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Original Communications.

A CASE OF INTUSSUSCEPTION IN A CHILD: OPERATION—RECOVERY.

By A. PRIMROSE, M.B., C.M., EDIN., M.R.C.S., ENG.

Professor of Anatomy and Associate Professor of Clinical Surgery in the University of Toronto;
Surgeon to the Hospital for Sick Children, Toronto.

There seems to be a consensus of opinion at the present time that in cases of intussusception early operation holds out the greatest prospect of recovery to the patient. The further proposition may be made that operation should take the form of laparotomy rather than attempt any such measures of doubtful utility as inflation per rectum with air or fluid. The following case illustrates the advantages of abdominal section:

F. B., aged $3\frac{1}{2}$ years, was admitted into the Hospital for Sick Children, Toronto, on Monday, November 18th, 1901, late in the afternoon. The patient was admitted under Dr. Thistle, who asked me, as his surgical colleague, to operate. On November 15th (three days before admission) she first complained of trouble. She suffered from pain in the abdomen on the left side, and there was obstruction of the bowels, the administration of purgatives being ineffectual to relieve it. The pain was intermittent in character and varied in intensity. There was persistent vomiting, and she passed from time to time considerable quantities of bloody mucus. On admission to the hospital her face was flushed, but she did not look very ill save that she exhibited a remarkable indifference to what was going on about her, and she appeared in a condition of lethargy. The tongue was coated, her temperature was 100, her pulse 132, and respirations 28 per minute. The abdomen was perhaps slightly distended, but it was quite flaccid and there was a remarkable absence of tenderness on palpation.

A distinct tumor could be felt on palpating the abdomen in the left lumbar region. It extended upwards into the left hypochondriac region and across to the upper part of the umbilical region. This tumor was sausage-shaped, but curved so as to form a segment of a circle with the concavity looking downwards and inwards towards the umbilicus. On digital examination of the rectum nothing abnormal was detected, but on removal of the finger it was found to be covered with a considerable quantity of bloody mucus; there was no fecal matter, however. The diagnosis of intussusception was made and operation was undertaken for relief. Chloroform was administered at 8 p.m. Under the anesthetic the tumor could be very distinctly marked out; it was shaped like an omega loop and was very hard. An incision was made in the middle line below the umbilicus, and was enlarged upwards through that structure in order to reach the tumor. An attempt was made to deliver the tumor mass upon the anterior abdominal wall, but there was considerable difficulty in accomplishing this, the tumor being fixed firmly by the ligamentum suspensorium lienis. It was found to be an intussusception about 10 inches long and 2½ inches in diameter. The intussusceptum proved to be the transverse colon which had become invaginated into the splenic flexure of the colon. The point of entry of the intussusceptum was far back in the left hypochondriac region, and was fixed there by the ligament already mentioned. It became necessary to enlarge the incision well up to the ensiform cartilage before we could deliver the whole mass on to the anterior abdominal wall. An attempt was now made by slight traction to pull out the intussusceptum, pulling upon the transverse colon above the tumor, but this was absolutely ineffective. I then asked Dr. Thistle, who assisted me, to continue this traction slightly whilst I manipulated the tumor mass. I found, contrary to all teaching on the subject, that pressure immediately over the apex of the intussusceptum was most effective. By pressure exerted by my right hand directly over the apex of the intussusceptum whilst firmly supporting the tumor with my left hand, the invaginated bowel was pressed out of the intussusciens. Some adhesions existed near the apex of the intussusceptum, but none existed elsewhere. There was, in fact, a remarkable absence of lymph or of peritoneal exudate. The following condition was now noted after reduction: Extensive ecchymosis was observed in the portion of the omentum which had followed the invaginated bowel into the intussusciens: The bowel above the tumor was quite collapsed; there had been absolutely no distension. A very much thickened piece of bowel formed the apex of the intussusceptum. The amount of thickening here was so remarkable

that I found it impossible to convince myself by manipulation that the lumen was pervious. It reminded one somewhat of the normal pylorus, but involved a much larger extent of the gut. To make sure that obstruction was not complete I had normal saline injected per rectum, and satisfied myself that fluid passed through the thickened portion. During my manipulations I had ruptured a portion of the serous covering of the bowel, and this I repaired with a few points of fine silk suture. The abdominal wound was then closed by interrupted silk-worm gut sutures. A quantity of normal saline was left in the bowel. An hour after the patient was returned to bed half grain of calomel was given, and this was repeated every half hour until she had taken two grains. At 1 o'clock a.m. (four hours after the operation) the temperature was 99.4, pulse 160, and respirations 32 per minute. She was very quiet all night, but did not sleep much, in the morning a saline (magnesium sulphate) was administered and the bowels moved freely several times during the day. Salol and subnitrate of bismuth were now administered in appropriate doses every four hours and the patient was fed by peptonized milk by the mouth. She made an uneventful and uninterrupted recovery. Free action of the bowels was maintained daily by the administration of calomel and salines. There never was any abdominal distention and no vomiting after the operation. She was discharged from the hospital perfectly well on January 13th, 1902.

I find in my note-book a record of four cases of intussusception, operated upon with three recoveries. The *first* came under my observation when I was house surgeon in the Paddington Green Children's Hospital, sixteen years ago, and was admitted by me under the care of Mr. Stanley Boyd, the visiting surgeon on duty. It was a remarkable case of a child five years of age brought to the Hospital in a condition of profound collapse and supposed to be suffering from prolapse of the rectum. The supposed prolapse proved to be small intestine which protruded in a mass the size of a man's fist from the rectum. Mr. Boyd attempted to reduce this under ether, but respiration stopped and artificial respiration had to be maintained for half an hour. The child gradually rallied; however, the operation was abandoned for the time being and attempts made to stimulate the child in every possible way. Next morning (the child having been admitted at 8 o'clock the previous night soon after which the attempts above recorded were made) there was some improvement in pulse and temperature and laparotomy was performed; by careful and prolonged manipulation the intussusception was reduced completely, the operation lasting for an hour and a half. The

advancing part of the invaginated gut was found to be the ileo-cecal valve and the vermiform appendix. The child made an uninterrupted recovery. There had been a history of some obscure abdominal trouble extending over two months before admission to the hospital, and doubtless the intussusception was more or less chronic in character.

The *second* case I have recorded was that of a baby five months old, admitted for intestinal obstruction, under my care in the Hospital for Sick Children, Toronto, on December 15th, 1899. Abdominal trouble became apparent the morning of the previous day, and all efforts to get the bowels to move by the administration of purgatives were unavailing. Laparotomy was performed and a twist of the small intestine was found about two feet below the duodeno-jejunal juncture. Six inches above this an intussusception existed, involving four inches of the gut. This was readily reduced. Six inches still nearer the duodenum was a second intussusception involving some four inches of the gut. The portion of bowel above this point was greatly distended, whilst below it was remarkably collapsed and presented a curious pitted appearance. The wound was closed in the usual way. All efforts were unavailing to produce a movement of the bowels, and the patient died sixteen hours after the operation.

The *third* case was that of a boy fifteen months old, admitted to the Hospital for Sick Children, Toronto, under my care on April 20th, 1899. At 2 a.m. on the morning of admission the bowels moved freely after castor oil, but towards daylight abdominal pain became great and a considerable quantity of blood was passed per rectum. He also vomited persistently all day. Late in the afternoon he was admitted into the hospital when an enema was given, and as a result a small quantity of blood and mucus passed, but no fecal matter. Digital examination of the rectum revealed no tumor, but blood came away on the finger. The child was remarkably drowsy, in an almost semi-comatose condition, but he could be roused. He had little or no pain. The abdomen was somewhat tense, but not markedly so. There was some indistinct indication of a tumor on the right side in the iliac fossa. Chloroform was administered at 9 p.m. (about fifteen hours after the onset of the symptoms). Air was pumped into the rectum by a Higginson's syringe. This readily passed through the ascending colon and the transverse and the descending colon, but it seemed to stop at the ileo-cecal valve, where the tumor still appeared to exist. It was therefore considered wise to open the abdomen, and an incision was made in the right semilunaris. The cecum was pulled out into the wound, and on making traction upon it the ileum came into view. This was very

deeply congested, almost a port-wine color, and presented a mottled appearance. This condition existed for six inches of the gut and then stopped abruptly. On feeling this piece of intestine it appeared to be about three times as thick as normal and felt firm like a piece of leather. The condition of thickening and congestion continued right up to the cecum and ended there abruptly. It appeared that on pulling the cecum forcibly into the wound through a limited abdominal incision, the ileum had been pulled out of the cecum during the manipulation. There is, of course, the other possibility that reduction had been effected by the air inflated. The case illustrates the impossibility of determining with absolute certainty the effect produced by inflation in such cases. Silk-worm gut sutures were introduced and a dressing applied. The child made an uninterrupted recovery. These three cases I reported in detail two years ago.*

The *fourth* case is that of the patient whose history I have detailed in full at the beginning of this paper.

In the discussion on the treatment of intussusception in children at the last meeting of the British Medical Association at Cheltenham, abundant proof was forthcoming to indicate that early operative procedure should be the routine practice in these cases. There was also a strong expression of opinion against the time-honored custom of attempting a preliminary inflation before proceeding to laparotomy. The uncertainty which must necessarily exist in these cases as to the result of one's attempts at reduction by inflation is well brought out in the third case which I have cited in this paper. The possibility that inflation may effect an incomplete reduction with temporary relief of obstruction is apparently suggested by the fact that many such cases are said to "recur"; in all probability they were never completely reduced.

Most instructive statistics are provided by Dr. C. L. Gibson, who gives an analysis of 187 cases in the *Archives of Pediatrics*, February, 1900, page 99. These statistics show conclusively the value of early operation.

Of cases submitted to laparotomy :

Reducible	126 cases, with a mortality of 36 per cent.
Non-reducible	14 " " " 64 "
Gangrenous	23 " " " 95 "
Gangrenous or irreducible.	24 " " " 75 "

Simple laparotomy with reduction gave a mortality of 36 per cent. ; laparotomy with resection (special method not indicated) gave a mortality of 81 per cent. in 32 cases ; laparotomy with establishment of an artificial anus gave a mortality of 83 per cent. in 34 cases.

* *The Canadian Journal of Medicine and Surgery*, November, 1900, page 256.

Another table shows the mortality after operation at varying periods of illness.

After 1 day's illness of 35 cases	13 died, i.e., 37%,	of which 91% were reducible.
" 2 "	" 36 "	14 " 39% "
" 3 "	" 33 "	20 " 61% "
" 4 "	" 15 "	10 " 67% "
		" 83% "
		" 61% "
		" 40% "

After five and six days the mortality was seventy-three per cent. and seventy-five per cent. respectively.

These figures clearly indicate that the mortality is greatly reduced when operation is had recourse to early, and further, that the success attending early operation is largely due to the fact that reduction is possible in a much larger percentage of the cases presenting themselves at an early period of the disease than in cases coming under observation late.

100 College Street.

A CASE OF PERFORATION OF THE BOWEL IN TYPHOID: OPERATION, RECOVERY. FOL- LOWED BY SUBPHRENIC ABSCESS: OPERATION, RECOVERY.*

By HERBERT A. BRUCE, M.D., F.R.C.S., Eng.,

Associate Professor of Clinical Surgery, University of Toronto; Surgeon St. Michael's Hospital;
Surgeon Out-door Department, Toronto General Hospital.

G. A. S., M.B., age 29. Dr. Rogers, of Ingersoll, has kindly furnished me with the following history of the case:

"Last summer he suffered slightly with gastric and intestinal dyspepsia. At the time of his illness he was attending three typhoid cases, one very severe one. During the ten days previous to the attack on October 17th he had no appetite, aching pains generally, and chilly feelings, but no fever. He feared he had typhoid, but kept on his feet until October 17th, when he had a moderate chill. Temperature shot up to 103° F. and his pulse was 100 to 110. When I first saw him on the 19th he was suffering from a severe headache, muscular pains in various parts of the body, and a severe backache. Temperature 102½, pulse 100 and respirations 21. Examination of the urine revealed nothing abnormal. A blood examination gave the typical Widal reaction.

"On the 20th his temperature was 103, pulse 110, respirations 22, and his other symptoms were somewhat intensified. On the 21st he was removed to the Sanatorium at Ingersoll, and upon admission his pulse and temperature were as recorded. The case ran the usual typhoid course until the 26th, when a moderate hemorrhage occurred. On the 27th a second hemorrhage

* Paper read before the Toronto Clinical Society, March 5th, 1902.

of less magnitude occurred, and on the morning of the 31st a third slight hemorrhage. Temperature in the morning $99\frac{1}{2}$, pulse 78, respirations 20. At 10.30 o'clock that evening his temperature was $98\frac{1}{2}$, respirations 20 and pulse 78. He was feeling first-class at the time and was quite jubilant at the prospect of an early recovery. He went to sleep at 11 o'clock, but became restless at twelve, and tossed about until 2.30 in the morning, when he was seized with a severe pain in the region of the bladder. At this time his temperature was 99, respirations 20, and his pulse 76. The pain grew rapidly worse, and I was telephoned for, but as I was out in the country, Dr. Williams was obtained and ordered $\frac{1}{2}$ gr. morph. sulph. and $\frac{1}{100}$ gr. atrop. sulph., to be repeated in an hour if necessary. After the second hypodermic the pain was relieved.

"At 9.30 in the morning I saw him, and found quite a changed countenance from the preceding night. Temperature 104 , respirations 26 and pulse 110. He had a very anxious expression, but said he felt pretty comfortable. There was not the slightest symptom at the time of collapse. At 12.30 o'clock Drs. Parke, Tait and Williams saw him with me, but no agreement could be arrived at as to whether or not perforation existed. Shortly after this I telephoned Dr. Bruce to come up on the 2 o'clock train."

I may say here that in telephoning Dr. Rogers told me that he suspected a typhoid perforation.

I will give my notes as to his condition when I saw him at 6.30 in the evening of November 1st. Temperature $103\frac{1}{2}$, pulse 126 and respirations 22. The abdomen was hard all over and tender. There was no distension, but, on the contrary, he was quite flat. The liver dulness was somewhat lessened, but had not disappeared. His facial expression was anxious and what one sees so commonly in peritonitis. A diagnosis of typhoid perforation was made and the patient prepared for operation.

Shortly after 9 o'clock he was brought into the operating room and was given chloroform by Dr. Tait. Dr. Rogers assisted me, and Drs. Williams, Parke and McWilliams were also present. The usual median incision was made, and the perforation was found very easily about ten inches from the cæcum. It was very small, being only the size of the lead in a lead pencil. Some lymph surrounded the perforation. There was marked general peritonitis, and about a pint of sero-purulent fluid in the peritoneal cavity.

A very interesting feature in connection with the appearance of the ileum was the fact that pieces of lymph, about the size of a half dollar, were present on the surface of the bowel, at intervals of three inches, extending over the lower three or four

feet, evidently nature's effort to reinforce the ulceration and avert perforation. The ulcer was turned in by means of a double row of Lambert's sutures, and the peritoneal cavity was flushed out with hot salt solution. Iodoform gauze was put into the abdomen at the site of the perforation, to act as a drain, and the abdomen was closed, with the exception of about an inch, to allow the passage of this gauze.

