R. Salicylic acid, gr. xv.
Infusion of eucalyptus.
Glycerin, of each oz. iss.
Alcohol, enough to make a solution.

After this has been thoroughly applied to the affected area he paints the part with a solution of perchloride of iron and glycerin in equal parts. Along with this treatment, he also institutes irrigation of the mouth and nasal cavities, using in each instance boric acid and water, or a 1 to 100 solution of carbolic acid and water. He also thinks it useful to employ the vapor of a decoction of eucalyptus leaves or atomization of thymol and water. Where there are fissures and cracks of the lips or gums, or if a pseudo-membranous inflammation has passed by, he obtains rapid healing through the use of the nitrate-of-silver stick applied daily lightly to the surface. If cutaneous inflammations follow diphtheritic inflammation, he employs tincture of iodine or an alkaline solution of iodoform.—The Therapeutic Gazette.
THE PERIOD OF INCUBATION OF THE INFECTIVE FEVERS.

From the report of the committee appointed by the Clinical Society of London to inquire into the incubation period of the various infective fevers, we extract the following:

The incubation period of the various diseases is:—(i.) Diphtheria, 2 to 7 days; often 2 days. (ii.) Typhoid fever, 8 to 14 days; sometimes 23 days. (iii.) Influenza, 1 to 4 days. (iv.) Meningitis, 7 to 18 days; generally 14. (v.) Mumps, 2 to 3 weeks. (vi.) Rubella, 2 to 3 weeks. (vii.) Scarlet fever, 1 to 7 days; generally 2 to 4 days. (viii.) Small-pox, 9 to 15 days; generally 12 days.

As regards the period of infectiousness diphtheria was found to be infective during incubation, attack and convalescence. Scarlet fever is infectious until all desquamation ceases; small-pox also until all the scurf separates from the body.

HEADACHE POWDERS

Are becoming very numerous and quite popular. The majority of them have about the same composition, and depend for their effect on phenacetin combined with similar remedies. Dr. Barrett says, in the MEDICAL WORLD, that he always uses the following compound:

Phenacetin .............. 5 to 10 grs.
Caffeine ................... 1½ dr.

This is to be varied as required by circumstances. Dr. Hare in the College and Clinical Record adds to the above composition 10 grains of bromide of sodium. The Doctor varies the proportion of these ingredients to suit the case. It is much more satisfactory to write a prescription than to prescribe ready-made combinations under proprietary names.

TO PREVENT Pitting in SMALL-POX.

<table>
<thead>
<tr>
<th>Corrosive sublimate</th>
<th>of each 1 gme. [15 grs.]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opium extract</td>
<td></td>
</tr>
<tr>
<td>Alcohol</td>
<td>5 gme. [1½ fl. dras.]</td>
</tr>
<tr>
<td>Glycerin</td>
<td>60 gme. [1½ fl. oz.]</td>
</tr>
</tbody>
</table>

Paint frequently on the face and neck, so as to keep the parts constantly moist.

(The itching of the skin will disappear, and the pustules usually abort, it is claimed, on or about the fifth day.)—A. M. S. Bulletin.—Pacific Medical Journal.

A MILK DRESSING FOR BURNS.

The Chemist and Druggist states that one of its French contemporaries, the name of which is not given, favors the use of milk as a dressing for burns, to be applied by means of compresses. The dressing is to be renewed night and morning. Under this treatment the reduction of the size of large burns has been marked and speedy. In one instance an extensive burn on the leg, treated in this manner for three or four days, was reduced from five inches to an inch in width. In another instance a severe burn that had been rebellious under a treatment with olive oil and zinc oxide healed rapidly under the application of milk compresses. This suggestion may serve as a valuable one for country practitioners when their accustomed remedies for burns are not at command. (Cream is a common application in the N. W. Territories of Canada.—(Ed.)

INCONTINENCE OF URINE.

Dr. G. H. R. Dabbs (Shanklin) writes: I have lately succeeded in curing a most intractable case of this affliction by making the boy sleep on a cane-bottomed couch (with good large holes in the cane) with as little covering as he could, and dressed in flannel trousers and shirt vice nightshirt. The amelioration commenced at once, and has now lasted six months. I feel justified, therefore, in recommending this simple plan to others—and the doctors of others, which is what I really mean.—British Medical Journal.

HORSE-HAIR IN MINOR SURGERY.

In an interesting article lately appearing in the Boston Medical and Surgical Journal Dr. C. O. Thompson calls attention to the
above. He uses the following method in preparing the hair for use: "A bundle of carefully selected hair weighing from one to four drachms (the very fine and coarse hairs being discarded), is freed from dust as much as possible by shaking and combing. It is then washed in strong soap or soda solution, and when dry placed in a jar or bottle of the capacity of about one pint (a Mason fruit-jar answers the purpose admirably) which is then filled with benzine, the jar being agitated frequently. The treatment with benzine may be repeated several times; thus all fatty material is removed from the hair. It is next treated with a strong solution of bichloride of mercury, and finally immersed in bichloride of mercury solution, 1–1000. After this treatment the hair was found to be absolutely free from germ life.

