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THE

CANADIAN PRACTITIONER

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PUBLISHERS:
THE J. E. BRYANT COMPANY (Limited), 58 BAY STREET.

VOL. XVIII.] FEBRUARY, 1893. [No. 2.

Original Communications.

FOREIGN BODIES IN THE STOMACH AND TRACHEA.

REPORT OF A CASE

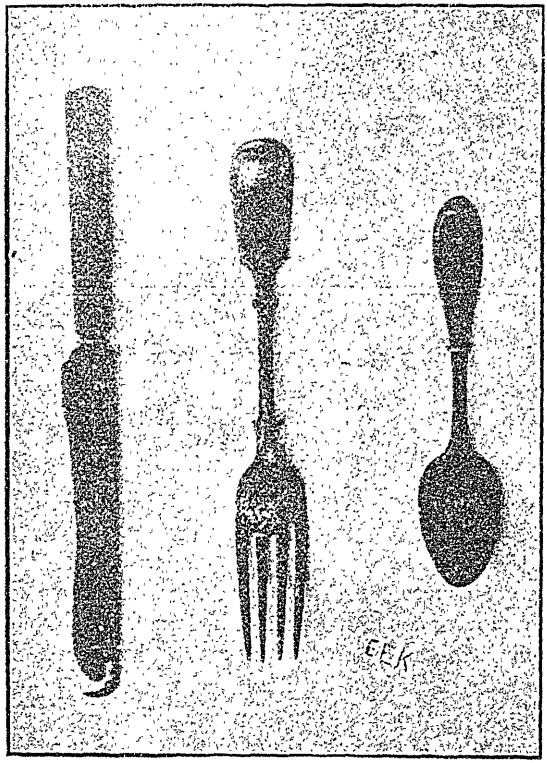
BY JOHN CAVEN, M.D., AND THOMAS WEIR, M.D.

In the *British Medical Journal* of January 7th, 1893, Mr. Cant, of Lincoln, reports a successful gastrotomy performed upon a lunatic for the purpose of removing a razor, which he had swallowed, from his stomach. In the following case, unfortunately, operation was not permitted; but the history is of extreme interest, as illustrating what may be done in the way of swallowing foreign bodies, the tolerance of or insensitiveness to such bodies in the insane on the part of normally delicate and highly sensitive surfaces, and the curious pathological changes induced.

The patient, W.T., aged 23, had been a masturbator, and his insanity was perhaps due to this. He had been an inmate of Toronto Asylum for four years and three months, and was considered incurable. His habits, when eating, were such that it was found necessary to place him at a small table by himself, this being within six feet of that occupied by the attendants. The door leading from the dining-room into the ward of which it opened was locked, and the knives, forks, and spoons counted before patients were allowed out. The description of the articles used is as follows:

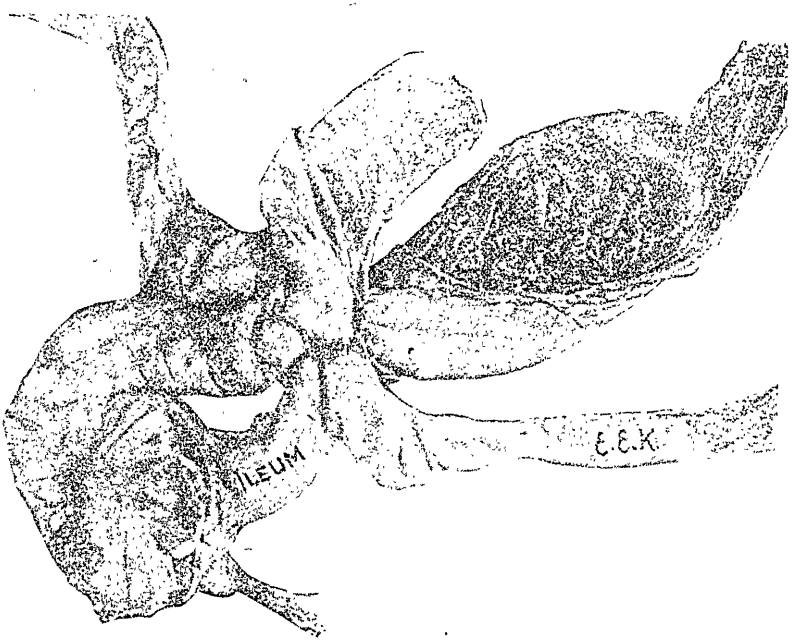
Knife, $9\frac{5}{16}$ inches long, silver-plated, blunt edge, round point; fork, $7\frac{3}{8}$ inches long, four-pronged, silver-plated; spoon, $5\frac{7}{8}$ inches long, silver-plated.