He was back in bed again at 10 o'clock, the operation taking about thirty-five minutes. We considered from the symptoms that perforation had probably occurred at 2.30 o'clock, so that the operation was done 18½ hours afterwards. Immediately after the operation his pulse was 140, but in an hour's time it came down to 120; 1/20 grain of strychnine was given hypodermically immediately after the operation, and every two hours for four doses. Then 1/30 grain every three hours. Eight ounces of hot salt solution was given by rectum every two hours for the first twenty-four hours after operation. He was also given a nutrient enema, consisting of six ounces of milk and half an ounce of whisky every eight hours. At 12 o'clock he had a slight movement, very offensive, much flatus being expelled. At 1 o'clock his temperature was 100, pulse 118, and respirations 25. At 2 o'clock he had another small movement, a great deal of flatus being expelled. At 6 o'clock on the morning of the 2nd his temperature was 100, pulse 110, and respirations 26. At four in the afternoon his temperature was 99½, pulse 120, and respirations 26.

On the morning of November 3rd his temperature was 99½, pulse 106, and respirations 26. In the evening the temperature was 100½, pulse 108, and respirations 28. From this he continued to improve until the morning of the 5th, when his temperature was 98½, pulse 88, and respirations 22. Calomel was given on the 5th, and he had a free movement on the 6th, and temperature was normal on the morning and evening of the 7th, pulse 86, and respirations 20. The temperature fluctuated from this on, but gradually rose until on November 15th it went up to 101½, with a pulse of 104.

On November 16th I went up again to Ingersoll as there was pus coming from the original opening left for drainage, and it was thought not to be draining freely. The patient was given chloroform, and the sinus enlarged and found to lead to a cavity about the size of a hen's egg, which extended from the middle line outwards to the outer edge of the rectus muscle, the floor being formed of loops of bowel. I made a counter opening here for drainage, wiped out the cavity with 1/40 carbolic acid solution, and put a drain in through the old opening, and out through the new one on the right side of

the rectus muscle. The temperature did not drop, however, as was expected after this procedure.

On November 20th he first complained of pain in the right side, in the region of the liver, and this gradually became more severe. A pleuritic friction rub was made out, and air did not seem to be entering the lower portion of the right lung. There was, too, at this time, some tenderness over the gall-bladder and increased dulness. This gradually became more marked, and the line of liver dulness descended. On the 25th Dr. W. P. Caven was called and examined the patient and thought that the gall-bladder was infected with the typhoid bacillus, and on the 6th of December Dr. Bruce came up again.

I will here give my notes of his condition on December 6th. His temperature the previous evening had been 102½, pulse 130, and respiration 22, and now his temperature was 101½, pulse 112, and respirations 22. On examination I found the liver about two inches below the ribs, the extent of liver dulness being greatly increased. The right side was bulged out, making it appear as if the liver was greatly enlarged. At the lower edge there was a great deal of tenderness, and the skin was red and brawny.

Dr. Rogers gave me a history of the gall-bladder having been markedly enlarged, and that only during the past couple of days had the swelling at the lower edge become diffused, and the outline of the gall-bladder disappeared. Chloroform was given by Dr. Walker, and Drs. Rogers and Tait assisted me. Owing to the above history I made an incision in the right semilunaris, and exposed the liver and gall-bladder. The gall-bladder was not enlarged, and appeared to be normal. On palpating the liver to the outer side of the gall-bladder, fluctuation could readily be made out. I made an incision into the liver at this situation, and evacuated about a quart of pus. On passing the finger through the opening in the liver, its margins were felt to be somewhat ragged, and my finger entered a large space behind the liver filled with pus. On passing my finger still further I could feel the ribs posteriorly. It was evident then we were dealing with a large subphrenic abscess, which had secondarily invaded a portion of the liver, destroying a small area about the size of an egg. An opening was then made in the tenth intercostal space, and another quart or two of pus was drained out through this. In making this incision the pleura was not opened into. I then explored the cavity through the posterior opening, and could make out pretty well the extent of it. After this pus was evacuated an enormous cavity was left between the liver and the diaphragm. Two drainage tubes were put in, and a large quantity of gauze. There was sufficient room between the

ribs to allow of this being done. A drain was put down to the opening in the liver anteriorly, and surrounded by strips of gauze, shutting off the peritoneal cavity. The wound anteriorly was closed with the exception of about half an inch, through which the gauze passed. He was under the anesthetic between thirty-five and forty minutes, and, considering his weak state, stood the operation very well. His pulse was 150 at the finish. Interstitial hot salt solution was given under each breast, about a pint, and hypodermics of strychnine were freely used.

Dr. Rogers says that the collapse following was most marked, and during the night an interstitial saline was given, strychnia and brandy hypodermically and oxygen administered, and eight ounces of hot salt solution was given by bowel every two hours. His temperature was $95\frac{1}{2}$, and his pulse 160. At times his pulse was quite imperceptible, and even when felt it was so rapid as to prevent its being counted. The following day the temperature rose to normal, and the pulse came down to 110-120. After this the temperature never rose above 100, and kept between normal and $99\frac{1}{7}$, until he left the Sanatorium, on January 7th, for home, the opening behind being completely closed. His pulse remained somewhat quick, however, varying from 80 to 110. After returning home he gradually and rapidly gained strength, and resumed his practice on February 15th.

I wish now to express my admiration and appreciation for the exceptional skill and ability shown by Dr. Rogers in his treatment and management of the case. He deserves all the credit for the diagnosis of the perforation, and his prompt action undoubtedly saved a valuable and useful life.

The perforation occurred on the fourteenth day after the real onset of the disease, as indicated by the chill, with the temperature running up to 103. I think it is generally stated that the most frequent time for perforation to occur is during the third week, the second week following very closely upon this. Osler says that perforation occurs in the majority of cases in small, deep ulcers, and that there may be two or even three, and that the orifice is usually within the last foot of the ileum. In one case only was it distant eighteen inches. Peritonitis was present in almost every instance.

I am going to quote from an excellent paper by Dr. W. W. Keen, of Philadelphia, on "The Surgical Treatment of Perforation of the Bowel in Typhoid Fever," published in the *Philadelphia Medical Journal*, of November 4th, 1899.

In 1898, he collected 83 cases of operation, of which 67 died and 16 recovered, a recovery rate of 19.3 per cent. The first

operation was done in 1884, and these cases were reported between 1884 and 1898, that is to say, during fourteen years.

During the eighteen months following this, he found reported 67 cases, of which 49 died and 18 recovered. This makes altogether 150 cases, in which there is a recovery rate of 22.7 per cent. In contrast is the estimate of Murchison, that the recovery rate in unoperated cases is only 5 per cent. He says that operation should be done in every case of perforation, unless the condition is such that recovery is evidently hopeless. Perforation occurs quite as often in mild as in severe cases, and possibly even more frequently. One case was operated on twice, with a fatal result; another, three times, and yet recovered. Age seems to have considerable influence on the recovery rate. Analysis shows that from fifteen to twenty-five is the most unfavorable age to operate, while the most favorable periods are over twenty-five, and especially under fifteen.

Sex, too, seems to have considerable influence on the mortality rate. In 121 cases, of which 102 were males and 19 females, 83 of the males died and 19 recovered, a recovery rate of 18.6 per cent. Of the females, 11 died and 8 recovered, a recovery rate of 42.1 per cent. In other words, while the number of operations in males has been over five times as many as in females, the recovery rate of females has been over twice that of males.

Next, as to the recovery rate in the various weeks of the disease. The mortality rate of the second and third week is by far the worst, yet even these two weeks yielded a recovery rate of 16 per cent. In the fourth week this rate is doubled.

Next, as to the time for operation. He claims that the best time is during the second twelve hours after perforation, and even if perforation is diagnosed earlier and there is profound shock, he thinks that operation should not be done until this has passed off. In cases, however, where there is no shock, most surgeons will agree that the abdomen should be opened at the earliest moment. Cushing and Taylor take exception to this, and state that the shock is due to sepsis and not to perforation, and that the quicker the operation is done the better for the patient. Cushing has proposed to operate in what he calls the "preperforative" stage. Keen urges that the surgeon be called in at the earliest moment, when any symptoms indicate possible perforation.

Next as to the use of an anæsthetic. Cocaine is recommended instead of a general anæsthetic. This was first used by Cushing in two cases. He says that local anesthesia is a great step in advance, and that he will never use general narcosis again in typhoid. While cocaine may be used in a large proportion of cases, there are many patients in whom the operation could

not be done without a general anæsthetic. Then ether will be found the safest anæsthetic.

Finney adds the suggestion that in any case in which diagnosis is obscure and there is reason to suspect the existence of a perforation, a small incision be made under cocaine anesthesia and cultures be taken from the abdominal cavity.

This exploratory incision would be followed by very little disturbance to the patient and very slight risk. Still more if we can anticipate both shock and sepsis, by diagnosing the preperforative stage, we have made an important further step in advance.

A very brief summary will be sufficient to indicate the further technic. The incision would be best made in the right linea semilunaris or through the rectus muscle. If such a general peritonitis be present that this will not enable us thoroughly to cleanse the abdominal cavity, a second incision may be made in the left iliac fossa. I prefer a median incision.

The perforation should be sought first in the ileum; secondly, in the adjacent cæcum and appendix; and thirdly, in the sigmoid. When found the perforation should be sutured without paring the edges.

Just a word in reference to the subphrenic abscess. The abscess in this case was a posterior one, and the pus had evidently accumulated in the retro-peritoneal tissue, inflammation having caused adhesion of the opposing layers of the lesser sac of the peritoneum, which formed a very strong barrier against the pus passing downwards into the general peritoneal cavity.

In the case of a subphrenic abscess developing in connection with ulceration of the stomach or duodenum, pus is most commonly found within the lesser sac of the peritoneum. As regards the symptoms of a subphrenic abscess, there will be, in addition to the usual signs of a collection of pus, elevation of temperature, rigors, perspirations, etc., tenderness over the liver, and often a slight pleurisy, with increased liver dulness and bulging of the right side.

Then we have the "diaphragm phenomenon," which is the existence of a shallow depression which moves with respiration, across the intercostal space to the left side, as the diaphragm ascends and descends. On palpation a collection of fluid may be felt. Greig Smith draws especial attention to the significance of a line or band of induration and resistance felt through the abdominal wall, moving with respiration. This band is due to the presence of adhesions which limit the abscess cavity below.

The patient was present, and said he was enjoying excellent health and had gained thirty pounds in weight since leaving the sanatorium.

GASTRO-ENTEROSTOMY IN PYLORIC OBSTRUCTION—A CASE.

An Abstract of a Clinical Lecture delivered at St. Michael's Hospital.

BY ALEXANDER MCPHEDRAN, M.B.

Professor of Medicine University of Toronto.

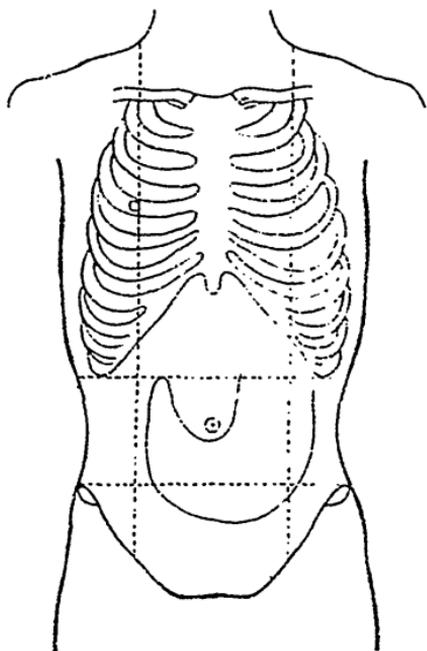
Rev. J. C., aged 45, has suffered from disturbed digestion for twelve or more years, being worse during the last year or two. Flatulence is the chief symptom, and, when marked, causes epigastric pain. His weight has fallen from one hundred and forty-five to one hundred and eighteen pounds; in the last few years it has not been more than one hundred and twenty-five pounds. He sleeps well; his appetite is good—in fact, somewhat ravenous at times. The bowels are constipated, but they move daily, the stools being scanty, hard and lumpy. The urine is not much below the normal in quantity, and is rather high-colored. Thirst is moderate; the skin is somewhat dry, but not harsh. Vomiting has occasionally occurred, caused by the accumulation of material in the stomach. He uses the tube once a week to give relief and prevent vomiting.

He is considerably emaciated; the abdomen is flat, with slight fulness from the umbilicus downward. When there is much food in the stomach a slight wave is easily perceived, passing from left to right over this fulness; if the abdomen is flicked with a cold wet towel, or even palpated with the cold hand, these waves become large and rounded, three of them being visible at the same time. They are not painful, in fact he is scarcely conscious of their occurrence. By palpation a very marked splash is easily produced over the prominent part of the abdomen, even six or eight hours after liquid has been taken. To the right of and above the umbilicus an oblong mass about one inch by two inches is easily felt; he discovered this tumor himself last winter. It is slightly tender and freely movable. On deep inspiration the right kidney can be palpated above and to the outside of the tumor.

A few days ago only toast and water were taken for breakfast; three hours later the stomach tube was passed and over a pint of fluid evacuated. This liquid contained the toast quite unaltered, and also potato and apple that had been eaten the day before. Much still remained in the stomach and, even after several washings, more was obtained by elevating the hips while the patient lay on his back. The acidity of the fluid was eighty and the proportion of free hydrochloric acid thirty-eight per thousand, fully double the normal. There was no lactic acid. The stomach was inflated with air to show

its size, position, and relation to the tumor. The abdominal wall was so thin and lax that the information was easily obtained, and is indicated by these marks on the abdomen.

The history and examination of this man show that there is organic stricture of the pyloric orifice, with moderate dilatation and marked prolapse of the stomach. The gradual formation of the pyloric obstruction has given time for some hypertrophy of the muscular coat of the stomach, as shown by the great peristalsis that is easily excited when the stomach has not been washed out for a day or two. If washed out, however, the peristalsis cannot be evoked even after taking



liquid or food: it seems necessary for the food to undergo changes that render it more irritating before it causes peristalsis.

That the stricture is not very narrow is shown by the fair state of nutrition, by the moderate quantity of stomach contents removed from time to time with the tube, and by the absence of extreme thirst and of great reduction in the quantity of urine. Little water is absorbed by the stomach, so that troublesome thirst and scanty urine are prominent symptoms of pyloric stenosis so marked as to prevent fluid from passing into the intestine.

The next question is as to the nature of the tumor, and on this the prognosis virtually turns. If it be a fibrous structure,

the patient's health should be restored when the obstruction is overcome, either by operation on the tumor itself or by gastro-enterostomy. But if the mass be malignant, an operation can give but temporary relief, as by this time neighboring lymphatic structures have been invaded by the disease.

The history and signs present are strongly in favor of the non-malignant nature of this mass. The chronicity of the dyspeptic symptoms, without recent serious aggravation; the long time the tumor has been present, its slow development, and apparent arrest of growth for some months back, the good health and fair nutrition; the excess of free hydrochloric acid in the stomach and contents; the absence of lactic acid; the freedom from signs of ulceration and of material increase of obstruction during recent months—all favor the view that the tumor is benign. Pain, more or less distressing, is almost always a symptom in cancer; in this case it has been present only after a large quantity of material has accumulated in the stomach.