If removed from the antiseptic solution it becomes stiff and wiry, and is not easily tied. It should, therefore, be kept in the solution until needed for use. A small bundle of hair can be folded and placed in antiseptic solution in a small vial, such as is carried in the ordinary medicine case, and is then ready for immediate use. Unlike catgut or silk, it does not swell when placed in aqueous solution, but, on the other hand, is rendered more suitable for use by its becoming more pliable, and its flexibility is retained so long as it is kept in a moist condition. It can be easily tied and holds a knot perfectly well. Its smoothness and uniformity of calibre, is such that it can be very easily passed through the eye of the needle, which is certainly a marked advantage over catgut or silk."

Apropos of the foregoing and of interest to us in China it may be recalled that should sutures not be at hand, we can always readily prepare a practically sterilized suture, by removing a few hairs from the tail of a horse and placing them in boiling water for from three to five minutes have them ready for use.

Dr. Thompson gives the following summary with regard to the advantages of horse-hair:

1. Easily obtained and inexpensive.
2. Soft, pliable, elastic and holds a knot well.
3. Aseptic, non-absorbent and non-irritating.
4. Can be used with a very small needle, and makes no shoulder at the eye.
5. More easily removed than any other suture, without pain or injury to the tissues.
6. Can be used for drainage.

PERMANGANATE OF POTASH AN ANTIDOTE TO SEVERAL ORGANIC POISONS.

Antal (Pesth Med.-Chr. Presse, No. 7, 1893) experimentally examined the properties of permanganate of potash as an antidote to certain organic poisonings and found that those animals to which muscarine, strychnine, colchicum, oleum sabinum and oxalic acid had been administered, followed by two per cent. solution of permanganate recovered, whereas animals similarly poisoned but without resorting to the above-named antidote succumbed. The author therefore suggests its use when poisoning by one of the above substances has taken place in the human subject.—B. M. J., May 13, 1893.

THE PROCLIVITY OF WOMEN TO CANCEROUS DISEASE.

Dr. Snow says that the number of women who apply at the Cancer Hospital is twice as great as that of the men, and this notwithstanding that the cases of cancer of the lip and tongue are almost all males. This excess of females is due to the prevalence of malignant disease of the uterus and mamma. He then asks why these organs should be so frequently attacked. His answer seems to be three-fold: First, these organs are rich in cell-elements. Second, they are frequently exposed to irritation. Third, their normal condition and nutrition are interfered with by cir-
cumstances which he considers are more or less directly the result of what is called civilized life. Of these he specially blames constipation, over-pressure at school, the abuse of tea, and tight-lacing.—The Medical Record, N. Y.

THE MEDICAL ASPECT OF DISEASED TEETH.

One of the distinguishing marks of advancing social position is the amount of care bestowed upon the teeth. The attention paid to personal cleanliness marks a general class only, the finer degrees of which are often determined by the special care of the oral cavity. Aside from the aesthetic reasons for dental cleanliness, and the avoidance of unnecessary pain, which also is a mark of advancing civilization, our present knowledge of bacteriology offers the most cogent arguments for greater care of the teeth. Local caries of the jaw or empyema of the antrum of Highmore are, perhaps, the most serious result which most physicians have in mind in their daily routine. The more accurate searching for ultimate causes of disease has shown the widespread and often subtle influence which a neglected mouth may exert. Hipple calls attention to these various results in a recent number of the New York Medical Journal. He has found no less than forty fatal cases of pyemia, acute and chronic, which were directly traceable to a carious tooth.

The anatomical paths of entrance for pathogenic organisms from the teeth are numerous and direct both to the general economy and locally to the brain. An interesting and unusual case was one fatal actinomycosis in which the autopsy revealed an actinomycotic cavern in the anterior portion of the superior lobe of the left lung, in which was an irregular calcareous body about the size of a No. 6 shot. On microscopic examination this proved to be a small fragment of dentine surrounded by phosphate and carbonate of lime, incorporated with which were numerous threads of the ray fungus. There seemed to be no doubt that the fragment was the carrier of the infection.

He calls especial attention to the importance of buccal cleanliness in cases of gastric disturbance, and speaks of the almost entire futility of sterilizing articles of diet for patients in whose mouth chronic abscesses exist, or whose teeth are covered with tartar mixed with mucus and food in a state of decomposition.

The numerous nervous reflexes—ocular, anal and neuralgic—are easily explained but also easily not associated with their true cause. It is, however, the importance of bacterial infection which should be emphasized. As far back as 1802 Dr. Rush wrote: "I cannot help thinking that our success in the treatment of all chronic diseases would be much promoted by directing our inquiries into the state of the teeth of sick people, and by advising their extraction in every case in which they are diseased. It is not necessary that they should be attended with pain to produce disease, for splinters, tumors, and other irritants often bring on disease and death when they give no pain and are unsuspected as the cause of them."—The Boston Medical and Surgical Journal.

THE EMERGENCY TREATMENT OF A TOOTHACHE.