On the 27th of October last, when the attendants examined the tableware after dinner, the knife, fork, and spoon used by W.T. were not to be found. When questioned as to where they were, he answered that he had swallowed them. He was not believed, and all of the patients in the room were searched, but without result. The case was reported to the medical

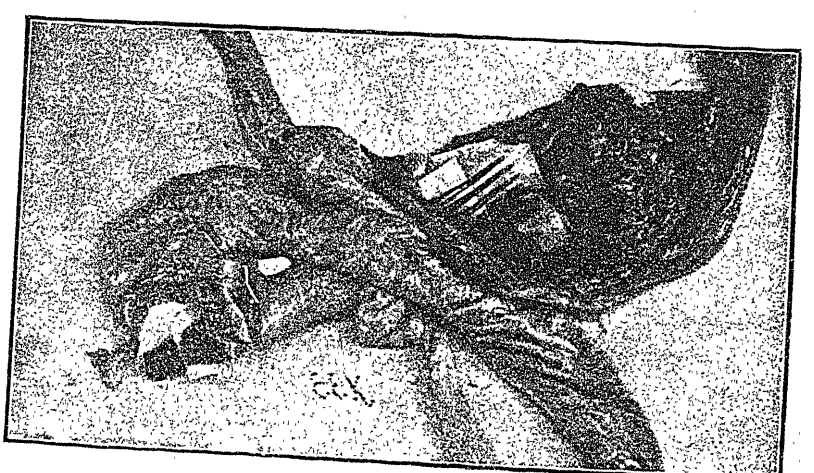


PHOTOGRAPH OF THE KNIFE, FORK, AND SPOON
(Showing eroded point and edge of knife).

attendant that night; but he naturally declined to believe that the articles had been swallowed. The following morning, October 28th, the patient complained of nausea; and the doctor in charge, on examining him, was able to feel distinctly through the abdominal wall some hard foreign bodies which were apparently in the stomach. On manipulation, a distinct clinking noise could be heard. From this time on, until the last week of his life, the patient's condition was very much as it had been previously: and



PHOTOGRAPH OF THE STOMACH AND INTESTINE
(Showing the adhesion formed between the Stomach, Ileum, and Transverse Colon).



PHOTOGRAPH SAME AS ABOVE
(Showing the articles in the position in which they were found. The handles of knife and fork are in the Cæcum. The point of the bowl of the spoon is seen perforating the Duodenum).

had it not been for the fact that the articles in the stomach could be distinctly felt, it would have been hard to believe that they were there at all. Two or three times vomiting occurred; but as the patient had been troubled the same way for some time previous to the 27th of January, it can hardly be dwelt on as a symptom of any extra disturbance.

On the 12th of November slight abdominal distension was observed, and on the 13th the articles swallowed could not be felt, this being the first day since the swallowing that they were not easily found. On the 14th they were again perceptible; and during the next month (until December 14) the patient's health was apparently quite good, his abdomen showing slight passive distension on the 25th. On December 14th tenderness was complained of, and a gradual increasing distension of the abdomen, which was supposed to be partly due to fluid. Cramps in the right side were complained of on January 13th and 14th; on the 19th vomiting occurred, the rejected matter having a very foul smell. On the 26th of January the patient felt ill, and was put to bed; he vomited frequently, and the bowels failed to move. The pulse became extremely weak, and vomiting continued on the 27th. Death occurred at 1.15 p.m. on the 27th.