It must be borne in mind also that much larger masses than this may result from chronic ulceration of the mucous membrane of the stomach. In a man aged 50, whom I saw recently, there is a large mass, occupying apparently the whole of the lesser curvature, that must be non-malignant, as it has existed unchanged since it was discovered upward of a year ago, and the man's general health has not suffered materially. However, there are no signs of ulceration in the present case beyond those of chronic indigestion, yet ulceration may produce no more definite symptoms. It is not to be overlooked that cases of carcinoma running a very protracted course, even for years, have been reported; it is probable that these were cases of chronic ulceration with great thickening, on which carcinoma developed subsequently.

For the foregoing reasons I have given this man an encouraging prognosis, so far as the nature of the disease is concerned. Now, how are we to give him relief from his discomfort and improve his strength? In order to maintain a fair state of health it is necessary that a proper quantity of food be digested and that the stomach be quite emptied at least once a day, so as to prevent irritation thereof by decomposition of its contents. With a moderate degree of pyloric constriction this may fairly be attained by giving nutritious food of little bulk in small quantities several times daily, and, if necessary, passing a tube once a day and washing out the stomach. In this way many patients can maintain a good degree of health and vigor. Additional liquid may be supplied to the blood by giving water by the bowel. This man has been carrying out this plan fairly well for some months, but he has now arrived at that

stage when it is not sufficiently effective. The pyloric stricture appears to be too narrow to allow the passage of sufficient food, and it has also become too difficult to empty the stomach by the tube. I, therefore, advised that the strictured pylorus be made freely patent or removed, or that a gastro-enterostomy be done, so as to give free egress for the food from the stomach into the bowel.

Posterior gastro-enterostomy was performed by my late lamented colleague, Dr. L. M. Sweetnam, as the pyloric mass appeared too dense to render any operation on it advisable. Recovery was uninterrupted and complete. It is now five months since the operation was done. Mr. C. has gained twenty pounds in weight and has been actively engaged in his ministerial duties. He takes full diet, and is not conscious of any digestive discomfort. However, on making an examination four hours after a light breakfast of cereals, bread and butter, sixteen ounces was removed from the stomach by the tube. The liquid obtained separated in a short time into three layers, an upper frothy layer, a middle one of thin liquid and a lower one consisting of the undigested food. From the lower layer small bubbles of gas could be seen constantly rising to the upper frothy layer, showing active fermentation. The acidity of the liquid was very high, being 95, and the free hydrochloric acid, 53.

The pyloric tumor has disappeared, although there is possibly slight thickening still to be felt in the situation it occupied. The size and position of the stomach have not altered.

The outlook is not as encouraging as could be wished. The pyloric tumor has disappeared, and the orifice is probably free again, but the quantity and character of the contents render it certain that there is decided dilatation of the stomach, and that the food does not escape freely through either the pylorus or the artificial opening. The latter is probably obstructed by cicatricial contraction, or the bowel may be kinked at the seat of attachment to the stomach. However, if a kink exists there would probably be a regurgitation of bile into the stomach, establishing a "vicious circle," and vomiting of bile as well as food would result. He has been advised to wash the stomach out once or twice a week; to take food of small bulk to lessen the weight on the stomach, and chiefly nitrogenous on account of the excess of hydrochloric acid; and to massage the abdomen daily.

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REPORT OF A CASE IN PRACTICE.

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There being much difficulty found in making clinical facts and observations coincide with what information it has been possible to acquire from experimental results upon the nervous system, any condition affecting any part of it, whether the result of disease or of accident, always presents some peculiar, interesting and instructive features to a close and careful observer.

As we read and study the lessons learned and taught by those early workers in our field of labor, we cannot help but appreciate and admire their adeptness and acuteness in their powers of observation. One cannot resist the conclusion that we at the present day are too apt and too ready and willing to trust to and rely upon the many aids and accessories that we can call to our assistance, which were unknown to our predecessors. There seems to be a deficiency or weakness in the present method of teaching. The fundamental principles of observation should be more systematically and more thoroughly instilled into a student commencing the study of medicine. It is when called upon to report cases in one's practice that we so often discover some points that we have overlooked, and which are absolutely necessary for the production of a complete clinical report. This, at least, is true as far as I am concerned, and in reading over reports from various sources, one cannot fail but see that there are many others afflicted with the same malady. This will help to explain the absence of some of those points which would render the reports of the following cases more complete.

The case is that of a man aged about 60. Occupation, office work. Was always in good health, never had any severe illness. In the autumn of 1897 he had a fatty tumor removed from over the left shoulder-blade. He partook of a certain amount of alcohol daily, and used considerable tobacco. From the tobacco he suffered from amblyopia for several months during the summer of 1898, which entirely disappeared in a few months by lessening use of tobacco and some slight medication.

On the morning of December 26th, 1900, after having probably taken a little more alcohol than was his custom the previous day, but from which he felt no effects the following morning, while sitting at the desk counting over some bills and reading other papers, he apparently let fall some bills accidentally, and in stooping over to pick them up he felt his left leg

weak and give way. He was assisted to a couch, and feeling somewhat weak and slightly dizzy, was given several drinks of Scotch whiskey. When seen three-quarters of an hour afterward he was reclining on a couch, his only complaint being a feeling of weakness and a funny sensation in his left side. The movements in the arm and leg could be performed without any difficulty, but were slightly tremulous and weaker than on the right side. The sensation was apparently unaffected. No other signs or symptoms of disturbance of function was complained of or could be observed.

Pulse was 75, regular, full but not hard. He was taken home in a coupe and put to bed. He felt drowsy and slept the greater part of the day. Became restless during the night and urinated frequently. The following morning he could still move the arm and leg but had less control, and there was less co-ordination in the movements. Toward night a muttering delirium set in, his tongue became dry, and there was complete loss of motion and sensation in the left arm and leg. His breathing became heavy and Cheyne-Stokes in character. Pulse 75, somewhat irregular, mentally he became torpid and drowsy. This condition gradually increased in degree, and by January 1st he was quite comatose, could be roused slightly only with the greatest difficulty. Seemed to understand what was said, would open his eyes and protrude the tongue. Breathing was blowing and stertorous, swallowed with difficulty, pupils reacted to light were apparently normal. Conjunctival reflex was absent, as were others on the left side. Urinary examination was normal. He remained in this condition several days, when he began to improve. He was more easily aroused, but when so was restless and wandered in his mind. As the coma lessened he became more restless and delirious.

By January 20th he was able to flex and extend the leg, and could also flex and extend the arm and close the hand, but could not exert much pressure. Sensation began also to appear. Mentally he was very despondent, fully understood what was said, and recognized his own family, but in the intervals, when not spoken to, and not sleeping, talked continuously, and at random.

By February 1st sensation had almost completely returned, slightly exaggerated, if anything. Motion was better but jerky, tremulous and rather inco-ordinate. Reflexes exaggerated. Otherwise he seemed to be all right. He improved gradually and continuously from this time on. Was able to walk about the room with the assistance of a chair or similar support.

About the last of March or the 1st of April he began complaining of chilly sensations in the back, no appetite and a

feeling of weakness. His temperature ran up to 102, pulse between 85 and 100, tongue furred, and for several nights in succession broke out in a cold, clammy, profuse perspiration. In examining to ascertain the cause, while palpating the abdomen and chest I was very much surprised to feel a diffuse thrill over the area of cardiac impulse and synchronous with it, and on auscultation found a marked murmur at both the mitral and aortic areas, occurring during both systole and diastole (early part). He also began to complain of radiating pains in the left leg, arm and back, which were tender to handle but relieved by gentle rubbing.

His condition now became that of a sepsis. Daily rise of temperature, pulse faster and weaker, appetite poor, restless, irritable, fretful, whining. These symptoms gradually passed away, and he began to improve again until about the early part of July, when he manifested some dyspnea, but did not complain of it. This was apparently due to some collection of fluid in the peritoneal cavity. This gradually increased, and a general anasarca developed. By limiting the amount of liquids in his diet and otherwise, this was lessened to a great extent. But there was a gradual decline in both his physical and mental condition.

In a couple of weeks dropsy again supervened, and he gradually sank, dying October 26th, just ten months after onset of illness.

Some points of interest to note are: (1) The peculiar mode of onset. (2) The loss of motion and sensation in the left leg, arm and face, without affecting any other parts. (3) The temporary duration of the loss of motion and sensation. (4) Supervention of the endocardiac trouble three months after the onset of the illness.

These naturally suggest several questions: First, as to causation (*a*) of the primary affection; (*b*) of the complication.

At the time of the attack the diagnosis of hemorrhage was made. Having given the patient a thorough examination of the heart at the time of the operation, and again at the time of onset of the present illness, without finding any evidence of cardiac trouble, I feel quite satisfied that the cardiac trouble was implanted upon the hemiplegic condition, and was not the primary affection. Still one has to admit the possibility of its existence without the production of any signs or symptoms, and without being possible to detect it. This, however, led me to exclude embolism. The diagnosis between rupture of a blood vessel and occlusion of one was more difficult. Broadly speaking, the two factors determining vascular occlusion from thrombosis are: Diseased vessels; morbid states of the blood. As regards the former, there was no evidence of any such con-

dition as far as could be detected from those vessels that could be examined. Neither was there apparent those conditions producing changes in the blood favorable to intravascular coagulation, such as gout, diabetes, anemic conditions, debilitating disease of any nature, nor had he undergone any great or unusual exertion. The age of the patient, the sex and the prolonged use of alcohol were points strongly in favor of hemorrhage.

These facts led me to favor the diagnosis of hemorrhage, even though it is said by some authorities that the usual result of the occlusion of a cerebral is hemiplegia uncomplicated with any affection of the cranial nerves or nuclei.

In the second place, it is difficult to localize the seat of affection to explain satisfactorily the conditions present. It is quite evident that the lesion is one of the upper neuron above the crossing of the facial nerve, that is above the middle of the pons.

The fact that no eye muscles were affected speaks against a lesion of the crus. The conditions tally pretty closely with those described by Clifford Albutt's system of medicine under the heading of "Occlusion of Cerebral Vessels," and may be met with when a vessel is either occluded or ruptured (1) in the cortex; (2) under the cortex; (3) in the vicinity of the internal capsule.

If the diagnosis of hemorrhage was correct, it is probable that the lesion was in the vicinity of the internal capsule, as bleeding in the cortex would have to cover considerable area to involve all the movements affected, and bleeding in the white matter under the cortex is comparatively rare, so that taking all things into consideration they point to a lesion in the neighborhood of the lenticular nucleus or the corpus striatum.

Clinical Note.

REPORT OF A FATAL CASE OF ECLAMPSIA.

BY K. C. McILWRAITH, M.B. TOR., F.O.S. ED.

The patient was admitted to the Burnside Hospital on September 17th at 2 p.m., unconscious. Her mother said that she had been suffering from headache, swelled feet and specks before the eyes for some time. She had the first convulsion about 7.30 a.m. She had numerous convulsions during the morning, and three in the ambulance on the road to the hospital. The patient's physician had been absent from the city and there had been delay in obtaining medical aid, so that there had been nothing done for her before admission.

State on admission.—Profoundly unconscious, pulse 160, very feeble; os the size of a half dollar. She had one convulsion immediately after entering the hospital, for which morphia sulph., $\frac{1}{2}$ a grain, was given hypodermically. The patient was anesthetized, bipolar version performed, and the child quickly extracted. (Drs. A. H. Wright and K. C. McIlwraith). The patient was allowed to bleed freely after the birth of the child. One quart of normal saline solution was given by submammary injection during the operation. The patient had a convulsion on coming out of the anesthesia, after which respiration failed so completely that artificial respiration was necessary to revive her. She had convulsions at intervals during the afternoon, sank continually, and died at 11.30 p.m. She received in all two grains of morphia; two quarts of normal saline submammary; $\frac{1}{30}$ grain strychnia hypoderm., an enema of mag. sulph. and glycerine, and oxygen inhalations during the last two hours. It was found impossible to administer medicines by the mouth. The baby was kept alive for two hours by artificial respiration.

(The important lesson to be learned from this case is that prophylactic treatment carried out when ordinary symptoms of toxicemia of pregnancy first appeared would probably have prevented the eclampsia. It is also possible, if not probable, that active treatment undertaken at once after the first convulsion occurred might have prevented a fatal termination. Unfortunately, her own physician had not been consulted concerning her serious symptoms and was absent when eclampsia began.—A.H.W.)

Selected Articles.

GASTROPTOSIS—HOW TO SEE THE STOMACH CURVATURES WITH OUR NAKED EYES, WITHOUT THE AID OF INTRAGASTRIC INSTRUMENTS OR INFLATION.

BY MARK I. KNAPP, M.D., NEW YORK,

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Of the several methods employed for the physical examination of the stomach, the first one—inspection—has been treated in a very stepmotherly way. But a few words, a sentence or two, and the subject is dismissed as inferior to any other method. It is spoken of as a sort of adjuvant to other methods of examination. And, indeed, in my article on "The Physical Examination of the Stomach" (*New York Medical Journal*, March 31, 1901), I followed the "consensus of opinion" in declaring, "as a rule it gives little information"; but, following this, I say, "on the other hand, it may prove a very valuable aid." Usually, inspection is given some thought when the patient has not been blessed with an over-abundance of fat. But when the adiposity has transgressed the recognized boundaries of economic propriety, other methods than inspection are resorted to. Outside of one other method—palpation—the methods ordinarily employed have objections. These objections are: The having to enter the stomach with an instrument or by the methods otherwise employed, changes the position and axis of the viscus. The stomach, weighted with water for gastrodia-phany or inflated with air or gas, is not the stomach when not so interfered with. Palpation is true, but it is an art that must be acquired by patient and constant practice. To the experienced palpator there exists no difference as to the thickness of the abdominal parietes for the purpose of feeling for superficial abdominal organs. But, even above palpation, which must never be neglected in examinations, I place inspection. For the purpose of inspection of the stomach, the thickness of the abdominal wall is of absolute indifference. The greater curvature of the stomach and also the lesser curvature—in gastroptosis—can be seen with absolute and unerring distinctness upon the wall of the abdomen, no matter how thin or thick, without the aid of anything else than our naked eyes. No carbon-dioxide production in the stomach, air inflation, gastrodia-phany, or sound palpation is necessary, and the results of inspection, when that art has been acquired, are absolutely true and unerring. I shall here confine myself only to describing the

“seeing of the curvature” of the stomach, although by seeing in the same way the existence of an enlarged liver, of a displaced and enlarged spleen, of a displaced, tumefied kidney, or of abdominal, superficial tumors, can be diagnosed with the exactest precision.