In the Medical Record for November 11th Dr. John E. Weaver, of Rochester, writes to the following effect: Toothache, according to the books, is a matter of small consequence, but many a physician would rather meet a burglar at the door on a dark night than a call to cure a bad toothache of several days' continuance. A hypodermic injection of morphine only postpones the evil day, and usually the patient is respectfully referred to the dentist. The tooth should not be extracted while the jaw and gums are inflamed and the latter swollen, and it is the physician's duty to treat the
case until these conditions are removed. The author advises always keeping on hand a small phial containing a mixture of ten drops each of chloroform, glycerin, and a saturated solution of carbolic acid and a grain of morphine, also a small wad of absorbent cotton. If the aching tooth has a cavity or a decayed surface, a small pellet of cotton should be saturated with the mixture and put into the cavity or against the decayed surface, as the case may be. The cotton is not to be packed in, for it will increase the trouble, but the pellet should be small enough to enter without crowding. In most cases this will end the trouble. When the gums are swollen and tender they should be painted two or three times at intervals of two minutes with a four-per-cent. solution of cocaine. At this time of the year, the author remarks, the patient may have been eating a good deal of fruit. If the tongue and the mucous membrane of the mouth are pale there is probably sour stomach, and the next day the toothache will return. Under such circumstances ten grains each of bismuth subcarbonate and phenacetine should be given at once before each of the three following meals, with a laxative if needed, and the eating of fruit should be stopped for a few days.—New York Medical Journal.

INFANTILE CONVULSIONS.

Dr. J. P. Priestley writing from Chicago to the New York Medical Journal says: "Apropos of the article on Infantile Convulsions by M. Jules Simon, summarized in the Journal for October 28th, I would offer the hypodermic injection of five grains of chloral hydrate for an infant aged two years as a most gratifying mode of treatment in these trying cases."
A very Happy New Year to all our friends.

The following idea may possibly tend to comfort us if sorrowing from the loss of a little one. "The children we have on earth leave us, and have their own place in the world, but our little ones with God are always ours, they never change."

We have pleasure in acknowledging the receipt of 'The American Medical Temperance Quarterly,' the organ of the American Medical Temperance Association and published by the Modern Medicine Pub. Co., Bante Creek, Mich. Although the Journal is the organ of the Association aforesaid it has nothing to do with temperance sentiment, but proposes to discuss the question of alcohol upon a purely scientific basis. There is much that is recent in relation to this subject, and we wish the Association and its very interesting Journal every possible success.

Nitrate of silver stains are easily removed by painting the part with tincture of iodine and then washing in dilute Aqua Ammonia.

A PROTEST AGAINST THE OPIUM COMMISSION.

The British Indian Medical Association has presented a petition protesting against the opium commission appointed with a view to prevent the production of opium in India. They say that the ryots cultivating poppies are more contented and better off than those who cultivate food grains; that many provinces are dependent for their support upon this industry, as the land otherwise cultivated could not be made to yield sufficient returns; that the opium is not used for intoxication; that the natives who do use the drug habitually are dependent upon some form of mild stimulant, owing to the swampy nature of much of the land they work in; that even used to excess the results are less harmful than those of alcohol, which would be the natural substitute for it, and the increased consumption of which would in all reason result in a greater proportion of crime; that the moral effect upon China would not be forthcoming, as the production of opium in China is already conducted on such a scale that to prohibit the export of opium to China would have but two results as regards China—the first, to give to the Chinese opium-growers the most complete protection against foreign competition, and the second, to force those opium-eaters who can afford to pay the higher price which Indian opium commands to consume the inferior product of native manufacturers; that the misery, distress and discontent, that would be caused all over the country by the prohibition of opium, would be rendered intolerable by the increased taxation, which would be necessary to enable the government of the country to be carried on after surrendering the opium revenue.

[When looking into the 'Personnel' of the Opium Commission here referred to, we were of opinion that Lord Kimberley had made a most wise selection; that is, wise, if a selection of well known honourable men can be so termed; we are therefore somewhat surprised to learn that even 'The Sentinel' deems that it is not so. We fail to appreciate how it is possible that persistent scurrility can at any time serve any]
pause, it appears to us only to antagonize those who otherwise would perchance give a courteous hearing. However harking back to our text, we do not think that the Opium Commission can possibly have any practical outcome, either with regard to the suppression of the growth of the poppy in India, or to the lessening of the opium habit in China. The question can neither resolve itself into one of sympathy, nor of practical politics. It is not only a question of grave fiscal policy of very great difficulty, but one in which the native of India will certainly have some very determining say. It must be recalled that the British Government have for some years past exercised a "discouraging" policy and that policy has within the past five years reduced the consumption of, and traffic in, opium. There is to our mind a deep significance in the action taken by the late Bombay Decennial Missionary Conference in this connection.—(Ed.)]

ATTRACTION CIGARETTE MATERIAL.

The Medical Press says that it has been discovered that all the used cotton-wool and lint of the Lariboisière Hospital in Paris has for years been systematically sold by the servants, as their perquisite, to the makers of cigarette-papers. The practice has been put a stop to.

We rather admire the naiveté of the last sentence.—(Ed.)

