pox, as formerly supposed, that vesicles containing vaccine result? This latter sets up in human beings a non-infectious disease of a mild type; and in the same manner it might be supposed that the germs of scarlatina, modified as above, might possibly, when applied to the mucous membrane of the throat, also set up a milder non-infectious disease, running a regular and definite course.

It was a curious fact that in the outbreaks of diphtheria at Camberley and Hendon poor people who drank infected milk so often escaped the disease. Mr. Power, in his report, explains this from the fact that the poor buy a small supply just sufficient for a meal and use it at once, but that richer persons take a larger quantity, and probably keep it some hours before using it, during which time the germs appear to multiply, and thus render the milk more poisonous. In corroboration of this theory it is remarkable that, in the house at Eton in which the largest percentage and the most severe cases occurred, evening's milk was never used until the following morning, and morning's milk in the evening of the same day. Moreover, diluting the milk seems to have had the effect of diminishing the intensity of the poison, for in the house above-mentioned, in which no cases occurred, and where the evening's milk was boiled for early coffee, the morning's milk was always mixed with that from another dairy. Again, in another house, in which, as mentioned above, the children escaped, after the nursery milk was taken, the milk from the two sources was mixed, and although four cases did occur in the house, they were so slight that it was not thought necessary to keep the patients in bed.

A CASE OF FÆCAL EXTRAVASATION INTO THE PERITONEAL CAVITY: THOROUGH WASHING OF THE PERITONEUM: RECOVERY.

By HARRISON CRIPPS, F.R.C.S.,
Assistant-Surgeon to St. Bartholomew's Hospital.

UNTIL recent times, the extravasation of fæcal matter into the peritoneal cavity was regarded as an almost inevitably fatal accident, the patient either rapidly succumbing from the symptoms of shock, or in a few days from acute peritonitis.

From a superstitious dread of opening the peritoneal cavity, no attempt was ever made to save such cases by surgical procedure. Owing, however, to the enterprise of the earlier ovariotomists, it soon became apparent that not only did the peritoneum safely admit of free exposure and handling, but that it possessed a power of repair probably in excess of that of any other tissue in the body. A further great advance in peritoneal surgery was the method of thoroughly flushing the cavity to remove obnoxious material contaminating it after ovarian operations, a method first suggested and successfully practised by Mr. Lawson Tait. The principle thus introduced has, through the practice of Mr. Treves and others, been found to be of as much value in the general surgery of the peritoneum as it has proved to have been in the hands of ovariotomists.

I venture to record the following case as an instance in which a life was undoubtedly saved by the employment of this principle.

Miss —, aged 52, sent to me by my friend Dr. Hudson, of Barbadoes, gave the following history: She had always lived in the West Indies, and had been in every respect a healthy woman until about a year ago. At that time she commenced to be troubled by slight constipation, followed by attacks of diarrhoea. The symptoms continuously increased, and for the last two months she has required to go to the closet several times a day, especially in the morning. At these times she passes only a small quantity, and has the sensation of the bowel never being completely relieved. She does not like to pass urine, for if she does so a teaspoonful or two of mucoid discharge escapes from the rectum.

She does not have much pain in the lower parts of the bowel, but has great pain occasionally in the small of the back. She is a stout woman, and has lost flesh lately. Upon making an examination the anus was found to be normal, but at a height of 4 inches was a tight anular stricture, which would only admit the tip of the finger. The stricture was fringed with hard malignant

nodules, and the diseased portion of the bowel appeared to extend to a considerable height.

Owing to straining, the strictured portion of the bowel had become considerably invaginated, so that a *cul-de-sac* nearly an inch in height completely surrounded the diseased bowel, which felt to the finger not unlike a projecting cervix uteri. The height of the disease rendered its removal impracticable, and on account of the distressing symptoms produced by the stricture a colotomy was advised. The operation, however, was postponed for ten days, on account of a troublesome cough.

On June 20th, the patient being placed under an anæsthetic by Mr. Mills, I performed inguinal colotomy after the method I have recently described in the JOURNAL.¹ The bowel was opened on the second day. All went well till the fifth day. At that date she had a violent fit of coughing at 8 A.M. This was soon followed by abdominal pain. The pain increased, and by the middle of the day became very intense, and she commenced to retch. At 1.30 I saw the patient. She was suffering intense abdominal pain referred to the umbilicus, and was rolling about the bed. Her hands were cold, her face looked pinched and shrunken; the pulse, which was extremely rapid, could scarcely be felt at the wrist. Indeed, she showed all the symptoms of severe shock.