For the purpose of such inspection, the patient bares his abdomen and lies down on a table in the usual dorsal position. The examiner now stands either at the side or at the shoulder of the patient, so as to have either to look up to the stomach region or down to it. He now brings his eyes on the same level with the prominence of the patient's abdomen, and watches abdominal respiration with one eye or both. The patient now breathes in a normal way, and the examiner follows certain lines which he sees move up and down with the respiration on the abdominal surface. The curvatures of the stomach will be seen distinctly as very fine lines moving under the skin with the respiration. We watch these lines for a few respirations, note where they stop each time, and mark with ink the spot where such lines constantly stop. These are the lines produced by the curvatures. An acute observer will not fail to notice that there is also a distinct difference in the plane of the abdomen where the curvatures are seen. To corroborate, we percuss in the following way: The closely apposed index and middle fingers of the left hand are placed on the abdomen so that the ink line, representing the curvature, is between these two fingers. Now we percuss, very gently, over each finger without separating them and without removing them from where we have placed them. If the line marked on the abdomen exactly corresponds with the curvature, the difference in the percussion resonance over each finger will be heard. As very gentle percussion is required, the use of the stethoscope will be found of material value. For that purpose the stethoscope does not necessarily have to be placed over the stomach, but can be placed anywhere on the abdomen. Where there is a doubt as to the identity of the organ over which we percuss, we may resort to inflation, not of the stomach, but of the colon. Inflation of the colon is not met with the same objection from the patient as inflation of the stomach. This inflation of the colon is carried out in the ordinary way. A double rubber bulb has attached to its long tubing any kind of a short nozzle, which may be either the common, short, hard-rubber rectal nozzle, or a nozzle improvised from a short piece of glass tubing, the ends of which have been smoothed either with a file or by heating it to a red heat. The colon having been inflated, we again percuss in the way just described. The inflated air must not be left in the colon, but allowed to escape, which is done by disconnecting the nozzle from the tubing and leaving it in the anus until the air has escaped.—*New York Medical Journal.*

TREATMENT OF GASTRIC ULCER.

Fleiner (W.). *Die Therapie der Gegenwart*, 1901. It is essential for the healing of a gastric ulcer that the stomach contract to its smallest possible volume, and remain so for a considerable period. Under these circumstances the deeper parts of the terrace-like edges are brought into contact, and the ulcer is reduced in extent and depth. The time which must then elapse before the more superficial parts are repaired by the formation of granulation tissue and its organization into a resisting cicatrix, depends on so many variable factors that it is difficult to estimate. Six weeks is regarded as an average time for such healing to obtain. The control of the volume of the stomach is therefore an important factor. The slightest relaxation in the tonus of the stomach wall must be combated by the ice-bag, hot applications, or the thermophor, and any marked distension of the organ by increasing the intervals between the meals, reducing the amount of the latter, or by temporary deprivation. Under such conditions malnutrition readily occurs, and itself delays the recovery of the patient, and this has to be met by rectal feeding.

There are many cases of gastric ulcer, however, which do not respond to such systematic dieting, even of several weeks' duration, or they do so imperfectly and temporarily. Such cases are those of old ulcers with dense fibrous bases, and in which, even when the organ is well contracted, there is no approximation of the edges, the base in great part remaining exposed to the irritation of the ingesta and the hyperacid gastric juice. In such ulcers granulation tissue develops more tardily, and, by reason of its poor vascularity, offers much less resistance to the digestive action of the powerful gastric secretion; hence the healing process is much slower and the treatment more protracted than in the case of recent ulcers.

In chronic ulcers, associated with marked hyperchlorhydria, the initial milk diet of the routine gastric ulcer treatment is not well borne, and has to be replaced by such things as meat juice, broth, eggs, meat jelly, etc. But with any kind of food, even the most bland, irritation of the exposed base of the ulcer is readily produced, giving rise to pain, salivation, heart-burn, and retching. Far worse are the complications of such ulcers situate in the pylorus, or which are directly or indirectly, through nerves, connected with the pyloric sphincter. It would appear, from the frequency with which the various manifestations of nerve irritation, sensory, secretory, motor, are observed, that the bases of such ulcers contain nerves, either exposed directly to the irritating gastric contents, or merely protected

by a layer of granulation tissue. So long as the effects of this nerve irritation do not interfere with the functions of the ostia, they are of comparatively little importance, and may even serve a useful purpose; but they attain marked significance when resulting in spasm of the cardiac and particularly of the pyloric ostium. Pyloric spasm occurs most commonly in connection with ulcers which have given rise to some stenosis of the pylorus, and, as a consequence, hypertrophy of the muscular layers and some degree of dilatation. So long as such an ulcer is covered with granulation tissue all remains well, but when the continuity of this protecting layer is broken, the opportunity for pyloric spasm appears. With the occurrence of this, all those conditions favorable and essential to the healing of the ulcer disappear; there is instead, stagnation of the gastric contents, irritation of the ulcer, continuous secretion of gastric juice, and later much dilatation of the stomach, eventually relieved by vomiting and associated with a curious clonic spasm of the diaphragm.

In the treatment of this type of ulcer, Fleiner has employed, for the last ten years, bismuth subnitrate in large doses, and with considerable success. The indications for the exhibition of this drug and the method of its administration are as follows:

1. In cases of simple recent ulcers which recover with dietetic (milk) treatment alone, the change from a fluid to a semi-solid, and from this to a solid diet, may be associated with excessive hydrochloric acid secretion or pain, which, if not rapidly mitigated by an alkaline water (*eg.* Vichy), call for the use of bismuth in large doses. In order that the effect of the drug may be assured, it is necessary that the stomach be clean before its administration, as the use of the stomach tube and lavage is admissible in such cases. This is attained by giving $3\frac{1}{2}$ — $5\frac{3}{4}$ of warm Carlsbad or Vichy water first thing in the morning on the empty stomach, and then, about one hour later, 75—150 grains of bismuth stirred up in 3 — $4\frac{3}{4}$ of water. After the lapse of half an hour the first meal may then be taken. This is to be repeated every morning, in some cases twice a day, and then, when the patient has remained free from pain for about a week, the quantity of bismuth may be gradually diminished or replaced by magnesia usta (1:2). There is, however, no harm in continuing with the full doses of bismuth.

2. In cases of old ulcers with hard cicatricial bases, which will neither contract nor stretch, and which are constantly exposed to the irritation of food residua, rendering necessary the removal of the latter by lavage, a layer of bismuth subnitrate over the base of the ulcer exerts a marked beneficial

effect. If the protecting layer of bismuth is large and thick enough, and is regularly renewed or replenished, the subjective and objective manifestations of the lesion rapidly disappear. The bismuth must in such cases be given in somewhat larger doses, viz., 150—300 grains. It is quite harmless, acting merely mechanically, and being completely excreted from the alimentary canal per rectum, aided in some cases by clysters. The bismuth should be exhibited after washing out the fasting stomach in the morning. When the wash water flows away quite clear, then the bismuth, mixed with 5—8 ℥ of water, is allowed to flow into the stomach through the tube. The latter being withdrawn, the patient assumes such a position as is calculated to allow the bismuth to settle down on the surface of the ulcer.

Generally after a few days, often on the first day, the pain disappears, and then the amount of bismuth may be daily diminished, and, after a few weeks, may be given less often, and, when the lavage becomes unnecessary, may simply be drunk. The disappearance of all discomfort, and the tolerance of an ample, mixed, non-irritating diet will indicate the time at which the treatment may be relinquished.

3. In cases of gastric ulcer complicated with pyloric stenosis, one can, by rest and careful feeding with small, frequently administered quantities of food, lavage, and the exhibition of bismuth, lessen much of the discomfort, improve the general nutrition, prevent the detrimental pyloric spasms, and procure periods of comparative ease; but healing only rarely can be attained. Fleiner recommends in such cases the performance of gastro-enterostomy as early as possible.

4. Treatment by bismuth is contra-indicated, because without benefit, and under certain conditions even harmful, in gastric ulcers which form deep diverticula-like pouchings of the stomach wall, and in those where extensive adhesions having formed to neighboring organs, erosion has occurred through the adhesions and excavated the adherent part. In one such case the writer found the bismuth had formed a large concretion in the eroded cavity.

The recognition of this latter type of ulcer is difficult, but in the case which Fleiner investigated, he noted a point of some diagnostic importance, viz., that the particles of bismuth contained in the stomach washings, had a black color, whilst ordinarily they appear greyish white. This conversion of the subnitrate into the black oxysulphide, in the absence of any H_2S formation in the stomach, he thinks may prove of value in subsequent cases.—F. CRAVEN MOORE, in *Medical Chronicle*.

FORMALIN AS A DISINFECTANT FOR THE HANDS: AN UNPLEASANT PERSONAL EXPERIENCE.

BY CHARLES P. NOBLE, M.D., OF PHILADELPHIA.
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Desiring to improve upon the present methods of hand disinfection, I was led to experiment with formalin solution as a substitute for bichlorid of mercury solution. Heretofore the method of hand disinfection which I have employed has been to spend fifteen minutes in scrubbing the hands with soap and hot water and in cleaning the nails. This was followed by an alcohol bath, and after this the hands were put through a saturated solution of permanganate of potash, a saturated solution of oxalic acid, and bichlorid solution 1 to 1,000. In the bichlorid bath the hands and forearms were immersed and allowed to soak. This method of hand disinfection has given very good practical results. The introduction of rubber gloves into surgery caused one unpleasant consequence from the above method of hand disinfection, the sulphur in the gloves and the bichlorid solution, left upon the hands, uniting to make a sulphide of mercury. This caused a black discoloration of the nails. The result of a winter's work was that the nails became so black as to be distinctly noticeable and to attract unpleasant attention. It was principally on this account that it was desired to eliminate the bichlorid solution. I was led to try formalin solution principally by the fact that it has entirely displaced bichlorid solution in the practice of Dr. Charles Jacobs, of Brussels, and that of Drs. G. E. and J. Lynn Crawford, of Cedar Rapids, Iowa.

After having used formalin solution for about a month, a great inflammation appeared at the end of all my fingers, involving the nails. This inflammation was so violent that serum formed under the nails, separating them from the underlying tissue, and it seemed for a time as though all the nails would be exfoliated. Under the influence of rest and elevation of the parts, together with an ointment of ichthyol prescribed by Dr. H. C. Stelwagon, the inflammation subsided without suppuration. As a consequence, however, the nails separated on an average of about one-third of their length from the distal extremity, but they are now gradually returning to the normal. It was an interesting question as to the cause of the inflammation. The simultaneous involvement of all the finger ends excluded with reasonable certainty ordinary infection as a cause. My previous condition of health, and also an investigation by Dr. Judson Daland, excluded gout or other systemic

causes as a possible explanation of the condition. A local irritation was left as the only reasonable explanation. As the use of formalin was the only change which had been made in the method of hand disinfection which had been used for years, it was evident to me that this was the cause of trouble; and on reflection it was recalled that on the two days preceding the attack rubber gloves had been worn during four hours each day in the operating-room, and also that on these two days the gloves had been put on filled with a solution of formalin 1 to 500. My usual practice in putting on gloves is to have them filled with salt solution, but on the two days in question the operating-room staff being unusually busy, the gloves were filled with formalin solution to avoid taking the nurse away from other duties. The factors concerned in the production of the inflammation were: First, the use of formalin solution, and second, its prolonged contact with the finger ends, there being enough of the solution left inside the gloves to keep the finger ends moistened in the solution while the gloves were worn. This experience is repeated not to warn others against the use of formalin solution for hand disinfection, but to teach the importance of avoiding a prolonged contact with even a dilute solution of this agent.—*American Medicine*.

Society Reports.

PROCEEDINGS OF ONTARIO HOSPITAL ASSOCIATION.

HELD IN TORONTO, FEBRUARY 15TH, 1902, AND THE DEPUTATION THAT WAITED
ON THE GOVERNMENT, FEBRUARY 19TH, 1902.

In compliance with the request in the circular letter sent out to the hospitals of Ontario from the County of Carleton General Protestant Hospital of Ottawa, bearing date January 7th, 1902, and signed by Mr. E. B. Eddy and Mr. T. W. Kenny, a number of ladies and gentlemen met at the Queen's Hotel, Toronto, February 18th.

The following were present: Mr. E. C. Gurney, from Grace Hospital, Toronto; Dr. Spiers, Galt Hospital, Galt, Ont.; R. E. Nelson, Guelph General Hospital, Guelph; Mrs. J. Bell and Mrs. Rathbun, Belleville General Hospital; Alex. Lumsden, M.P.P., Maternity Hospital, Ottawa, Ont.; F. Haight, Berlin and Waterloo General Hospital; H. Malcolmson, Public General Hospital, Chatham; Dr. A. Robillard, Water Street General Hospital, Ottawa; Dr. Herold, Kingston General Hospital; J. P. Featherstone, C. C. Roy and G. L. Orme, County Carleton General Protestant Hospital, Ottawa; Drs. J. Ferguson, G. H. Carveth and Price Brown, Western Hospital, Toronto; Dr. M. O'Connor, St. Michael's Hospital, Toronto; Dr. C. O'Reilly and A. F. Miller, Toronto General Hospital, Toronto; C. F. Maxwell, St. Thomas Hospital, St. Thomas; Dr. Edgar, Hamilton City Hospital, Hamilton; Robert McLaren, General and Marine Hospital, St. Catharines; Grant Ridout, Children's Hospital, Ottawa; James McLaughlin, General and Marine Hospital, Owen Sound; Dr. F. L. Howland, General Hospital, Huntsville; F. Cochran, Mayor of Sudbury, St. Joseph's Hospital, Sudbury.

Mr. E. C. Gurney was unanimously asked to take the chair, and Mr. G. L. Orme to act as Secretary of the meeting.

The Chairman thanked those present for the honor they had done him, and stated that the objects of the meeting were to consider in what way they could best promote the interest of the hospitals throughout the Province. He called upon Mr. J. P. Featherstone, of Ottawa, to address the meeting.

Mr. Featherstone then addressed the meeting at considerable length. He pointed out that the Government grant to patients in the hospitals had fallen from 30c. per diem. to 18c. per diem.

This was due to the fact that while the total grant for many years had remained the same the number of hospitals and patients had greatly increased, from 40c. to 80c. or \$1.00 per day. This was owing to better and more expensive accommodation being required. He further pointed out that the Succession Duties Act, which took a good slice of wealthy estates for charitable purposes, often prevented wealthy persons from making bequests to hospitals. Thus, while the Government grant had decreased nearly one-half, there were fewer private and voluntary donations and legacies. He went on to say that few municipalities did all they ought to do, and some did nothing towards the maintenance of its indigent sick. He urged that steps be taken to secure a proper measure of county and city aid. He suggested that a Provincial Hospital Association be formed to further the welfare of the various hospitals.

The following resolutions were then put and unanimously adopted :

NAME.

The organization shall be known as the Ontario Hospital Association.

OBJECTS.

1st. To procure increased Government aid for the maintenance of indigent patients in the public hospitals of Ontario.

2nd. To take steps to secure a proper amount of county and city aid.

3rd. To promote, by mutual suggestion and discussion, the interests of hospital work throughout the Province.

MEETINGS.

The Association shall meet annually in Toronto at such time as may be decided best in the opinion of the Executive for the furtherance of the work of the Association.

OFFICERS.

The officers shall consist of a President, six Vice-Presidents, a Secretary-Treasurer and a committee of eight, who shall constitute the Executive, and of which number five shall form a quorum.

MEMBERSHIP.

Each hospital in the province receiving Government aid shall be entitled to be represented, and any member of its Board shall be entitled to membership in the Association, but each hospital shall be entitled to one vote only.