Much has been written with reference to the late Sir Andrew Clark. But one thought—and that Ruskin's, occurs to us in his connection, "Every noble life leaves the fibre of it interwoven forever in the work of the world." . . . Glancing through an "old country" paper mention is made of "his system," the same by the way of the great Heidelberg physician, Friedrich, now deceased, and one which in the long run will supersede all others—namely, few drugs, but a severe dieting of the patient. As the advice is somewhat applicable to the East we quote: "It is absurd, for example, for a man who is an abnormally high liver, and who, in consequence, suffers with his liver, to expect a few bottles of medicine to cure him. Sir Andrew Clark would never attempt this miracle, but would lecture such a patient very severely on his intemperance, both in eating and drinking, solemnly warn him that it was bad habits which were killing him, and then in nine cases out of ten send him away with merely a note concerning the proper diet for him, and without any prescription for a drug. Sir Andrew did this because he was an honest man, and he could do it, because, unlike most physiq'ns, he himself practised the temperance in things pertaining to the table which he preached."

"There is a perfect furor all over China to learn the English language. The Emperor is studying, why shouldn't we? say the people."—Home Paper.—[! Ed.]

The Medical Missionary Conference at Bombay appointed a committee to take into consideration the question of the publication of a Medical Missionary Journal (for India) with power to act.

A question frequently asked is: Are the majority of physicians and surgeons indolent? A Christian physician up in Minnesota decided to find out for himself. He sent out these three questions broadcast to the medical profession: 1. Do you believe in the Christian religion? 2. Do you profess it? 3. Are you a church member? He set forth the result, in part, in the St. Louis Medical Brief. At the time of writing he had heard from 33 states and territories, and the answers were still coming in. Out of 179 responses, 150 answered "yes" to all three questions and 13 answered "no" to all three. Nine answered "yes" to questions 1 and 2, and "no" to 3; seven answered "yes" to 1 and "no" to 2 and 3; and, strange to relate, two frankly answered
that they did belong to a church, but did not believe or profess the Christian religion. The total of those who put themselves on record as believers was 166, of whom 150 are church members. The infidels numbered 13. The general question is certainly answered in a convincing manner. The author of the article noted that each response from lady physicians contained three affirmations, and that whereas the believers gave simple answers “I do,” or “yes,” the infidels each took from three to five pages of paper to show their grounds of infidelity. Much of their argument, he adds, was covert sneers or personalities.—“Mid-Continent.”

THE JUBILEE.

The Shanghai celebration of its Jubilee passed enthusiastically. The oration by Rev. William Muirhead was very heartily welcomed, and received the highest encomiums from the press. If it fails to bear good fruit in regard to evils from which Shanghai suffers it will not be the fault of the speaker. Mr. Hanbury’s gift of five thousand taels was very opportune. We need an institution for the deaf and dumb. Lunatics also require to be cared for. The blind ought to have more done for them than has been done yet. When these three needs are supplied in Shanghai it will be an improvement of very great advantage in this way. The Chinese know what our hospitals are, but they have not yet among them our institutions for lunatics, for the blind and for the deaf and dumb.—The Messenger.

[With every possible sympathy for the poor unfortunates here alluded to, and perhaps more especially for the blind, we cannot conceive how the care of lunatics should be considered to come within the scope of mission work in China, when there is so much that is practical to be accomplished, were means more plentiful. While we must necessarily respect the philanthropy whereon these schemes are based—we still deem that missionaries have sufficient to accomplish in their well recognized branches of mission work, without wishing to embark on or even to endorse, such an utterly im-politic undertaking, as the care of Chinese lunatics.]—(Ed).

Over a couple of tons of ripe strawberries were gathered by some large growers in England, at the end of October. The fruit if somewhat small, was excellent in flavour, and is of course a second crop, the plants evidently not having exhausted their fruitiferous properties, owing to the exceptionally dry summer.

CURIOSITIES IN CURES.

About thirteen years ago there was published in Philadelphia a book entitled “The Influence of the Blue Ray of the Sunlight and of the Blue Colour of the Sky in developing Animal and Vegetable Life, in arresting Disease, and in restoring Health in Acute and Chronic Disorders to Human and Domestic Animals.” On the front page is this quotation: “If this be true, it upsets all theories.” It treats of the electromagnetic power of the sunlight transmitted through blue glass, and many successful experiments are related. A grapery, roofed in with blue and plain glass in juxta position produced in a shorter time than usual bunches of extraordinary magnitude and grapes of unusual size. A litter of pigs was separated into two parties; the heaviest and best-conditioned were put in an ordinary pen, while the smallest and lightest were placed under blue glass through which came the solar ray. After several months it was found that the last named were far in advance of the pigs heavier to begin with, but reared in the usual pigsty. A bull calf, so puny and feeble at birth that small hopes were entertained for its survival, was placed under blue glass. In 24 hours it rose to its feet, walked about the pen, and was able to take some food. It began to
The warrior ants have regularly organized ambulances. Latrielle cut the antennae of the ant, and other ants came and covered the wounded part with a transparent fluid secreted from their mouths. If a chimpanzee be wounded, it stops the bleeding by placing its hand on the wound, or dressing it with leaves and grass. When an animal has a wounded leg or arm hanging on, it completes the amputation by means of its teeth.