On examining the wound, I found that the stitches had given way, and that the bowel, except at one corner, had dropped back into the abdomen, and that the peritoneal cavity in the neighbourhood was full of fæces of pea soup consistency. From the severity of the symptoms I feared the case was hopeless. However, with the aid of my colleague, Mr. Bruce Clarke, I picked out the bowel, and passed five strong silk sutures through the skin, and then through the edge of the bowel on each side. These were not tied, but held in such a way as to prevent any more fæces being poured into the cavity. We then proceeded to thoroughly wash out the matter already extravasated. This was done by at first simply syringing with a Higginson syringe all the parts in the immediate neighbourhood of the wound. An india-rubber tube about the size of the finger was then passed 6 inches downwards towards the pelvis. Water was pumped through this, and allowed to regurgitate from the wound. It at first returned deeply stained with fæces. It gradually came back clearer, and after several quarts had been used returned perfectly clear. The position of the tube was varied from time to time during the washing.

A glass drainage tube was now passed in at the lower angle of the wound, and the stitches on each side drawn tight and fastened. To save time, no anæsthetic was given. It was a point of marked interest to observe that the abdominal pain which, had been intense, ceased entirely in a few minutes after the washing had begun.

5 P.M. Since the washing the patient has been entirely free from pain. She is still suffering much from shock, and the pulse at the wrist cannot be counted, and the glass tube is full of slightly turbid fluid which was drawn off.

10 P.M. Pulse very feeble, 152, no pain, tube again full of fluid, but nearly clear. Temperature, subnormal.

June 26th. Restless night, was twice sick. Pulse stronger, 130.

June 27th. Better night. Pulse 110. No more vomiting. Fluid in tube smaller in quantity and quite clear. A large quantity of fluid motion is constantly running from the colotomy wound.

June 29th. Improvement continues. Pulse 100. Has almost constant diarrhoea, but which by careful nursing has been prevented coming into contact with the tube. Glass tube taken out.

During the next fortnight she had constant diarrhoea, the temperature ranging from 100° to 103°. The diarrhoea then gradually ceased, the temperature became normal, and the appetite increased. In the course of a month the colotomy wound had completely healed and the new anus was acting well, without pain or trouble. The following month she returned home to the West Indies, and I have heard since that she has been able to get out and about, and that the colotomy opening acts satisfactorily.

There are two particular points of interest in this case, the first is the rapid and complete relief from intense pain which followed immediately on the washing out of the fæcal matter from the abdominal cavity. The pain must have been due to the contact of the acrid fæcal matter with the peritoneum. It could not have been due to inflammation, for it came on too rapidly for such to have taken place.

The second point of interest lies in the fact that notwithstanding the extensive extravasation of fæcal matter it gave rise to no

secondary peritonitis. The case, too, affords further evidence how faecal extravasation may be successfully dealt with by surgical interference, although the accident has happened some hours previously.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

AN OUTBREAK OF INFLUENZA ON BOARD THE INDUSTRIAL TRAINING SHIP *MOUNT EDGECUMBE*.

The first case of influenza occurred on January 31st, 1890.

On February 2nd there were 6 fresh cases

"	3rd	"	8	"
"	4th	"	16	"
"	5th	"	16	"
"	6th	"	16	"
"	7th	"	10	"
"	8th	"	4	"
"	9th	"	7	"
"	10th	"	0	"
"	11th	"	1	"

making a total of 85 out of 196 boys, or 43 per cent. The ages of the boys range from 12 to 16. The onset in most of the cases was very sudden—shivering, pains in the head, and general feeling of illness being the usual commencement. The attacks lasted from two to five days, the average time being three days.

The three cases given below under relapse occurred four days after the onset, and all occurred in boys who were taken ill on the same day, the same symptoms as at the commencement being present, namely, shivering headache and a rise in temperature. During the outbreak 4 of the officers of the ship were attacked out of 12, in addition to the above cases. In all the cases among the boys, except 5, I was struck with the comparative mildness in the severity of the pain as compared with adults suffering from influenza.

Frontal headache only	49	Sickness at onset	3
Pain in head and legs	3	Sore throat	5
Pain in head and back	17	Cough	10
Pain in head, back, and limbs	6	Eyes suffused	14
Pain in head and chest	7	Running from nose	7
Pain in head and epigastrium	3	Relapses	3
Popular rash	2	Complications (catarrhal pneumonia 11 days after the commencement of the attack)	1
Herpes labialis	4		
Temperature range from 99° to 103.6°; in two cases only was the temperature over 103°, 99 to 99.5° in 21 cases, 99.5° to 100.5° in 16 cases, 100.5° to 101.5° in 23 cases, 101.5° to 102.5° in 17 cases, and 102.5° to 103.5° in 8 cases.			
Saltash, Cornwall.			

GEORGE PRESTON, L.R.C.P., etc.

THE INFLUENCE OF THE INFLUENZA WAVE ON MENSTRUATING WOMEN.