FEES FOR MEMBERSHIP.

1st. It was moved and adopted that the minimum fee from each hospital be five dollars, and

2nd. That the fee for individual membership be one dollar.

ELECTION OF OFFICERS.

President, Edward C. Gurney, Esq., Toronto; Vice-Presidents, C. O'Reilly, Esq., M.D., Toronto; J. P. Featherstone, Esq., Ottawa; B. W. Robertson, Esq., Kingston; Adam Bucke, Esq., London; George Roach, Esq., Hamilton; H. Malcolmson, Esq., Chatham. Secretary-Treasurer, J. Ferguson, Esq., M.D., Toronto. Committee: M. O'Connor, Esq., M.D., Toronto; Robert McLaren, Esq., St. Catharines; J. Stratford, Esq., Brantford; A. Robillard, Esq., M.D., Ottawa; James McLaughlin, Esq., Owen Sound; T. L. Kenny, Esq., Sarnia; Robert Melvin, Esq., Guelph; T. Cochrane, Esq., Sudbury.

INTERVIEW WITH GOVERNMENT.

Mr. A. Lumsden, M.P.P., announced that the Government would receive the members of the Association at a deputation at 12 o'clock, on the 9th inst., in the Premier's room. It was then agreed that as many as possible should be present in the deputation.

The meeting then adjourned.

THE DEPUTATION.

According to appointment, a deputation consisting of the following gentlemen waited upon the Government:

C. C. Roy, G. L. Orme, J. P. Featherstone, C. O'Reilly, M.D., A. F. Miller, A. A. Macdonald, S. Chant, C. F. Maxwell, P. Meehan, Edward Gurney, R. E. Nelson, Robert McLaren, H. Malcolmson, F. L. Howland, M.D., J. M. Laughlan, G. M. Boyd, M.P.P., E. J. B. Spense, M.P.P., W. A. Kribbs, M.P.P., F. Cochrane, B. Powell, M.P.P., T. Meek, A. Robillard, M.D., R. W. Powell, M.D., W. J. Wilson, M.D., G. H. Carveth, M.D., A. Lumsden, M.P.P., G. F. Marter, M.P.P., John Lee, M.P.P., J. J. Foy, M.P.P., A. R. Pyne, M.D., M.P.P., and T. Crawford, M.P.P. Hon. G. W. Ross, Hon. J. R. Stratton, Hon. Jas. Gibson and Hon. Latchford received the deputation.

Mr. A. Lumsden, M.P.P., introduced the deputation. He stated that the deputation was an unique one. It did not come to seek any personal advantage or gain; it was entirely philanthropic and sought the good of the indigent sick in the Province. He stated that many of the hospitals in the Province, at the call of the circular letter, had sent representatives

to Toronto, and that these had organized themselves into an influential Provincial Hospital Association. He then asked Mr. Edward Gurney, the President of the Association, to address the members of the Government.

Mr. Gurney said that the deputation sought to place the needs of the hospitals before the Government. Hospitals had not been supported by the Government as the asylums had been. It was the duty of the well to care and look after the indigent poor. In the matter of the Government grant to the hospitals there was a grievance, and the deputation asked to have this grievance remedied. The grant had fallen from 30c. to 18c. per diem. If the Government did not act and move liberally the time might come when the hospitals would be forced to refuse admission to the poor. The need was urgent and assistance should be granted at once. Hospitals were going back financially. Mr. Gurney then asked Mr. Featherstone to state his views on the objects of the deputation.

Mr. J. P. Featherstone went on to show that the Government grant was now 18c. or less per day, whereas it formerly was 30c. On the other hand the cost of maintenance had gone up from 40c. or 50c. a day to 80c. or \$1.00 a day. Municipalities did not always do their duty in the matter of aid to the poor; but even where the municipalities did give aid, the Government grant of 18c. was too small. The Succession Duties Act had interfered with bequests and donations, as persons would not give when the estate would be taxed. It was clear that in this way the income to hospitals was very much lessened. Notwithstanding the fact the income to the Government, for the Succession tax, had greatly increased, the total amount to the hospitals had not increased, while the number of patients entitled to assistance had greatly increased. The time had now come when it was necessary, if the hospitals hoped to keep up with medical and surgical advance, that the Government should restore the grant to its original amount of 30c. per diem.

Mr. Ross and Mr. Stratton promised to give the matter careful consideration. They pointed out that the Succession Duties Act only provided about one-third of what was paid out in charities; and also that the tax might have the effect of making some contribute to these charities who would not otherwise do so.

The deputation then withdrew.

The Secretary has since prepared a lengthy letter giving all the facts brought out before the Government by the deputation. A copy has been sent to each Minister. The letter was submitted to the President.

Progress of Medical Science.

MEDICINE.

IN CHARGE OF W. H. B. AIKINS, J. FERGUSON, T. M. McMAHON, H. J. HAMILTON,
AND INGERSOLL OLMSTED.

Influence of the Spleen upon Pancreatic Digestion.

The theory of Schiff, according to which the spleen forms a substance essential for the pancreatic digestion of albumen, although recently combated, had been supported by some experiments of Herzen, Gachet and Pachon, who found a substance transforming trypsinogen into trypsin. Dastre had shown that splenectomy did not change the general condition or arrest development.

Delezenne and Frouin have isolated the stomach from dogs, suturing the lower extremity of the esophagus to the duodenum without injuring the pneumogastric nerves. The two extremities of the esophagus were closed and a small fistula was made through the abdominal wall. The glands of the stomach continued to secrete a normal gastric juice, which was collected every twenty-four hours. When the animals recovered the spleen was removed. In other experiments the stomach was removed, and then the spleen. Digestion in these animals was entirely pancreatic, and the splenectomy produced no disturbances. The dogs continued to live comfortably. The secretion of the stomach remained normal. There were no changes in the quantity or quality of the gastric juice. The spleen, therefore, did not seem of great importance.—Translated from *Giornale Internazionale delle Scienze Mediche*, by HARLEY SMITH.

Pulmonary Dilatation with Slow Action of the Heart—Neurosis of the Pneumogastric.

Zulzer directs our attention to a morbid condition, having for its substratum a neurosis of the pneumogastric. It is seen especially in men between eighteen and fifty years of age, and is characterized by a dilatation of the lungs, the limits of which reach the seventh or eighth rib on the right, the fifth on the left side, and also by the slowness of the pulse, which beats only from fifty-two to sixty times to the minute. The patients usually complain of a feeling of oppression, which may even become agony, and they are thus often considered neurasthenic or hysterical. Auscultation reveals normal respiration without

pathological sounds, but sometimes slightly accelerated; the cardiac dulness is a little increased; the pulse, while slow, is strong and full, and but rarely irregular. This association of an increase of the volume of the lungs with a diminution of the heart beats might be a mere coincidence. But the susceptibility of the pneumogastrics to pressure in the region of the neck, and especially the effects of atropine, a subcutaneous injection of which suffices to dispel the symptoms, show clearly that we have to do with a neurosis from excitement of the pneumogastric.

This trouble is more frequently developed as a result of unaccustomed muscular efforts; it may also be caused by reflexes of gastric or intestinal origin; in certain cases there seems to be a family predisposition. Zulzer has observed the same symptoms in grandfather, father and son. Generally, treatment by atropine, continued for ten days, produces a permanent cure. Nevertheless, just as alimentary glycosuria is often a precursor of diabetes, so this neurosis, due to excitement of the pneumogastric, may lead to asthma.—Translated from *Giornale delle Scienze Mediche*, by HARLEY SMITH.

Good Digestion in Consumptives.

While climatic treatment counts for a great deal, and should be strenuously insisted upon in every case where its pursuance becomes at all possible, yet along with that course, and of vast importance, is a good digestion. And in those whose circumstances preclude the advantages of the climatic treatment it is especially important that the normal powers of digestion be highly conserved. Loomis says "when the digestion is bad the case is bad." That is a short, emphatic way of expressing it.

So much depends upon a forced feeding and the thorough digestion of rich, fat food, that a weak stomach at once handicaps a patient, besides adding the despair of indigestion to the mind disturbance resulting from a consciousness of the pulmonary conditions.

Then, again, indigestion reflects upon the heart action, making it higher than it would be under the burden of the tuberculous process alone—creating a result that is wearing, and therefore generally debilitating. Small, regular quantities of alcohol aid digestion in most persons, and are indicated in pulmonary tuberculosis for this purpose, if for no other; but where alcohol evidently disagrees with the stomach action it should not be persisted in for any other possible benefit it may have upon the system in general. It will, under such circumstances, do more harm than good.

Cases of unquestioned tuberculosis can no more be treated by rule than other morbid instances. One must constantly exer-

cise selective judgment, but urging the patient, so far as possible, along well-recognized lines.—*The Clinical Review*.

Euthanasia.

The current number of the *Spectator* contains an interesting correspondence on this subject. It is said the late Mr. Alfred Nobel offered to create at his own expense at Milan and Rome establishments where anybody who desired it could be painlessly suffocated by a gas he had found suitable. Sharp distinction must be made between suicide and natural euthanasia. For the latter the hygienist and medical man labor. A lust of death is morbid, and any encouragement must be stoutly resisted. Medical men recognize that for the public as well as for the profession there is only one sound principle—life must be held to be absolutely sacred, except when it has to be relinquished as a penalty for crime. Efforts to relieve suffering and render death painless are legitimate, but if euthanasia is to be achieved by means of a suicide club, society and science must have none of it.—*Medical Press and Circular*.

Dysphonia (Hoarseness).

The following gargle can be employed in case of emergency when it is desired to use the voice in singing or speaking:

℞ Acidi tannici, gr. xl.
 Boroglycerini, ℥ iss.
 Tinct. capsici, mxx.
 Infusi rosæ, q. s. ad f ℥ v.

M. Sig.: Use frequently as a gargle.—*Journal of the American Medical Association*.

SURGERY.

IN CHARGE OF EDMUND E. KING AND HERBERT A. BRUCE.

Spasm of the Urethra.

F. Fuchs (*Therap. Monatsh.*, August, 1901) considers that the want of attention to the spasm of external sphincter of the bladder, or, as he puts it, of the membranous portion of the male urethra, often causes great difficulty of the diagnosis of stricture. The most common mistake is, that passing a soft catheter through the penile portion it is arrested at the membranous part and held tight by the spasmodic action of the sphincter. If extra force be then applied the spasm becomes more distinct, and therefore the diagnosis of stricture is made. However, one has only to wait for a few minutes, after which

the spasm disappears and the catheter can be pushed without difficulty into the bladder. A metal catheter, he says, rarely produces the spasm. At times, when the ureter is being washed out with a solution of nitrate of silver for gonorrhœa, he has met with another effect of this spasm. Introducing a silver catheter into the membranous portion and washing this out, the spasm is set up, and on attempting to withdraw the instrument it is found to be tightly grasped. One has again merely to wait a few minutes, after which the spasm will disappear and the catheter can be withdrawn with ease.—*Brit. Med. Journal.*

Treatment of Ulcer of the Leg.

Schulze recently reported a series of cases of ulcer of the leg, which he had treated by various ointments containing camphor, and at the same time he criticized the use of "wine of camphor" unfavorably for two reasons; first, he stated, that it caused pain, and secondly, that the treatment was unsuitable for certain cases. Walbaum (*Munch. Med. Woch.*, June 25th, 1901), writes that he had used camphor, and especially "wine of camphor" in cases of chronic ulcer of the leg, and has not met with a single instance where it failed to heal the wound up completely. He has never heard a patient complain that the application was painful. The method which he employs is the following: The leg is well washed and rubbed with soft soap and water, and then a dressing moist with "acetic acid clay" is applied daily, until the exudation is less and nearly odorless. This usually takes two or three days only. He then applies the wine of camphor on a graduated compress, which is covered with a dry layer of gauze, and over that a piece of protective not quite reaching the edge of the dry gauze. The whole is enveloped in cotton wool and carefully bandaged. This has to be renewed every alternate day, and before it is put on again the leg is well rubbed with a pad of cotton wool soaked in lysol or carbolic acid solution. We find that the ulcer usually heals up with this treatment in three weeks.—*Brit. Med. Journal.*

The Prostate.

The large number suffering from diseases of the prostate gland, and the previous unsatisfactory methods of treatment, are justifiable reasons for surgeons continually devising new operative procedures and improving the old ones. During the past three or four years, since White first described his method of treatment by orchidectomy, and later R. Harrison, by vasectomy, neither of which proved as universally successful as their authors had hoped for, there appears to be a strong tendency

to attack the gland itself. Bryson, of St. Louis, in 1899, advocated the use of an abdominal incision, so that one or two fingers could be passed through this incision above the bladder, without entering into the peritoneal cavity and pressing the prostate down toward the perineum and bring the gland within easy access of the operator's incision through the perineum. He found that with care one could readily escape the peritoneum, and that it did not in any way increase the risk to life nor lengthen the period of convalescence.

Lately, Parker Syms has advocated the use of a rubber balloon inserted into the bladder through an incision of the membranous urethra, which is distended with air or water and used as a means of dragging the bladder down to the peritoneal wound. It has proven very successful in his hands, but some workers have found it not so satisfactory. Bryson quotes 119 operations, with a mortality of 12½ per cent., and in his last series of cases this mortality is reduced to 7 per cent. He is of the opinion that even this mortality can be much further reduced.

Taking into consideration the amount of trouble caused by enlarged prostate, and the low mortality at present attending the operations, we feel satisfied that in the very near future there will be a more general advocacy of operations than has been before.

Treatment of Tetanus.

In recording the history of a case of severe tetanus, which was cured by intradural injection of tetanus anti-toxin, E. von Leyden (*Deut. Med. Woch.*, July 18th, 1901) briefly describes the development of what he considers to be the proper treatment of the disease. Von Behring introduced the serum with the belief that once introduced anyhow into the body, the results would be efficient, and therefore it was at first injected subcutaneously. The unsatisfactory results led to its application into the vascular system, and later into the cerebral dural cavity, but without the hoped-for results. It was found that in fatal cases of the disease, treated in one of these ways, the blood was incapable of producing tetanus in mice, although when not so treated it was capable of producing tetanus. On closer investigation, however, it was demonstrated that the spinal cord and the cerebro-spinal fluid contained tetanus toxin, and when these were injected into mice, the animals died of tetanus. Thus the subcutaneous or intravenous injection of antitoxin, although capable of rendering the toxin in the blood harmless, was powerless to attack the toxin in the cerebro-spinal fluid. Von Leyden's assistant, Jacob, therefore suggested and applied the method of intradural injection, and the trial

case recovered. Other observers also attempted this method, and Von Leyden finds reports of five cases which died and five which recovered. His new case had a temperature of 105.8° F., a temperature which, he says, is always followed by a fatal issue in tetanus. The treatment was begun on the third day, and consisted in an intradural injection of 5 c.cm. of antitoxin (equal to about one quarter gram. of solid antitoxin, and therefore about one-eighth of the usual subcutaneous dose) after 10 c.cm. of the fluid had been withdrawn, together with injections of morphine, and the exhibition of chloral. The temperature sank on the same day to 101.3° F., and on the next day to 99.3° F. The fall in the temperature he regards as a distinctly life-saving result of the antitoxin. On the third day of treatment the injection was repeated. Of the other interesting points in the case he points out that, (1) the patient had two years previously had a mild attack of "head" tetanus; this points to the inability of a given attack to protect against subsequent infection; (2) although working in a stable, no wound was present, and therefore the point of entry of the bacilli is unknown: and (3) no tetanus bacilli were found either in the vomit or in the blood. On the other hand, mice injected with his cerebro-spinal fluid slowly developed symptoms of tetanus, that is, after six days.