A dog, on being stung in the muzzle by a viper, was observed to plunge its head repeatedly for several days into running water. This animal eventually recovered. A sporting dog was run over by a carriage. During three weeks in winter it remained lying in a brook, where its food was taken to it. This animal recovered. A terrier hurt its right eye. It remained under a counter, avoiding light and heat, although it habitually kept close to the fire. It adopted a general treatment, rest, and abstinence from food. The local treatment consisted in licking the upper surface of the paw, which is applied to the wounded eye, again licking the paw when it became dry.

Animals suffering from traumatic fever treat themselves by the continued application of cold, which M. Delaunay considers to be more certain than any of the other methods. In view of these interesting facts, we are, he thinks, forced to admit that hygiene and therapeutics as practiced by animals may, in the interest of psychology, be studied with advantage.—Farm Folks.—The Medical Age.

The following prescription was given by a medical man early in the century: “Take a little of this ’ere and a little of that ’ere; put it in a jug before the fire, stir it up with your little finger, and take it when you are warm, cold, hot or feverish.” A favourite recipe of his was composed of henbane, camomile, night-shade, dock leaves, heartsease, marshmallows, St. John’s wort.

MEDICINE AND SURGERY AMONG ANIMALS.

Animals get rid of their parasites by using dust, mud, clay, etc. Those suffering from fever restrict their diet, keep quiet, seek dark and airy places, drink water, and sometimes plunge into it. When a dog has lost its appetite, it eats that species of grass known as dog’s grass, which acts as an emetic and a purgative. Cats also eat grass. Sheep and cows, when ill, seek out certain herbs. An animal suffering from chronic rheumatism always keeps, as far as possible, in the sun.
and about a dozen other ingredients. When asked what was the use of so many different things, he answered, "Well if you are going to shoot a bird you use plenty of shot; some of them will be pretty sure to hit the case."—The Lady.

Since the condition of the blind in this world of vision is the saddest than can be imagined—for the deaf and the dumb can make communication to each other, and can see the pleasing exterior of earth—it is highly interesting to learn that a weekly paper is published every Wednesday in England in Braille type for the benefit of the blind. It is called the Weekly Summary, and contains a summary of the news of the week "parliamentary, general and musical." The expression has not been inadvertently quoted. There is something extremely pathetic in the single word "musical" in this connection, as all will know who have seen the patient rows of the blind sitting and listening to that world of sound which is their only artistic gift from the world that lies around them.

It is not generally known that the electric light, which has done so much of late years to brighten our streets and our houses, is in reality, a very old friend. The voltaic light was known to, and exhibited by, Sir Humphrey Davy in 1806, while four years later, Albemarle Street, Piccadilly, was electrically lighted at the expense of the Royal Society. Thus we live and learn, and while we gleefully rub our hands and praise the inventor of to-day, our pride is humbled when we are told that our great grandfathers anticipated us by a century.

Thomas Heazle Parke.

The sudden death of Surgeon-Major Parke, which occurred September 10th, has closed the career of a man of unusual strength and gentleness of character. Few men have accomplished such arduous and varied service or acquired at so early an age such world-wide and deserved reputation.

Upon his return from his African expedition he received the full honour due him at the hands of the general public and his friends. The British Government alone maintained a brutal inattention to his services. Although this was on a par with the usual contempt shown the medical profession in English military and army management, the slight was so studied and marked that Parke felt it most keenly.

However a more lasting tribute than any army honor could have been, will remain for Parke, in the words of Stanley, written during the expedition, "His devotion was as perfect as human nature is capable of rendering."

Professor Charcot.

On the 16th of August died Jean Martin Charcot, physician, philosopher, and scientist. He was one of the grandes gloires of the French nation, and one of the princes of the medical profession. Though of a wide world reputation as a scientist he made one department particularly his own. In regard to diseases of the nervous system he was supreme, and may indeed be called the father of our knowledge of nervous diseases.

Within recent years Charcot largely devoted his attention to a study of those curious conditions now generally known as hypnotism. The subject is at once one of the most fascinating and one of the most difficult that has ever puzzled the brains of man. In one form or other it has been familiar from the earliest times, but chiefly as a convenient tool for the charlatan and the knave; and, in consequence, there are many good folks, both in the medical profession and out of it, who look askance upon the whole matter and on all who dabble therein. Prolonged and bitter controversies raged between the school of the Salpêtrière and its opponents, but all outside the medical profession will agree that it is highly desirable that the subject should be either finally discredited or established.
on a scientific basis. This is what Charcot endeavor ed to do, and he would be a bold man who would venture to predict the limitations of "psychological therapeutics." In any case, we owe a debt of gratitude to the man who was fearless enough to risk his reputation, and boldly crossed the threshold of the mystery.

TO EXTERMINATE MOSQUITOES.

It is claimed that the castor-oil plant when cultivated as pot-plants and brought into the house several hours each day, will effectually drive out all the mosquitoes.—The Texas Sanitarian.