In reference to Dr. Robert Barnes's note in the JOURNAL of February 15th, I send the following notes of cases in my practice:

M. H., domestic servant, aged 21, on the second day of menstruation, was suddenly seized with vomiting, and was much prostrated; temperature 103°. The usual symptoms of the epidemic then set in, and on the following day the temperature in the morning was 104°, and in the afternoon 102.8°; the next day it fell to normal, and remained so; the weather previous to her attack for two days had been foggy and damp.

M. A., domestic servant, aged 24. A relapse occurred on the second day of menstruation, the patient having been free from all symptoms of the previous attack for a week; her temperature on the relapse was 102° in the evening, and 100° the next morning; the weather in this case for the two previous days had been mild, misty, and wet.

In a home for girls to which I am medical officer, the ages of the inmates ranging from 15 years and upwards, out of the 36 girls in the home, 10 were attacked between January 15th and 27th; 8

out of the 10 were menstruating, or menstruation appeared during the attack; the cases were marked with a high temperature, from 101° to 105° (in one case), and the weather just before the various seizures had, as a rule, been damp and foggy. The other 26 inmates, who were not attacked, were not at the time menstruating.

REGINALD EVERSHED.

Rosslyn Hill, Hampstead.

INFLUENZA: RAPID SPONTANEOUS GANGRENE.

H. B., aged 56, a rural postman, was taken ill while delivering his letters on February 3rd. Seen at 6 P.M., he had an undoubted attack of influenza: temperature 102°. February 4th, better; temperature 100°, 4 P.M. February 5th, a small black spot, size of small marble, is seen over dorsum of right great toe; temperature 102°, restless; pulse 120; some redness of foot, no pain or tenderness. February 6th, 5 A.M. The whole right foot was gangrenous; he was delirious. Temperature 104°; pulse 130. The leg from the knee downwards was red and inflamed. The patient died at 7 P.M. Last autumn the patient had an inflamed corn on the other foot, which for weeks refused to heal. He was a heavy drinker—ten pints of beer and gin a day. Cases of gangrene so rapid as this are, I think, rare enough to record. I imagine that the influenza was primarily to blame for the gangrene attacking him. The man was very stout and full blooded.

Dulverton.

GEORGE F. SYDENHAM, M.R.C.S.

EPIDEMIC INFLUENZA IN A NEWBORN INFANT.

I RECENTLY attended a lady who, in the last month of pregnancy, developed an attack of the prevailing epidemic. On the fourth day, whilst she was still febrile but improving, labour came on, and she was delivered easily of an apparently healthy baby. He roared lustily at first; but after being washed I thought he remained blue and cold and without the usual reaction. The next day he was whining a good deal, and his temperature was 102° F. On the following day he had a redness of the face and chest similar to that seen in many cases of the epidemic, followed by a copious eruption of sudamina, and his respirations became very shallow, but no pleuritis could be detected; there was also subconjunctival ecchymosis. On the following day there was well-marked acute pulmonary catarrh, his temperature ran up to 105.8°, and he died in the course of the day. There was no *post-mortem* examination. The mother made a good recovery. Four days after the child's death the monthly nurse had a mild attack of the epidemic.

South Kensington.

J. KINGSTON BARTON.

SEQUEL TO TWO CASES OF AMPUTATION FOR LEPROTIC GANGRENE.

IN the JOURNAL for March 7th, 1885, I recorded two cases of amputation for leprotic gangrene. Both these patients have since died from other causes, and a few notes on the *post-mortem* appearances may be of interest.

CASE I.—P., Hindu, aged 24. Admitted May 31st, 1878, with anæsthetic leprosy of two years' duration. Amputation through thigh on March 7th, 1884. Stump healed by June 5th. Died December 20th, 1889. Body wasted. Stump firmly healed. Some atrophy of median nerves. A few pleuritic adhesions. Spleen 24 ounces; simple hypertrophy. Kidneys 7 ounces; capsules adherent; cortices thinned and blurred. Dark purple patches of congestion in mucous membrane of large intestine; small ulcers in places. Magenta showed no bacilli.

CASE II.—J. S., Portuguese, aged 25. Admitted January 20th, 1877, with mixed leprosy of eleven years' duration. Amputation through knee-joint on April 18th, 1884. Stump never entirely healed. Died February 17th, 1886. Superficial ulceration of hands, nose, and neck. Healthy granulating surface over stump about three by two inches. Tip of epiglottis ulcerated away. Vocal cords replaced by a ragged, granulating mass. Slight pleuritic adhesions towards left apex. Pleuro-pneumonia at right base, with a few small abscesses. Several ounces of bloody fluid in right pleura. Spleen 30 ounces; simple hypertrophy. Magenta showed numerous bacilli in larynx, femoral gland, and testes.

In each case the patient appeared to be almost in *extremis* when amputation was performed, and the further history is of interest as showing that life was prolonged in the first patient for five years and nine months, and in the second for one year and ten months. Death in the first case resulted from mixed kidney and