Post-mortem examination. An autopsy was held twenty-one hours after death. Inspection showed considerable emaciation; *rigor mortis* and *post mortem* staining fairly marked; abdomen greatly distended; columnella of nose separated from alæ for a distance of one-half inch back from anterior extremity (said to be the result of thrusting fingers into nostrils).

Section. Thorax: Pleuræ, old adhesions at apices on both sides. lungs tubercular, deposits in upper lobes on both sides, mainly miliary, a few small cavities. In the trachea, just at the bifurcation, was lodged a piece of glass—flat, four-sided, measuring $\frac{13}{16}$, $\frac{13}{16}$, $\frac{4}{16}$, and $\frac{15}{16}$ of an inch on the different sides. The edges of the glass were sharp, and it had evidently been lying in its present position for some time; the trachea being pouched out by pressure on the right side, and the mucous membrane scarred; heart small, 7½ ozs., brown atrophy; pericardium healthy. *Abdomen* contained about two gallons of sero-fibrinous fluid; stomach and intestines considerably distended with gas, and their serous coats covered in patches with fibrin. On manipulation of the stomach, it was found that it contained some foreign bodies, which, with knowledge of the previous history of the case, could be made out to be knife, fork, and spoon. On close examination, the stomach was found to be strongly adherent to the ileum and transverse colon, the surface embraced in the adhesions being about the size of a fifty-cent piece; the point at which the stomach was involved was about 1½ inches from the pylorus on the great curvature; ileum, four inches from ileo-cæcal valve; colon, nine inches from cæcum.

The handles of the knife and fork could be felt passing down through the ileum from the point of adhesion, and their extremities lodged in cæcum; the bowl of the spoon could be felt in the duodenum, concavity forward, and its tip had caused ulceration through the anterior wall of the duodenum, with a slit-like perforation into the peritoneal cavity, 3½ inches from the pylorus. The stomach and intestines were removed with as little disturbance of relations as possible, and photographs taken with the articles swallowed, in the position in which they were found at the autopsy. The point of the knife was engaged in the mucous membrane of the stomach a little below the lesser curve on the anterior wall, and had caused some ulceration there. The points of the fork were free. The handle of the spoon lay across the front of the fork, forming with it an angle of about 45 degrees. The stomach showed marked chronic inflammation —all coats being considerably thickened; the mucosa was much pigmented with black pigment. The mucous membrane of the duodenum was greatly thickened, and showed deep ulceration where the edge of the bowl of the spoon had rested, as well as ulceration with perforation at the point where the tip pressed; the perforation was ¼ inch long; black pigmentation was extreme. No opening was found in the colon where it was adherent to the stomach and ileum. The mucous membrane of the cæcum was slightly thickened, and showed an ulcerated spot ⅜ x ½ inch, where the knife handle rested. The œsophagus showed superficial ulceration of the mucosa for about one inch above its cardiac orifice. The measurements of the knife, fork, and spoon were found to be as follows: knife, 9¼ inches long; fork, 7⅜ inches; spoon, 5⅞ inches. The knife-blade had been considerably eroded by the gastric juice, but the fork and spoon showed no damage beyond the loss of the silver-plating.

There was nothing else specially noteworthy in connection with the abdominal viscera, excepting the presence of a Meckel's diverticulum about two and a half feet from the ileo-cæcal valve.

During the whole period of the man's life after he had swallowed the knife, fork, and spoon, he only twice—and that for a short time—complained of pain; and the only sign of peritonitis was abdominal distension.

The finding of the piece of glass in the trachea was as great a surprise to the patient's medical attendants as to others. There had been nothing at all during life to cause them to suspect any foreign body or any irritation whatever in the respiratory tract.