OPHTHALMOLOGY AND OTOLOGY.

IN CHARGE OF J. T. DUNCAN AND J. O. ORR.

The Relation between Dental Affections and those of the Eye.

Some are inclined to doubt that affections of the teeth have much effect upon the eye. But Dr. G. H. Bicknell (*Western Medical Review*, Jan. 15th) deals clearly with the subject. The eye may be affected in two ways: (1) By reflex neurosis traversing the fibres of the fifth nerve; (2) Infections spreading by continuity of tissue.

The latter infections may result in simply an orbital cellulitis, subsiding in a few days without doing harm, or, if the infection be more severe, vision may be injured or even lost. And in some cases the infective process may travel to the cranial cavity, resulting fatally.

Infection from a diseased tooth reaches the orbital cavity usually in one of two ways: (a) By progressing under the periosteum on the anterior surface of the superior maxillary bone; (b) By first invading the antrum of Highmore, then the orbit, by passing through the thin orbital plate, or *via* the anastomoses of the vessels anteriorly.

The gravity of phlegmon of the orbit may be appreciated by considering the sixty-nine cases cited by Hermann. In thirteen of these, vision was very much reduced, seven became totally blind in one eye, and four died from brain abscess or meningitis. The author gives in detail three cases in his own practice, of whom two became totally blind in one eye and one died from brain abscess.

Reflex neuroses. These are classed as 1. Reflex irritation affecting striated and unstriated muscles; 2. Affecting the mucous membrane and cornea; 3. Affecting the optic nerve, retina, etc.

Taking the last condition first, a case is given in which severe attacks of toothache reduced the vision to mere perception of light. Extraction of carious teeth from the upper jaw restored the vision in both eyes. And similar cases are reported by other writers. On the other hand, Swanzy, one of the best authorities, says: "Reflex amblyopia is said to have been observed in connection with irritation of the fifth nerve, especially the dental branches; but I have not seen such a case and am skeptical about their occurrence."

In regard to reflex irritation producing corneal affections, Galezowski reports that in young children the cutting of the first teeth produces inflammation of the cornea and small ulcers. The most important reflex neurosis is, however, that in connection with the eye muscles. There may be produced paresis of any of them, but the one most likely to be affected is the ciliary muscle, causing weakness of accommodation. Many cases are on record of poor sight due to this cause being cured by extraction of carious teeth from the upper jaw. Schmidt found, in ninety-two patients with toothache, seventy-three who had restriction of accommodation on the affected side.

Sympatheticctomy in Simple Optic Nerve Atrophy.

In that dreaded disease glaucoma, much benefit has resulted in certain cases by a new operation, namely, the removal of the superior cervical ganglion of the sympathetic system. In glaucoma the tension of the eye is raised (producing hardness of the eye-ball). The operation spoken of reduces intra-ocular tension, thus allowing dilatation of the vessels in and around the eye. A consideration of the good results of the operation in glaucoma led Dr. E. C. Renaud (*St. Louis Medical Review*, February 1st, 1902) to believe it might be beneficial in simple atrophy. His results are embodied in a paper.

The essential idea of the article is that the vaso-dilating result of the operation should be beneficial to the atrophying nerve, increasing its nutrition, in a similar manner, but to a greater degree than nitro-glycerine. And nitro-glycerine,

although of benefit in many of these cases, has but a temporary effect, ceasing when the medicine is omitted, while the operation promises permanent results. The author cites three cases. In the first, atrophy of the left nerve was complete, but not so far advanced in the right. The right ganglion was removed. Prior to the operation the vision in this eye was only perception of light. In five months the vision improved somewhat, he being able to distinguish large objects dimly at eight feet. The second case was done in January, 1900. The vision in the affected eye before the operation was counting fingers at six feet; in four and a-half months he could count fingers at eight feet. The third case was more striking. He was blind in the right eye from corneal opacities. In 1900 he began to lose sight in the left. His family physician considered this due to tobacco and alcohol, putting him on suitable treatment. Being under this treatment for eight months, and no benefit resulting, he consulted the author, who diagnosed simple optic nerve atrophy, not complete. For this both right and left superior cervical ganglia were removed. Previous to operation vision was one-twentieth of normal, in two and a-half months it was two-fifths of normal.

The author concludes that the operation is only of value in beginning or incomplete atrophy, and also recommends that both superior ganglia should be removed in every case, even if the atrophy is unilateral.

The same remark may be made in regard to glaucoma—the author thinking that the unsuccessful operations for that disease might have been successful had the double operation been done.

The posterior route for the operation is preferred (making the incision along the posterior border of the sterno-mastoid). He also advises to tear the ganglion from its attachments, rather than cutting it out.

Clouding of the Cornea due to the Excessive Application of Cold.

Dr. E. L. Meirhof (*New York Medical Journal*) reports two cases which should be noted. The first was an infant ten days old, which had a slight discharge from the eyes when five or six days old. The family physician, fearing gonorrhoeal ophthalmia, lost no time in applying the usual measures, among which was the constant application of ice-cold pledgets. After three days of this treatment, the cornea were seen to be cloudy, and Meirhof was called in. He found the lids not thickened, and no swelling or redness of the bulbar conjunctiva. Thinking that the nutrition of the cornea might have been interfered with by too much cold applied to the lids, which were not

thickened, he advised gentle heat to be applied, and in a few days the corneæ were clear. The second case was a similar one.

The value of ice in the early stages of ophthalmia neonatorum is undoubted, but it should be cautiously used, especially where there is no swelling of the lids to protect the cornea.

J. T. D.

PEDIATRICS.

IN CHARGE OF ALLEN BAINES, W. J. GREIG, AND W. B. THISTLE.

Malformed Children.

M. Schwab holds that malformed children are likely to be born of mothers who have been attacked by variola during pregnancy. He gives a history of a case of congenital hydrocephalus where the mother had passed through a severe attack of smallpox (whether early or late in pregnancy is not stated). He also holds that attacks of the other infectious diseases produce, or are likely to produce, malformed children.

Pulmonary Tuberculosis with a Cavity Formation in a Nursing.

The child was a foundling, of whose parents nothing was known. After admission it did well for a time, and for a couple of months gained in weight. Then the weight began to decline. It was aganosed, had constant dyspnea, and died in four weeks. Nothing could be discovered by auscultation, except the day before death, a few sub-impotent rales on both sides.

Autopsy showed the lungs to be studded with granulations, large and small, with some points of broncho pneumonia. In the lower lobe of the right lung was a typical cavity, the size of a large nut, broken down and containing pus. Bronchial glands enlarged. Miliary tubercles in the spleen, and mesenteric glands enlarged. The other organs were normal. Tubercular cavities are exceedingly rare in infants of this age (three months).

Human and Bovine Tuberculosis, with Special Reference to Infection of the Alimentary Canal in Children.

Blackader, *Mach. Med. Journal*, quoting numerous observations by foreign and American authorities, and his own experiences, says that the profession has unquestionably exaggerated the danger of infection through cow's milk. Unless all other sources of infection can be excluded, milk, even if from tubercular cows, must not be considered as the source of infection.

All authorities agree in the rarity of primary tubercular feci in the intestines.

Tuberculosis in children begins to increase rapidly at the time when the child usually begins to creep. It is most frequent between that time and $2\frac{1}{2}$ years, during the greater part of which they are on the floor, and have their greatest tendency to putting everything into the mouth.

The paper is not suitable for accurate condensing. All interested should, if possible, obtain it and read it for themselves. I would like to see Dr. Adami's tentative suggestion taken up and carried out to an experimental ending. It seems to me the most nearly likely to be the true explanation, although I have never seen a case in which I thought, however mild it might have been when seen, or however slow its progression, that it could be traced to infected milk, that is milk from a tuberculous cow. Nor have I been able to find any cases in which I was satisfied that all other means of infection could be eliminated.

It is interesting to note here the conclusion that Freer and Volkland, of Munich, have arrived at, that scrofulous glands and tuberculosis of the very young are due to dirt. Dr. Endonnis has also verified this by examining young infants, and finding tubercle bacilli on the hands and in the noses of those at the critical age, who were playing around floors of rooms in which there were or had been tubercular patients.

Old Enlargement of Tracheo-Bronchial Glands in Tubercular Meningitis.

In *Progres Medical*, Hanshalter and Krukling both state that 66 times, or in every case of 66 autopsies on cases of tubercular meningitis, the tracheo-bronchial glands have been more or less enlarged, and usually with pulmonary lesions associated. They give a number of points very significant as showing these glands to be the starting point of the meningeal infection.

Cirrhosis of the Liver with Ascites, but without Jaundice, in a Child of 8 Years.

The child was of alcoholic parentage, but no direct alcoholic causation could be traced. The liver extended three finger-breadths below the right costal margin. There was great ascites and some vomiting. The other organs showed nothing abnormal. The diagnosis rested between cirrhosis and tuberculosis of the liver and peritoneum. Operation disproved the latter, and the autopsy showed cirrhosis, with considerable increase in volume of the liver.

Editorials.

A DOMINION MEDICAL COUNCIL.

Dr. Roddick, when speaking about his proposed scheme for the establishment of a Medical Council in Canada on various occasions, told us, among other things, that under the existing systems of provincial registration, Canadian physicians are debarred from entering the extensive field of medical employment in the various departments of the Imperial service, such as, for example, the Army and Navy, the Indian medical service, the Colonial medical service, medical service under the Board of Trade, including ships' surgeons, etc., also from employment as sanitary officers in the United Kingdom. Notwithstanding recent legislation increasing the term of student life from four to five years, and change in school regulations calling for increased fees, we are now manufacturing more doctors of medicine in Canada than ever before, and we should have a bigger field for our graduates to work in in the whole British Empire. Such is one of the objects of the proposed bill.

Dr. Roddick, when introducing his bill to Parliament, February 26th, explained that since last year he had met the profession of this country at a convention, held in Winnipeg, and found that the measure was heartily endorsed by them, with some amendments. These amendments provided that the provinces should be represented on the Council in proportion to the number of medical men in each province, and that the ten universities in Canada should also have representation in the Council. He had reason to believe that the medical men in the House were practically unanimous in support of the measure, and after it had passed its second reading, he hoped that it would be referred to a special committee, consisting chiefly of medical men, with one or two legal gentlemen, who would have an opportunity of studying the subject and conferring with the delegations that might come from the different provinces to suggest amendments.

NEW BUILDING FOR MEDICAL FACULTY, UNIVERSITY OF TORONTO.

It has been found necessary for the Medical Faculty of the University of Toronto to make further provision for the greatly increased number of students now in attendance. A deputation from the Medical Faculty has had some interviews with the Government about the matter. It was suggested by Hon. Mr. Harcourt, Minister of Education, that the trustees of the University should advance the necessary amount, about \$125,000, and that the Medical Faculty would pay four per cent. annually on that sum. This would leave the latter free to rent a portion (about one-third, it is hoped,) of the building to the Arts Faculty if they chose, and would render unnecessary any assistance from the Government. We understand this scheme has now been approved of by both the Trustees and the Government. It has been decided that the new building will be erected close to and north-east of the Biological building.

OZONE AND PHTHISIS.

Among the many modern "cures" for tuberculosis the administration of ozone has recently caused probably the greatest interest among physicians in Toronto. One of the reasons for this was evolved out of the peculiar and grossly unprofessional advertising in the lay press by the Ramage Company. As two reputable physicians of Toronto are closely connected with this company they have suffered, to some extent, through the ill feeling that has been aroused among their medical *confrères*. We are glad to publish in this issue a letter from Drs. Walker and Cotton, which explains itself. We accept it as a vindication of these gentlemen, as far as their personal honor is concerned. When doctors, however, become members of, or closely connected with, companies who are trading in medical science in a purely mercantile way, we think they are taking great risks in a large proportion of cases. The layman, especially when a shrewd, successful merchant, has but little respect for our code of ethics.

The Ramage process derives its name from Dr. Ramage, of Cleveland, Ohio, who is recognized in his own country as a chemist of ability and good standing. He claims to have discovered a process which causes destruction of the microorganisms of tuberculosis and the toxins formed by them by the action of ozone. Ozone in the past has been found so irritating that it could not be used in a very satisfactory way. It is claimed that by the Ramage process the ozone is made unirritating, and that its administration has a curative effect on tuberculosis. The necessary apparatus for its administration has been patented, but we understand that any one can buy the machine for \$700. What the virtues of the treatment are we know not, but our chemists in Toronto do not agree with Dr. Ramage in his contention that he administers pure ozone. Some think that it is really hydrogen peroxide that comes into contact with the lungs, the ozone merely acting indirectly. That, however, does not prove that the process is worthless.

The second aim in connection with this treatment is to give partially pre-digested concentrated proteids. We cannot now discuss this feature, but may say the idea is not new. Having in view some of the restricted selected diet cures, such as the Salisbury, the Milk, the Kumiss, the Whey cures, we think a long continuance of this proteid diet will knock out the liver long before it can benefit the phthisis. This is, however, merely a matter of opinion.

THE DOCTOR IN CIVIC AFFAIRS.

There exists in Chicago an organization of doctors, dentists and druggists, known as the D. D. D. Society. We learn from the *Chicago Record* that at its annual banquet, February 14th, the principal subject discussed was "The Doctor in Politics," especially as to his fitness for positions of public trust and responsibility, and his reprehensible lack of civic spirit and pride. Some of the speakers rebuked the doctors for their indifference to politics and civic affairs, and urged them to take a more active interest in questions and movements relating to the public welfare.

The *Record* goes on to say that the rebuke was timely and well deserved, and merits wider publicity, inasmuch as the doctor is under a greater obligation to actively interest himself in matters pertaining to local government, public education and other civic services than almost any other citizen in his community. His obligation is greater, because of his fitness for responsibility through education, high ideals of character, and the close relationship he sustains to the families and homes of the community in which he lives.

We appreciate very much the kindly expressions of opinion of the *Record* respecting our profession, and are willing to admit that the average doctor, in most countries at least, does not take as much interest in public affairs as he ought. At the same time we have to state the fact that a large proportion of the physicians of Canada do take a very active interest in matters pertaining to the public welfare. We know of no country in the world where so many physicians, in proportion to the population, are elected to positions of trust in our parliaments as in Canada. Nor do we know of any other country where such a large proportion of physicians take a deep interest in sanitary and general educational matters. In addition, quite a lot of us are willing to serve our country in Parliament, but have not yet been asked to do so.

CONVOCATION HALL FOR THE UNIVERSITY OF TORONTO.