It has ever been our aim to disseminate useful knowledge and we do not think it right that this delusion should be perpetuated in China. We have cultivated the Ricinus Communis on peculiarly scientific principles for the ends indicated, and are distinctly of opinion that the mosquito thrives on the juices of the plant in question, which renders it a most formidable animal to cope with. We do not think, there is anything that is really satisfactorily deadly, to any member of the culicide family, indeed we fail to see how there could be—for they start out in life in a way that no self-respecting larva could abide, swimming around, as if ashamed of themselves or of their progenitors, with their heads hanging down on the water and breathing through their tails. However, apropos of this, The National Druggist gives the following for rendering mosquito netting inflammable:

"Make a solution of one part of ammonium sulphate to five parts of water and immerse the netting in the same. One pound of netting will require from twenty to twenty-four ounces of the solution to thoroughly saturate it. The material is entirely inoffensive, and the ease with which it is employed is not its least recommendation. After saturating the bar (or other material) with the liquid, it is necessary to pass a hot iron over the fabric to dry it and make it ready for use."—(Ed.)

TO BORE HOLES IN GLASS.

Break off a part of the tip of a three-cornered file and grind a triangular point upon it. Avoid heating it enough to injure the temper; then make your holes with it just as you would make holes in wood with an awl, using turpentine to moisten the bearings of the glass. The edges of the file can be sharpened with an oil stone.—Scientific American.

CAUSE FOR FEAR.

Dr. Henry Martyn Clark, C. M. S. missionary at Amritsar, reports an interesting conversation with a friendly Hindu on the subject of Christian missions. "Do you mind telling me," said Dr. Clark, "which of all our methods you fear the most?" "Why should I put weapons into the hands of the enemy?" replied the Hindu, "But I will tell you. We do not greatly fear your schools; we need not send our children. We do not fear your books; for we need not read them. We do not much fear your preaching; we need not listen. But we dread your women, and we dread your doctors; for your doctors are winning our hearts, and your women are winning our homes, and, when our hearts and our homes are won, what is there left us?"—Church Missionary Gleaner.

A SUPERIOR METHOD OF MAKING TEA.

The Lyon Médical for October 29th gives the substance of an article published in the Répertoire de Pharmacie for October 10th. The tea is to be powdered immediately before it is used, boiling water is to be poured upon it (water not too hard), and to be left in contact with it for from five to seven minutes. In this way the aroma is developed in a remarkable degree, the theine is completely extracted, and the resulting infusion contains but a minimum of tannin.
The value of negative information was well stated by a famous French savant, of whom a lady asked an apparently simple question in science. He replied: "Madame, I do not know." "Well, what is the use of all your scientific education if you cannot tell that?" said she. "Madame, to be able to say I do not know."


All outstanding Association and Journal accounts should be at once forwarded to Dr. Gillison, Hankow. The American Presbyterian Mission Press, Shanghai, have now charge of all accounts, commencing 1894.

THE BIBLE IN CHINESE.

The Right Rev. Bishop F. R. Graves writes thus to The Churchman:—

I wish to call the attention of your readers to a remarkable work which has been going on for some years, and of which probably very few of them have heard. I refer to the new translation of the Bible into Chinese which is being made by Bishop Schereshewsky. The Bishop is well-known to the Church as the translator of the Old Testament into mandarin and of the Prayer Book into the classical style.

In 1881, to the great loss of the mission, he was stricken with paralysis and forced to leave China and resign his bishopric. His strength gradually came back to him, but he has never been able since to use a pen or walk without assistance. Under such circumstances any ordinary man would have succumbed and counted his work as done, but Bishop Schereshewsky conceived the idea of retranslating the Bible.

In spite of difficulties which were very great, he has persevered for six years, working eight hours a day on his typewriter. So far he has completed the translation of the Old Testament and half of the New. This translation is in the classical style, and is made by direct translation from the Hebrew and Greek. He hopes besides to make an improved translation into mandarin.

When the work is finished he will put it into its final shape under the hand of a Chinese scribe, and it is his dearest wish to have it published. It was my great pleasure to see his work and talk with him about it not long ago. No one can see him at his work without being filled with admiration for an energy so unerring. It seemed to me that your readers would appreciate such patient heroism and be favorably disposed toward a literary undertaking which requires such ripe undertaking and so many years of unflagging scholarship and so many years of unflagging devotion to a high aim.

The Shanghai Mercury of the 3rd inst. publishes an interesting account of the opening of the Naval Medical College at Tientsin. "The occasion is worthy of more
than passing notice, and will cause all who have the progress of China at heart to devoutly wish that the undertaking may be a success." So say we, while congratulating our old friends Drs. Kin Tat-Ting and Chow and wishing them too, every possible success in their work.

There is in New Guinea the only known specimen of venomous bird—The Rpir H' Doot, or "Bird of Death." Persons bitten by the creature are seized by maddening pains, which rapidly extend to every part of the body. Loss of sight, convulsions and lock-jaw are symptoms which follow in rapid succession, and finally death.