MALIGNANT DISEASE OF THE PYLORUS AND ITS SURGICAL TREATMENT.*

BY HERBERT A. BRUCE, M.B.

I have selected this subject not only because it is of special interest to me—having had under observation several cases—and also of great importance owing to its frequent occurrence, but for the more potent reason that death, which under existing circumstances must supervene in a short time, may be postponed, and suffering alleviated, and possibly in early cases a positive cure effected, by prompt surgical interference. Coates says that the stomach is the most frequent seat of cancer, and Virchow has estimated that 1.9 per cent. of deaths from all causes are due to this disease. Having recently seen a case of malignant disease of the pylorus operated upon, and as it exemplifies the beneficial result of operation—although in this case the growth was not removed, but simple gastro-enterostomy done—I shall give a brief *résumé* of his clinical history.

Mr. F.D.P., æt. 36. Occupation, farmer.

Previous history. Was always healthy up to three years ago, excepting that he never enjoyed a good appetite. Commenced drinking tea at the age of twenty-one, and has always taken it very hot—could not get it too hot. Has always lived on plain food—coarse bread and pork forming his chief diet.

Present attack. Patient's present illness began three years ago, when after an overheating he noticed a sharp pain in the epigastric region, which was followed in a few minutes by vomiting of a material which he describes as similar in appearance to coffee-grounds. The first time he went to stool after this, he noticed that the fæces were of a blackish color. During the next few days any ingestion of food was followed by vomiting. Was treated for congestion of the liver, and vomiting relieved for six months, but was not free from pain, which would last three or four hours after eating, especially if potatoes or other solid food had been taken. His appetite was poor, and after this period he vomited one evening a material of coffee-ground appearance; fæces following were black. Was treated for dyspepsia for the next three months, and he felt as well as ever, except for weakness. Following this vomiting returned, three or four hours after meals, and this condition has remained ever since—on an average twice a week, at irregular intervals. Vomit has coffee-ground character mentioned above. Pain has been constant. Has lost weight during the last three years, but especially during the last eight months. Bowels only move once every twelve or fifteen days, and then usually as result of

*Read before the Toronto University Medical Society.

enema. He says he has eaten potatoes, and fifteen days after vomit has contained potatoes, although he has taken none in the meantime. Has lost forty or fifty pounds in the last year. He used to weigh 206 pounds, but now only weighs 118 pounds.

Present condition, Oct. 15th, 1891. He has a sallow complexion, is greatly emaciated, is gradually getting weaker, and his face presents an anxious appearance. He has almost constant pain in the epigastrium, somewhat aggravated by eating, but by no means limited to the periods at which the stomach contains food. Has tenderness on pressure over the epigastrium. Ten ounces oil were given him, and in three hours only seven ounces were recovered by the stomach pump. Salol was given, and in three quarters of an hour salicyluric acid was found in the urine. Lower border of stomach extends a little below the level of umbilicus. Hydrochloric acid absent from gastric contents; ascertained by testing with methyl violet.

This case presents all the phenomena usually observed in a well-marked case of malignant disease of the pylorus, viz.:

(1) Loss of appetite.

(2) Pain in the epigastrium, more or less constant.

(3) Vomiting—three or four hours after eating, and vomit sometimes having coffee-ground appearance.

(4) Tenderness on pressure over epigastrium.

(5) Absence of hydrochloric acid from gastric contents.

(6) Cachexia.

(7) Dilatation of the stomach.

One sign that could not be made out was the presence of a tumor. The reason for this will be explained further on.

Now let us consider the diagnostic value of some of these signs and symptoms.

First, as to pain. In cancer of the stomach this is somewhat characteristic, and may be dull, aching, gnawing, or lancinating, occurring more or less constantly, and not being specially related to the ingestion of food, although it is usually increased by eating. The pain in this case is of the above character.