The President of the Alumni Association of the University of Toronto desires to see a Convocation Hall erected by the graduates. Many, if not all the professors and lecturers of the various faculties of the University actively favor the scheme. Dr. Reeve, the President, has issued a circular letter to the graduates, as follows:

"You are doubtless aware that our *Alma Mater* has had no Convocation Hall since the fire, and that it is in great need of a large building for convocations and various academic gatherings, including social functions, extension lectures, concerts, etc., etc. It is strongly felt by many that not to have a place where the hundreds of her students in the faculties and different

colleges can rally and mix, and see and hear one another, deprives the University of an important means of promoting that *esprit de corps* which should prevail in every great institution, and animate the Alumni in after life. A well-designed Convocation Hall holding 2,000 would give added dignity, if not prestige, to the annual events, and would permit the presence in large numbers of patrons and friends, whom no institution can afford to exclude or ignore. It would also promote various academic interests, which rely in large part on the aid of a sympathetic public. Such a building will cost \$50,000, and there is good ground to fear that, unless the requisite money be supplied by Alumni and friends, years will pass ere the finances of the University would warrant the Trustees in devoting funds to such purpose. This is the most weighty appeal yet made to the Alumni. The project is, however, quite feasible, and only needs for its success a united and loyal effort on the part of graduates, undergraduates and friends. Let us be equal to the occasion, and justify the hopes of many whose eyes are upon us and who do not wish us to suffer by contrast. Devotion to our *Alma Mater* should be the mainspring of our action, but the efforts of those attached to other institutions may well prove an incentive. The completion and dedication of a suitable academic hall would form a most fitting and gratifying feature of the celebration of the semi-centenary of our University.

"The Faculties have already subscribed about \$6,000, members giving \$250, \$200, etc. The subscriptions hold if \$50,000 are promised, and they are payable in two instalments, June 1, 1902, and June 1, 1903. The Executive Committee feel that the best plan is for the graduates of the respective years in the several Faculties and of federated and affiliated institutions to work together. Your kind co-operation promptly given is most earnestly desired."

A new monthly journal, devoted to the specialties of gynecology, abdominal surgery, obstetrics and pediatrics, will shortly be established in New York by the following committee: Drs. Charles Jewett, J. Clifton Edgar, A. Palmer Dudley, Matthew D. Mann, H. J. Boddy, J. E. Jauvrin, G. H. Mallett and Clement Cleveland.

THE AMERICAN CONGRESS OF TUBERCULOSIS.

The third annual session of this Congress is announced to be held on the 14th, 15th and 16th of May, 1902, in the City of New York, in joint session with the Medico-Legal Society. There will be two sessions each day and no evening session, except on the 15th, when the banquet will be given. This will enable delegates from distant States and countries to enjoy the amusements and attractions of the city.

Arrangements will be made with railway companies for a reduced rate of fare, the details of which will be announced to the delegates.

In addition to the Vice-Presidents chosen at the sessions of May 15 and 16, 1901, the Executive Committee have authorized the appointment of three Vice-Presidents from each State, Country or Province, and an Honorary Vice-President from each. Under this authorization about seventy additional Vice-Presidents have been named who have already accepted, but in some of the Countries and States all of them have not yet been named. Of the Honorary Vice-Presidents all but two of the Provinces of the Dominion of Canada have accepted already, and six from governments. Among those who have accepted from the American States, already, five are Governors of States and others high public officers.

When completed these officials will be duly announced. There will be, aside from all papers of a miscellaneous nature, four symposiums, arranged each to occupy one session of the body, viz.:

1. Preventive legislation, embracing the social, municipal, and State aspects of tuberculosis.
2. Tuberculosis in its pathological and bacteriological aspects.
3. The medical and surgical aspects of tuberculosis.
4. The veterinary aspects of tuberculosis.

These will each be in charge of a committee, who will arrange for the opening papers, and for those who participate. These committees will be arranged with great care and duly announced.

A large number of the enrolled members have already announced the titles of their papers for the session of 1902, and a still larger number have sent their names to the Secretary, who will contribute papers and send the titles later.

The Presidents of Central and South American Republics, and all Governments on the American Continents, have been invited to send delegates and to name suitable persons to act as Vice-Presidents, and their men of science requested to enroll and contribute to the work of the Congress, many of whom are already represented by delegates. No attempt will be made to classify and arrange these until the programme can be announced,

but, if thought advisable, a preliminary announcement will be made, one month before the annual meeting, of the titles of papers and names of authors.

Those who were named as delegates by the Governors of States, or Medical or Scientific bodies, for the Session of 1901, are cordially invited to enroll for the Congress of 1902. The enrolling fee will be \$3, which will entitle the member to the "Bulletin of the Congress of 1902."

All medical bodies, and scientific or legal associations, or associations of the Bar, are invited to send delegates to the Congress, who will be given the rights of the floor and a vote at the session.

There will be named a Local Committee for the Session, of strong names, who will do everything in its power to make the occasion one of great interest and pleasure to enrolled members.

The enrolment is open to members of both professions in every State, County or Province on the continents of America, in the western hemisphere, and in American waters, and papers are promised and will be solicited from all who are interested, in foreign countries.

For details and enrolment, address Clark Bell, Secretary, 39 Broadway, New York City.

Professor Pestalozza, of Florence, on behalf of the Committee of Organization of the Fourth International Congress of Gynecology, begs to announce to the profession of Canada that the Congress will meet in Rome, from the fifteenth to the twenty-first of September of this year. The Committee of Organization consists of Professors Pasquali Morosani and Mangiagelli, who wish to extend a hearty welcome to their Canadian brethren. The subscription fee is five dollars for gentlemen, and two dollars for the ladies accompanying them. The treasurer is Dr. La Torre, 8 Via Venti Settembre, Rome. The subjects chosen for discussion are: (1) The medical indications for the induction of labor; (2) Genital tuberculosis; (3) Hysterectomy in puerperal septicemia; (4) Inflammatory changes in the neck of the uterus; (5) The surgical treatment of cancer of the uterus. It is the earnest wish of the committee to have a large attendance of gynecologists and obstetricians from Canada.

We direct our readers to the fine offers to secure a medical practice presented on another page of this journal by Dr. W. E. Hamill. Those wishing to buy should examine the list.

Personals.

Dr. James F. W. Ross, of Toronto, will return from the Bahama Islands and resume practice about April 1st.

Dr. Harry B. Anderson, of Toronto, started for New York March 10th, and will return about May 21st.

Dr. J. R. Lancaster (Tor. '95), who was practising for a time at Tilsonburg, has been appointed one of the resident surgeons, Grace Hospital, Toronto.

Dr. A. Gun, Durham, has been appointed associate coroner for Grey County, and Dr. William Logie, Sarnia, associate coroner for Lambton County.

Dr. A. D. McIntyre has been appointed resident surgeon, Kingston General Hospital, in the place of Dr. Grimshaw, who has gone to England to engage in post-graduate work.

Dr. J. D. Gibb Wishart spent the first week of this month in New York, attending the meeting of the eastern section of the American Laryngological, Rhinological and Otological Society, and visiting the hospitals there and in Philadelphia.

DR. HARBOTTLE'S RELEASE REFUSED.

The Government, on the recommendation of the Minister of Justice, has decided not to accede to the prayer of the petitions which have recently been presented asking for the release of Dr. Harbottle, of Burford, who was sentenced to twelve months' imprisonment for shooting a farmer named Stewart. Dr. Harbottle, it will be remembered, was credited with having strong pro-Boer sympathies and expressing them pretty freely. This gave offence to some of the residents of Burford, and the doctor was subjected to various indignities in consequence. On the day of the shooting Stewart was guilty of behavior which Dr. Harbottle regarded as insulting, and, aroused to a pitch of exasperation, the latter drew a revolver and discharged it. Dr. Harbottle says he did not intend to hit his tormenter, but simply to scare him, but owing to Stewart's dodging his head was struck by the bullet. The doctor asked for trial before a Judge, and a twelve months' sentence was imposed. The Minister of Justice recognizes that there were extenuating circumstances, but takes the ground that the drawing and discharging of a revolver at a fellow-citizen constitutes a grave offence against the law.

Obituary.

JAMES McLAREN, M.D.

Dr. McLaren died at Deer Park, Toronto, March 6th, 1902, aged 78. He received his medical education at Queen's College, Kingston, but had not been engaged in practice for many years before his death.

GEORGE WYLIE JACKES, M.D.

Dr. Jackes, of Eglinton, died suddenly, of apoplexy, at his home, March 7th, 1902, aged 51. He graduated M.B., 1872, and D.M., 1888, in the University of Toronto. He was one of the best known physicians north of Toronto, and was highly respected by all classes of the community in and about Eglinton.

PAUL F. MUNDE, M.D., LL.D.

Dr. Mundé, an eminent gynecologist of New York, died February 7th, of cardiac disease, aged 56. He graduated M.D., Harvard Medical School, in 1866. He then studied abroad for some years and took his degree as Master in Obstetrics, in Vienna, in 1871. After serving in the Franco-German war he commenced practice in New York, where he soon attained distinction as a gynecologist and consultant in obstetrics. He was editor of the *American Journal of Obstetrics* from 1874 to 1892.

JOHN COVENTRY, M.D.

Dr. Coventry, of Windsor, was one of the best known physicians in Western Ontario. He died at his home, February 22nd, aged 61. He graduated M.D., Buffalo, in 1863, and M.D., Victoria, in 1866. He was for many years Medical Health Officer of Windsor, and was also engaged in general practice. He was in many ways prominent in civic affairs, and was one of the most highly respected citizens of his city. To his many friends who knew him as a bright, strong and busy man, the sudden announcement of his death caused a great shock. He was attacked by pneumonia February 17th, and died on the fifth day after.

1879

JOSEPH A. FIFE, M.D.

Dr. J. A. Fife, one of the oldest practitioners of Peterboro, Ont., died there on the morning of February 12th. Dr. Fife was born in the County of Peterboro in 1838 and received his medical education at the Toronto School of Medicine and his degree at Victoria University, Toronto. Subsequently he took a post-graduate course at Bellevue. During the American civil war he served for two years in the Northern Navy as surgeon.

RICHARD MAURICE BUCKE, M.D.

Dr. Bucke, Superintendent of the London Asylum for the Insane, died February 19th, aged 65. The circumstances surrounding his death were particularly sad. About 11.30 p.m. he stepped out on his verandah, slipped on the ice, fell on the back of his head, and was instantly killed.

He received his medical education in McGill, graduating M.D. in 1862, being gold medallist of his year. After spending two years at post-graduate work in London and Paris, and one year in California, he engaged in general practice in Western Ontario for eleven years. He was appointed Medical Superintendent of the Asylum for Insane, Hamilton, in 1876, and was transferred to London in 1877. He was a man of singular ability in many directions, and at the same time possessed social qualities that endeared him to his large circle of friends. He was known to most students of "Leaves of Grass" as a warm, stalwart, life-long friend of Walt Whitman. He had the largest and best Whitman collection in the world. His contributions to periodical literature were numerous, and he was engaged for the last ten years on two works, one on "Cosmic Consciousness," and another on the Bacon-Shakespeare question, which will probably be published shortly.

Book Reviews.

First Aid to the Injured and Sick. By F. J. WARWICK, B.A., M.B. Cantab., Associate of King's College, London; Surgeon-Captain, Volunteer Medical Staff Corps, London Companies, etc.; and A. C. TUNSTALL, M.D., F.R.C.S. Ed., Surgeon-Captain Commanding the East London Volunteer Brigade Bearer Company; Surgeon to the French Hospital and to the Children's Home Hospital, etc. 16mo volume of 232 pages and nearly 200 illustrations. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, \$1.00 net. Toronto: J. A. Carveth & Co., Canadian Agents.

This volume of practical information is intended as an aid in rendering immediate temporary assistance to a person suffering from an accident or sudden illness until the arrival of a physician.

The authors, fully appreciating the urgency of the subject, have succeeded in producing an admirable work of practical emergency procedures, and they have couched it in such clear language that even those unfamiliar with the science may easily grasp the meaning intended.

It will be found a most useful book of ready aid, and of invaluable service, not alone to nurses, railway employees, etc., but also to the laity in general, as a book of indispensable first aids.

An American Text-Book of Pathology. Edited by LUDWIG HEKTOEN, M.D., Professor of Pathology, Rush Medical College, Chicago; and DAVID RIESMAN, M.D., Professor of Clinical Medicine, Philadelphia Polyclinic. Handsome imperial octavo of 1,245 pages, 443 illustrations, 66 of them in colors. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, \$7.50; sheep or half morocco, \$8.50 net. Toronto: J. A. Carveth & Co., Canadian Agents.

The importance of the part taken by the science of pathology in the recent wonderful advances in practical medicine is now generally recognized. It is universally conceded that he who would be a good diagnostician and therapist must understand disease—must know pathology. The present work is the most representative treatise on the subject that has appeared in English. It furnishes practitioners and students with a comprehensive text-book on the essential principles and facts in general pathology and pathologic anatomy, with especial emphasis on the relations of the latter to practical medicine. Each section is treated by a specialist who is thoroughly familiar with his particular subject, and can best frame the theories and conclusions in an authoritative form. The illustrations, which are nearly all original, and of which sixty-six are in colors, are unsurpassed in beauty by those in any similar work in the English language. In fact the pictorial feature of the work forms a complete atlas of pathologic anatomy and histo-

logy. Among the contributors to this volume are Lewellys F. Barker, H. D. Beyea, Richard C. Cabot, Wm. S. Carter, Joseph Collins, Ludvig Hektoen, Ward A. Holden, Henry F. Lewis, Joseph McFarland, Louis J. Mitchell, Frank H. Montgomery, Albert G. Nicholls, A. P. Ohlwacher, David Riesman, Joseph Spalding, A. A. Stevens, Victor C. Vaughan, J. Collins Warren, and Alfred S. Warltun.

Essentials of Physiology. Prepared especially for students of medicine; and arranged with questions following each chapter. By SIDNEY P. BUNGETT, M.D., Professor of Physiology, Medical Department of Washington University, St. Louis. 16mo volume of 233 pages, finely illustrated with many full-page half-tones. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, \$1.00 net. Toronto: J. A. Carveth & Co., Canadian Agents.

This work aims to furnish material with which students may lay a broad foundation for later amplification, and to serve as an aid to an intelligent consultation of the more elaborate textbook. An important feature is the series of well-selected questions following each chapter, summarizing what has previously been read, and at the same time serving to fix the essential facts in the mind. Nearly all the illustrations are full-page half-tones, and have been selected with especial thought of the student's needs.

American Edition of Nothnagel's Encyclopedia. Variola (including Vaccination), by Dr. H. Immermann, of Basle. Varicella, by Dr. Th. von Jürgensen, of Tübingen. Cholera Asiatic and Cholera Nostras, by Dr. C. Liebermeister, of Tübingen. Erysipelas and Erysipeloid, by Dr. H. Lenhartz, of Hamburg. Whooping Cough and Hay Fever, by Dr. G. Sticker, of Giessen. Edited, with additions, by SIR J. W. MOORE, B.A., M.D., F.R.C.P.I., Professor of the Practice of Medicine, Royal College of Surgeons, Ireland. Handsome octavo volume of 682 pages, illustrated. Philadelphia and London: W. B. Saunders & Co., 1902. Cloth, \$5.00 net; half morocco, \$6.00 net. Toronto: J. A. Carveth & Co., Canadian Agents.