We have much pleasure in acknowledging from the courteous manager of the Shanghai Dispensary several very excellently prepared compressed tabloids of various drugs. The quinine (Howard's sulphate) are made up into two-grain tabloids, they are readily soluble and a most convenient method of administering that very important drug—the dose is accurate and the trifling extra cost involved more than compensates for the great saving of time effected in dispensing.

The sulphur tabloids are admirably adapted for children so disguised are they with sugar and lemon. 'Dover's Powder' (five grs.) are very convenient—so indeed are all the tabloid preparations submitted for examination. The firms with whom the Shanghai Dispensary deal are a sufficient guarantee of the purity of the drugs employed, and Mr. Chang's reputation as a most energetic man of business and careful pharmacist render it unnecessary to enlarge on the advantages to be derived from the home preparation of these tabloids. The MEAT JUICE, SYN. MEAT ESSENCE to which our attention has been particularly directed—is a simple expressed beef juice with a preservative agent. We have tried it for some while past and believe it is all it claims to be, an honest preparation made from fresh beef, and one we recommend.

At the Church Congress recently held in England, the Rev. F. Lawrench, the indefatigable Secretary of England Burial Reform Society and Sanitary Association, in a sermon on behalf of these societies, preached during the Congress on the text "A sower went forth to sow" (Matthew xi. ii.) said that such as the sowing was such would the harvest be. From the seeds sown of diphtheria, consumption, and other diseases communicable by germs, the harvest of deaths in 1890 in England and Wales alone was nearly 70,000. Such seeds should be destroyed, and in their place the seeds sown of health, strength, and long life. But these could grow only in an environment of cleanliness, fresh air, pure water, dry soil, and wholesome dwellings.

We are glad to welcome such teaching as this from the pulpit, and also to find that at a meeting during the Congress of the Church of England Sanitary Association it was resolved to send the following memorial to the President of the Local Government Board:

"Your memorialists represent a society which has for one of its objects to aid in securing for all the greatest possible immunity from infectious diseases; your memorialists ask you to take such steps as shall render imperative by law destruction before burial of the infectious germs remaining in the body when death has arisen from cholera or from any other disease communicable by germs."

Very glad indeed are we to welcome Dr. Fanny's letter of last month. He writes:

"Just a line to tell you what is going here.
1. The new Chiaungchou Hospital has been bargained for, and is already in process of building. So far there has been no opposition, as I had anticipated; and for this I am truly thankful to our Heavenly Father.
2. The Rev. A. L. Macleish, M.A., M.D. (Edinburgh), of the E. P. Mission, Amoy,
who but two years since had returned to China to resume his successful hospital work for a second term of service, has been compelled, by family reasons, to indefinitely give up the work he loved so much and return to England. This is much to be regretted, as Dr. Macleish is a man of ability, genial kindness, and good nature. He is a great loss to the E. F. Mission in particular and to us his medical friends in general.

3. An epidemic of "fever," the nature of which has not been declared, is reported to have swept over Amoy—or rather Koo-lang-au island—during the months of September and October. About the same time a similar epidemic visited Chiangchui. A small number of the cases I saw were complicated with pulmonary mischief; and in two instances with aphasia, while in one with melena. These latter ended fatally."

From Dr. S. S. McFarlane as genially as of yore "You will have heard ere this of the safe arrival of my colleague and family from home and in the full enjoyment of health and strength again. He brings reinforcements with him in the persons of one lady missionary and two "lay" evangelists. I am happy to announce that since their return we have had the pleasure of welcoming another "lay" missionary into our circle. Having arrived but four days ago he of course has not got a hold of the language, but the awkward thing about it is, that when we address him in English, he doesn't understand a word."

[Although we forebear claiming a very extensive philological knowledge, still we feel, in justice to our friend, that we ought to here express our views with regard to this very inter-ting statement. We believe that the fact of the new arrival not having obtained any very satisfactory hold of the language in four days, is not altogether indicative of any marked lack of 'brilliance,' neither in our opinion is an inadequate knowledge of English necessarily to be condemned. We would suggest Gaelic.-(Ed.)]

We have pleasure in acknowledging a long pleasing chatty letter from Dr. Herbert Parry, Ch'entu. We quote:—

"It is about a year since my last communication, and perhaps I cannot do better than just report in summary how the time has been occupied since then.

On returning from the hills, we re-visited our stations at Meicheo and Tanlin, and received a cheering token of quiet progress in the work in the baptism of six persons, three in either place.

We just returned in time to witness the triumphant 'home-going' of our worthy Bible woman, after about ten years of earnest service; she herself being the first to confess Christ by baptism in the city of Ch'entu (as far as Protestant missions are concerned).

With her, indeed death had lost its sting and victory was her's through Jesus our Lord.

After renovating our little ward we re-opened in November and from that time until April we had about twenty in-patients, all of the poor labourer class. Of these men, one died in the ward, a poor fellow who came with intense inflammatory oedema of one leg, ending in diffuse suppuration of whole limb from the knee, and acute lung disease. He came with a history of a mournful succession of severe diseases—fever, then ague, then paralysis and then this leg to crown all.