Secondly, vomiting. This is characteristic of pyloric obstruction, in that it occurs three or four hours after eating, at a time when the contents of the stomach should be passed on into the duodenum. Then the vomit sometimes contains considerable blood, giving it the coffee-ground appearance, which points to malignant disease of the stomach.

Thirdly, absence of hydrochloric acid from gastric contents. Regarding the diagnostic significance of absence of hydrochloric acid from the gastric juice, Riegel and other observers say that its constant presence is the strongest proof of the absence of cancer, but its absence not a positive evidence of

the existence of cancer, as in a few cases hydrochloric acid has been absent and yet no cancer present, and also some cases in which hydrochloric acid was present, although there existed undoubted cancer.

Dr. Hüfler made a number of examinations of the gastric juice of patients who were suffering from different cardiac lesions, and found hydrochloric acid absent in all but one. In phthisical patients, it is sometimes absent. In thirteen cases of carcinoma of the stomach reported by Dr. Mears, of Philadelphia, hydrochloric acid was found in six, and not detected in seven cases. It appears to me that if we consider the cause of the disappearance of hydrochloric acid from gastric juice in cases of carcinoma of the stomach, we shall find an explanation for its presence in some cases. Rosenheim examined repeatedly the contents of the stomachs of sixteen patients with this disease, and hydrochloric acid was found wanting in fourteen. In all of these autopsy showed well-marked atrophy of the gastric mucous membrane. In the other two cases in which hydrochloric acid was present during life, after death the mucous membrane, except for the cancer, was found normal. We may therefore conclude that the absence of hydrochloric acid is due, not to the cancer, but to the nearly constant concomitant atrophy, and that in those cases in which hydrochloric acid is present the mucous membrane is not atrophied to any great extent.

It might be in place here to consider the most accurate means of determining the presence of free hydrochloric acid in gastric juice. Regarding this there is considerable disagreement among authorities, but it would seem that Günzburg's phloroglucin-vanillin test is generally considered as the most satisfactory. This has the following formulæ:

Phloroglucin, grs. xxx.; vanillin, grs. xv.; abs. alcohol. ℥j. M.

One minim of this solution in the presence of a trace of concentrated hydrochloric acid takes on immediately a bright-red hue, while at the same time beautiful red crystals are deposited.

Organic acids—acetic and lactic—give only negative results in the presence of this reagent; others use tropeolin, Congo red, methyl violet. The latter is very commonly used, and although some doubt its reliability it is convenient, and seems to give sufficiently accurate results for practical purposes.

Fourthly, cachexia. This is well marked in this case, as indicated by early and rapid emaciation, progressive debility, a dirty sallow complexion, and an anxious countenance.

Fifthly, dilatation of the stomach or gastrectasia. This is present, and invariably occurs if the disease of the plyorus is sufficient to cause any considerable obstruction to the passage of food through it. At first the obstruction causes compensatory hypertrophy of the gastric muscles; but after a time, as the disease extends and the obstruction becomes greater, we have

hypertrophic dilatation, in which the dilatation eventually preponderates. The error is sometimes committed of considering stomachs of unusually large size, as shown by physical examination, to be dilated. The weight of authority is, however, in favor of only regarding those stomachs as dilated which, independently of their capacity, are inadequate to the performance of their digestive and propulsive functions. Even when the stomach reaches below the umbilicus, it is not necessarily dilated. Perfectly normal stomachs which are of a looped shape, or which occupy a vertical position, such as exists in fœtal life, may extend considerably below the navel. Austin Flint, sr., states that tight-lacing may depress the stomach to a notable extent. The size of a dilated stomach may, on the one hand, be so small that the clinical test of insufficiency is necessary to render the diagnosis at all certain; or, on the other hand, may be such that the stomach contains gallons of liquid, occupying nearly the whole abdomen, and reaching nearly or quite to the iliac bone. Cases have been reported in which the dilated organ descended even into the true pelvis, or into the sac of a complete inguinal hernia. In the wall of a dilated stomach there is fatty degeneration of the muscle fibres, and a pathological condition described by Maier as colloid degeneration of these fibres is not very rare.