The articles included in this volume treat of a number of diseases second to none in importance, whether regarded from the standpoint of preventive medicine or as the cause of widespread sickness and death. Although the excellence of the German work and the detailed and comprehensive manner in which the respective authors had dealt with their several subjects left comparatively little to be added, the editor has not hesitated to amend the text whenever necessary, and has also embodied the results of his personal experiences, gained during a varied practice extending over thirty-three years.

One of the most timely articles included in the work is that on variola, including vaccination and variolation. Dr. Immermann's monographs on these subjects, now of vital interest, especially in the United States and Great Britain, have probably never been equalled for circumstance of detail and masterly argument.

The other articles, each by a German specialist of recognized authority, are also skilful expositions of the particular diseases under discussion. The entire volume being edited by a specialist of acknowledged ability, the work, it will be seen, has been brought precisely down to date. It is, indeed, a magnificent contribution to the literature of medicine.

Progressive Medicine. A quarterly digest of advances, discoveries and improvements in medical and surgical sciences. Edited by H. A. HARE, M.D., and H. R. M. LANDIS, M.D. Vol. iv. December 1901. Philadelphia and New York: Lea Brothers & Co.

This volume deals with diseases of the digestive tract, genito-urinary diseases, syphilis, surgery of the extremities, diseases of the kidneys, physiology, hygiene and therapeutics. This series of quarterly volumes is now well known. This volume is up to the standard. It contains much useful information, and can be safely recommended to medical practitioners. The make up of the volume is all that could be desired.

The Roentgen Rays in Medicine and Surgery, as an Aid in Diagnosis and as a Therapeutic Agent. Designed for the use of Practitioners and Students. By FRANCIS H. WILLIAMS, M.D. (Harv.), Graduate of the Massachusetts Institute of Technology; Visiting Physician at the Boston City Hospital; Fellow of the Massachusetts Medical Society; Member of the Association of American Physicians; Member of the American Climatological Association; Fellow of the American Association for the Advancement of Science, etc. With 391 illustrations. New York: The Macmillan Co. London: Macmillan Co., Limited. Toronto: G. N. Morang & Co.

Dr. Williams is one of the pioneer workers in this subject, who has devoted a great amount of time to overcome many of the difficulties that were present in the early days, and has accomplished much for which the profession owe him their deepest thanks. He has approached all the questions from an unbiased and scientific standpoint, and has made the best of his opportunities in presenting the subject. The volume is most comprehensive, comprising 650 pages, which presents the subject from its beginning to the present day. He deals elaborately with the nature and properties of the rays and the appliances that are necessary for their production; he describes the construction of the appliances so that one is made acquainted with the mechanism of the instruments that he has to handle. He has used both the static machine and the coil, and believes that for greatest utility and certainty of work the coil is superior to the static machine. He prefers the static machine in work on the chest, where the screen is used. The subject of tubes is handled in a most admirable manner, and the numerous designs thoroughly reviewed. The advantage of particularly constructed tubes is well pointed out

and conclusive reasons adduced for their use. All the descriptions are given with the idea of explaining in a simple way the technique of their construction and the various methods of increasing and decreasing their vacuum. He does away with all misleading terms. He explains that "high and hard" tubes and "low and soft" tubes are the same, and that each refers to the degree of exhaustion; he speaks of them all as one kind of tube, and their exhaustion is referred to by the length of spark gap necessary to give the desired results. He then deals with the different parts of the body in which the use of the X-rays as an aid to diagnosis is concerned. In the thorax he very clearly points out that the X-ray is a new and valuable aid, that it should be used in conjunction with all other aids that we possess, that it is by no means to be considered as a single diagnostic agent, but in conjunction with all other aids should be in common use. He believes, and very clearly points out, that phthisis may be discovered in an exceedingly early stage, even before the general symptoms of cough, etc., are manifest. He believes that until we can secure instantaneous photographs, however, the screen is the most useful agent in work on the thorax. In diagnosis of aneurisms, displacement of the heart, pneumonia, and effusions into the pleural cavity, the greatest advantage is obtained by the use of the X-rays. In the abdomen the use of the X-ray is by no means as advantageous as it is in the thorax. The advancement that is being made in the ability to control the penetration of the X-ray, and vary the same, will undoubtedly very soon place the work in the abdomen much further ahead than it is to-day. The diagnosis of calculus in the kidney is rapidly approaching a scientific basis, yet to-day there still remains uncertainty when no shadow is produced. This will be cleared up as soon as we are more thoroughly acquainted with the degree of resistance the many varieties of calculi offer to the rays. A large portion of work is devoted to the therapeutic value of the X-rays in the treatment of certain skin diseases—cancerous, tubercular, etc., and the chapter is very replete with the good work done in this branch. Originally, the use of the X-rays was supposed to be of advantage mainly to the surgeon, and Dr. Williams' has left this aspect of the case to be considered last in the book. He is very explicit about the possibilities of misconstruing the X-ray photograph, and points out the errors that one may fall into in making these examinations, and methods of escaping them. We feel that this work is one that all interested in its study should possess, and those who do not use X-rays themselves, and are not equipped, should have the book for reference to show the many advantageous aids that it lends to diagnosis. The book is written in a style that makes its

reading exceedingly pleasant, and the description of scientific construction is so nicely done that its reading is a pleasure. We congratulate the author on having secured so competent a firm to publish the volume, and desire also to congratulate them on the beautiful manner in which they have produced this volume. The work is handled in Canada by Messrs. G. N. Morang & Co., the Canadian representatives of Macmillan & Co.

The Pathology and Treatment of Sexual Impotence. By VICTOR G. VECKI, M.D., third edition, revised and enlarged. 12 mo. 329 pages. Cloth, \$2.00. Philadelphia and London, Eng.: W. B. Saunders & Co. Toronto: J. A. Carveth & Co.

The subject of impotence is one of the most difficult to treat of, because of the peculiar amount of matter that must be discussed, which ordinarily one would not choose to see in print. It is a wrong idea, however, even if the discussion involves freely talking of these subjects, to slightly refer to the work. No subject is of more importance, because impotence not only involves the immediate sufferer but those to whom he has been bound for life. To treat of the subject intelligently one should be able to understand the many phases which the condition involves and arises from. To have this matter presented as it is in the volume under review is really a matter of congratulation, for the author, while plain and true to nature, never in the slightest departs from the truly scientific method of dealing with the subject. We can thoroughly recommend it to the profession, and feel assured that they will greatly benefit by a careful perusal of its contents. Any author who writes on this subject may be misunderstood, but surely in our profession we should be able to read a volume like this and appreciate its real merit, without ascribing wrong motives to the author.

Venereal Diseases. A manual for practitioners and students. By JAMES R. HAYDEN, M.D., Chief of Clinic and Instructor in Venereal and Genito-Urinary Diseases of the College of Physicians and Surgeons (Columbia University), New York; Assistant Visiting Genito-Urinary Surgeon to Bellevue Hospital. Third and revised edition. Illustrated with sixty-six engravings. Philadelphia and New York: Lea Brothers & Co.; Toronto, Ont.: J. A. Carveth & Co., Canadian agents.

In this volume the author has collected together a great amount of good advice, and much advice that is not found in other and larger treatises. We feel glad to see him illustrate and advise the use of the blunt syringe and discountenance the use of the old long nozzle glass syringe. The description of the method of using an injection is clear, short and concise, and will alone repay one for purchasing the work. We think his use of the clamp for conversion is out of date and should

be omitted. A clamp in the operation is a nuisance. We could possibly find a few other points that would be better omitted, but on the whole the subject is admirably treated, and the volume so arranged that it is one of ready and reliable reference. The author has had an extensive experience, and has made use of it in writing this work. That the work has passed through three editions in such a short space of time is of itself a most favorable recommendation. It is very neatly gotten up, and of a convenient size for carrying about to be read at odd leisure moments.

A Text-Book of Pharmacology and some allied sciences—Therapeutics, materia medica, pharmacy, prescription-writing, toxicology. By TORALD SOLLMANN, M.D., Assistant Professor of Pharmacology and Materia Medica in the Medical Department of Western Reserve University, Cleveland, Ohio. Illustrated. Philadelphia and London: W. B. Saunders & Co. Toronto: J. A. Carveth & Co. Price, \$3.75. 1901.

The title of a work such as this is usually kills it, as far as the practising physician is concerned. It is a subject given the go-by, as much as possible, in the schools, and therefore not understood, even a little bit, when school days are ended. That this is due to the distinctly medical way in which these subjects are taught there is no doubt, this method of teaching leading to the idea that they are of no practical value. The author has evidently come to this conclusion, and has succeeded in writing a work that reads almost like a Practice of Medicine, as far as ease of reading and understanding what is read is concerned. Students, druggists and physicians will find this an extremely useful book, and if physicians and students of medicine knew how easy and interesting Dr. Sollmann has made these subjects, they would at once proceed to explore what, to them, is usually a *terra incognita*; and, once the first step is taken, they would find so much to interest them and which was unknown, that they would be through before they knew it. It is not often that we wax enthusiastic over any book, but having had experience both as student and teacher, we feel it due to the author to commend this work highly.

A Treatise on Smallpox.

A very timely treatise on smallpox, to sell at \$3.00, is announced for publication early in April, by J. B. Lippincott Company. It is written by Dr. George Henry Fox, Professor of Dermatology in the College of Physicians and Surgeons, New York City, with the collaboration of Drs. S. Dana Hubbard, Sigmund Pollitzer and John H. Huddleston, all of whom are officials of the health department of New York City, and have had unusual opportunities for the study and treatment of this disease during the present epidemic. The work is to be in

atlas form, similar to "Fox's Photographic Atlas of Skin Diseases," published by the same house. A strong feature of the work will be its illustrations, reproduced from recent photographs, the major portion of which will be so colored as to give a very faithful representation of typical cases of variola in the successive stages of the disease, also unusual phases of variola, vaccinia, varicella and diseases with which smallpox is liable to be confounded. These illustrations number thirty-seven, and will be grouped into ten colored plates, $9\frac{1}{2} \times 10\frac{1}{4}$ inches, and six black and white photographic plates. The names of Dr. Fox and his associates assure the excellence of the work, in which will be described the symptoms, course of the disease, characteristic points of diagnosis, and most approved methods of treatment.

Correspondence.

To the Editor of the CANADIAN PRACTITIONER AND REVIEW :

DEAR SIR,—An explanation is due the profession regarding the articles appearing in the Toronto papers concerning the Ramage process for the treatment of phthisis, etc.

The Ramage Company asked our permission to permit the reporters to see the machines, and asked us to demonstrate the process. No one regretted more than we did seeing the articles as published the following morning, as we had requested the reporters merely to refer to the process, as we did not desire that anything unprofessional should appear: but in their enthusiasm, they entirely overlooked our instructions. Yours truly,

JAMES H. COTTON,
HOLFORD WALKER.

It is said that the pus of gonorrhoeal vaginitis is always alkaline. If for any reason a microscopical examination cannot be made, the use of a strip of litmus paper will, therefore, give a fairly accurate decision.

It is well to remember that in bullet wounds pain is not usually a very marked symptom. If the wound is received during a period of excitement, it may give hardly enough pain to cause the subject to know he has been wounded. If there is any pain, it is apt to last for a short time only. This absence of suffering may mislead the surgeon into a failure to recognize the gravity of the injury.

Selections.

The Surgeon's Responsibility for Post-operative Conditions.

It is difficult for a physician to clearly express the views which follow without seeming to reflect upon the skill, courage, and training of the surgeon. Such is not the intention of the present article, but it is written because we believe that statistics in regard to operative recoveries produce erroneous conclusions as to the value of the operation itself in many instances. We are, of course, aware of the fact that, under certain circumstances an operation is imperatively needed, and must be performed, be the result what it may, in an effort to save life; and no can be beyond the writer in his admiration of the skill and bravery with which surgeons operate at such times. There are, however, a certain number of cases in which operations are performed for the relief of conditions which are not sufficiently pressing to endanger life, but which may be productive of very considerable annoyance, discomfort and pain. Not infrequently the condition is one which renders the patient willing to submit to an operation, and she relies upon the superior judgment of her physician to determine the degree of relief which she will obtain as a result of the operative ordeal. In some instances much relief follows. But it has been our experience that in a certain number of cases what might be called "substitution symptoms" are developed, so that the patient's condition, while relieved in one direction, is made worse in another, and therefore the operation is of no material benefit to her. Probably most physicians of experience will agree with the writer in the statement that a very large number of women who have been subjected to abdominal section for various causes are more or less invalids for the rest of their days, and regard the operation as having been a failure, not because the particular trouble for which the operation was performed has not been relieved, but by reason of the development of associated symptoms which made their lives as unbearable as before. Thus, we have in mind at the present time the case of a woman from another city, who was operated upon because she had a chronic inflammation of her Fallopian tubes which gave her much discomfort and pain, but was not severe enough in any way to jeopardize her life. So far as the operation was concerned, recovery was rapid and complete. But so far as her general condition is concerned, she is now worse than before. The pelvic pain after the operation was worse than before it was performed, and finally became so severe that a second abdominal section was carried out, with the result that the surgeon told her that he had "found and removed a buried unabsorbed ligature," but although she passed through this second operation successfully, she is still suffering as much pain



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and discomfort as at any time in her life. The thing that she was seeking was good health, and the fact that the original cause of her ill health has been removed and a new cause substituted in no way increases her comfort of mind.

Then, again, it is not to be forgotten that the nervous shock and the administration of the anesthetic produce effects which last very much longer than those which are manifest to the eyes of a surgeon for a few hours or days after the operation has been performed. Various neurotic, anemic, digestive, circulatory, and other manifestations are developed which require the greatest skill on the part of the physician after the patient has returned from the scene of her operative recovery.

In other words, when advising as to the performance of an operation, it seems to us that the physician and surgeon should not only discuss the probabilities of the patient passing safely through the operative ordeal, but also the question as to whether in the event of her surviving the ordeal, the last stage of that woman will not be worse than the first.

In more than one instance of chronic relapsing appendicitis we have seen operative procedures resorted to with the result that the patient's life has been evidently shortened, in that he or she died a few days later from post-operative complications, when a number of weeks or months of life might have been passed before another attack of the local trouble asserted itself.

The discovery of anesthetics is in one sense not an unmixed blessing, since it has made, with the practice of antiseptic surgery, certain operative procedures almost too easy of performance. After all, the patients in their dread of the knife have, in their ignorance, a certain amount of justification, and illustrate the old adage that the children of this world are wiser than the children of light, for, ignorant though they be, their fear of sequela is sometimes greater than their advisers.—*Ed., Therapeutic Gazette.*

Method of Using Glycerinated Vaccine Lymph.

The part of the arm selected should first be thoroughly cleansed with a warm boric acid solution. A drop of the glycerinated lymph is then placed upon the clean surface and through this drop of vaccine matter the gentle scarifications are made with a sharp needle or small bistoury, the skin being meanwhile drawn tense. In this way the superficial layer of the skin is broken up and the vaccine lymph is brought into intimate contact with the living cells—and the danger of extraneous matter is largely eliminated in this method of working beneath the drop of semi-fluid vaccine. It is needless to say that the scarifying instrument must be sterile, and the lymph itself of known and reliable manufacture.—*The Clinical Review.*