One bit of information I got from this man incidentally, fresh to me, was that one cure for ague is when the fit is coming on to make for the nearest water and jump in bodily, by which means the ague-imp may be sufficiently scared to induce him to take his flight forthwith.

This poor fellow after repeated attacks, had followed this plan in the midst of winter jumping into rice field water, he said that he got very cold but the ague left him and returned not.
I have the hope that this man did rest by faith in Jesus Christ, before the end came.

For the rest, acute suppurations of the limbs, carbuncle and diffuse scapular abscess, deep and large ulcers, paralysis (hemiplegia), multiple sinuses over buttock, malignant growth of glans penis account for them, and though it is impossible to keep track of these poor men after leaving, we have the comfort of knowing that the seed has been sown day by day while with us, that may bear fruit in ways and times we shall never fully know here.

An article in June No. with illustration, on Foot-binding, re-calls another little girl who attended dispensary this spring, losing one-third of one foot as result of gangrene following frost-bite and binding combined, the stump of the foot was saved and healed. Amongst dispensary patients I may also mention an old woman with sloughing carbuncle laying bare the whole neck to the muscles, leaving intact the integuments over the throat, the old lady full of gratitude and daily crying to the Lord, pulled through in a surprising way considering her age and poverty.

After closing the ward in April, I again visited Meicheo and Tanlin, finding seven persons awaiting baptism; three of them being father and two sons, and two others a husband and wife, and two others the wives of Christians, and one other the youthful son of the evangelist.

In May with our family we left Chentu to pass the summer in this district, where there is a very pleasantly situated station among the hills about forty miles from this city of Paoning.

Meantime daily seeing of a few country patients, and attendance on two of the ladies of our mission, in maternity, are the medical accompaniments of a summer holiday full of God's mercies.

We expect to be back in Chentu about end of September, and so I have as you see reported myself up to date.

Dr. Yardley Taylor writing from Pao-ting Fu, is of opinion that our silence is oppressive inasmuch as we haven't... well—dunning him—for some time past. We would (respectfully, of course) refer him to pages 186 of No. 3, Vol. VI., and 58 of No. 1, Vol. VII. Then Dr. Taylor goes on to delicately hint that he may not be quite up to the times. We admit the probability (nay, the almost certainty), but we do not think he need be too much alarmed at the idea of being quite alone, in this respect.

A few kindly lines come to us from our President from Chefoo, the cheery letter of old giving place to the one of sorrow, now received, and a sorrow too, in the which, we too needs have a share. "Our kind genial old friend and brother Dr. Nevius has been taken away from us." The circumstances of his death, in Dr. Southwate's presence were peculiarly pathetic. "We were sitting in his office talking over various matters when he suddenly fell forward. I caught him and laid him gently on the floor and all was over." Then the pity of it all for the poor invalid widow. "Nevius was a splendid man in every respect, and will be so greatly missed."

BIRTHS.

At Chi-chou, North-China, on Nov. 7th, the wife of Mr. Sewell S. McFarlane, L.R.C.S., L.R.C.P., of a son.
At Seoul, Korea, 10th November, the wife of Dr. W. T. Hall, of a son.
At Chungking, on the 18th Dec., the wife of Cecil T. Davenport, F.R.C.S., of London Mission, of a son.

MARRIAGE.

DEATH.
At Han-chang-fu, Shensi, on the 12th Oct.,
Robert Henry Wilson, son of Dr. and
Mrs. Wilson, aged 9 months.

ARRIVALS.
At Shanghai, 7th Oct., Dr. W. T. Seymour,
for Tungchow, and Miss H. B. Donaldson,
M.D., for Chi-ning-chow, both for
the Presbyterian Mission.
At Shanghai 10th Oct., Miss M. E.
Carlton, M.D. (returned), for Foochow,
and Miss Anna D. Gloss, M.D., for the
Methodist Mission.
At Shanghai, 19th Oct., Dr. and Mrs. B. C.
Atterbury and child (returned), Peking.
At Hongkong, 25th Oct., Dr. H. Wittenberg,
for the Basel Mission.
At Shanghai, Nov. 14th, Dr. H. T. Whitney,
wife and 3 children, with two
children of Dr. Kinnear, and Miss K. C.
Woodhull, M.D. (all retu.
and
Miss Niebe, M.D., for America,
Mission, Foochow; Dr. and Mrs. O.
Irish, for M. E. Mission.
At Shanghai, Dec. 19th, Dr. F. B.
Malcolm, for Amer. Bapt Mission, West
China.
At Shanghai, Dec. 20th, Mrs. J. L. Wyc-
koff, M.D., for Amer. Bapt Mission,
West China.

DEPARTURES.
From Shanghai, 9th Nov., Dr. and Mrs.
M. Westwater and family, Scotch Pres-
byterian Mission, for Scotland.
From Shanghai, Nov. 25th, Mrs. Schofield
and 2 children, for England.
From Shanghai, Dec. 15th, Dr. W. R. and
Mrs. Faries and 2 children, for a visit
to U. S.