Sixthly, the presence of a tumor. A gastric tumor has been estimated to be present in 80 per cent. of cases of carcinoma of the stomach. But inability to palpate a tumor is by no means evidence that it is not there, for under certain conditions no tumor can be felt. Some of these are: (1) The pylorus being retained in its normal position by adhesions. (2) The lesser omentum being thickened and involved in the growth. (3) Twisting of the stomach on its own axis, as has occurred in this case, the pylorus with the growth having been turned behind the rest of the stomach. (4) The tumor being overridden by a distended colon; this, however, would not be permanent, and the tumor would at some time be felt.

The tumor in the case of cancerous disease of the pylorus will be felt a little above and to the right of the umbilicus, considerably lower than the position of the healthy pylorus, which, indeed, lies so completely under cover of the liver as to be inaccessible to palpation.

Regarding the etiology of cancer very many theories have been advanced, and, although the theory of irritation seems to be out of fashion, it seems to me not only possible, but very probable—especially as I have heard so good an authority as Dr. J. E. Graham express the opinion—that the irritation of coarse food bears some causal relationship to the development of gastric cancer. In the four or five cases that I have seen, they have occurred in farmers who ate large quantities of pork and coarse bread, and in addition to this, in the case of the patient whose history I have given, the habit of drinking very hot tea

Virchow says that carcinoma preferably arise at points exposed to frequent irritation, and adduced the fact that the orifices of the stomach which are subjected to the greatest amount of friction are most frequently attacked in support of his doctrine.

Steven reports a case of diffuse columnar-celled epithelioma of the stomach occurring in a stonemason who was in the habit of pressing the blunt end of an iron chisel, while working all day, heavily against his left hypochondriac region. Flatow has described the development of gastric cancer in the cicatrix of a round ulcer, a part which would likely be more exposed to irritation than the surrounding tissue. If an epithelioma can develop on the lip as a result of irritation—which, of course, is questioned by a great many—then it appears to me to be only reasonable to presume that the delicate epithelium of the stomach, when subjected to the irritation of coarse food, may take on abnormal growth and development resulting in the production of cancer. It occurs chiefly in persons over forty years of age, but it is occasionally found in much younger subjects, as shown by Koster, who demonstrated at a *post mortem* the existence of carcinoma of the stomach in a girl of seventeen.

NOW, BRIEFLY, THE PATHOLOGY.

There are five forms of carcinoma described as occurring here. (1) Medullary. (2) Adenoma destruens, or malignant adenoma, or adeno-carcinoma. (3) Carcinoma fibrosum, or scirrhus. (4) Colloid or gelatinous. (5) Squamous epithelial cancer. This occurs at the cardiac end, and in the majority of cases, if not all, originates in the lower end of the œsophagus.

Scirrhus has heretofore been considered by the mass of authority as the commonest form, but Ziegler, in his last German work, states that the most common form is medullary, and that what is called scirrhus is very probably only an induration of the walls of the stomach, partly cancerous, partly fibrous, which has formed secondarily after breaking down of soft cancer.

Now let us consider the differential diagnosis. This involves the exclusion of other gastric diseases, and of tumors not connected with the stomach.

(1) Gastric ulcer.

This is readily diagnosed from cancer by (*a*) the character of the pain, commencing on the ingestion of food and lasting until emesis occurs; (*b*) the age of the patient, usually occurring between fifteen and twenty-five, and in females, whereas cancer rarely occurs before thirty-five, and most commonly in males. There are other points of difference which time will not permit me to mention.

(2) Simple chronic gastritis.

(3) Chronic intestinal gastritis.

(4) Gastrectasia from non-malignant pyloric stenosis.

(5) Gastralgia.

(6) Other gastric neoplasms. These are so rare that they are clinical curiosities, and need not be discussed. The above conditions may be easily diagnosed from cancer by careful attention to the distinguishing symptoms, a discussion of which I cannot enter upon here. The tumors of other organs most likely to be mistaken for gastric cancer are those of the liver, the pancreas, the peritoneum, the aorta, the intestine, the retro-peritoneal lymphatic glands, and the omentum. The kidney and spleen may also be included.

It must also be diagnosed from cicatricial contraction of a duodenal ulcer leading to stenosis of the duodenum, andconsequent dilatation of the stomach. Dr. McPhedran tells me of a case of this kind which came under his notice, and which had been diagnosed cancer of the pylorus.

Mr. W., æt. 45. Suffered from vomiting an hour or two after eating for about a year. Had slight dilatation of the stomach. Had considerable pain in the gastric region. Finally died, and autopsy revealed a contraction of the second part of the duodenum due to cicatrization of an ulcer, and leaving a lumen not large enough to admit the end of a lead pencil.

A curious case of a pseudo-gastrolith which was mistaken for cancer is reported by Koayker, of Groningen. A druggist, æt. 35, had a circumscribed tumor in the epigastric region, the position of which varied on respiration, and which was tender on pressure. Medicines had no permanent effect on it. Appetite very good, bowels regular; vomiting of a small quantity of fluid, containing mucus and bile, but always free from hydrochloric acid, occasionally took place. Nausea was constant, and it was said that hæmatemesis had occurred, but this was not actually observed. Gradual emaciation followed with cachexia, and indolent swelling of the left supra-clavicular and axillary glands was noticed. The patient was examined under an anæsthetic, and stomach washed out. The diagnosis was made as probable carcinoma of the stomach. The case ended fatally, and autopsy showed that the stomach, which was of normal size, contained a concretion having the outline of the organ, and almost filling it. Weight of tumor, twenty-eight ounces. It had a strong fæcal odor, but contained no skatol. No nucleus present. It was identical in constitution with the food balls of ruminants.

Now let us proceed to the surgical treatment of malignant disease of the pylorus.

The possibility of removing the pylorus for cancer was first suggested by Billroth in 1877. The first operation on the human subject was performed by Péan in 1879, when he removed the pylorus; the patient, however, only

survived five days. In 1880 Billroth performed the first successful operation. The patient was a woman aged forty-three. She made a splendid recovery, and ate a mutton cutlet with the best appetite on the twentieth day after the operation. The patient, however, died four months after the operation from cancer of the peritoneum and retro-peritoneal lymphatic glands.

The pylorus may be removed, or a communication may be established between the stomach and jejunum, thereby short-circuiting the passage of food and preventing it passing over and irritating the diseased surface; or these two operations may be combined. Thus we may do (1) pylorectomy, (2) gastro-enterostomy, (3) combined pylorectomy and gastro-enterostomy.

Let us first consider pylorectomy. This operation is practicable only in those cases in which the pylorus has not formed such adhesions to the surrounding parts as to prevent its being drawn completely from the wound. The rate of mortality has been very high from this operation, which is probably due to the fact that as patients rarely come under the care of the surgeon until their strength is much reduced, and the long time required in employing the complicated system of suturing, the shock alone, in many instances, has been responsible for the fatal result. But now the last difficulty spoken of can be overcome by using Senn's decalcified bone plates, and the time of operation reduced from three-quarters to half an hour. Another cause of failure can be traced to the very limited length of the duodenum, which is covered by peritoneum, so that if the disease is at all extensive it is nearly impossible to leave a sufficiently long piece of duodenum so covered to unite to the stomach. In any case there must be a very considerable drag and fear of leakage.

Gastro-enterostomy: This operation was first performed by Wolfler. The method suggested by him was attended with such a high mortality, owing to the length of time occupied in performing it, that surgeons were slow in recommending patients to submit to it, and it was not until Senn had placed before the profession the results of his experiments that the operation met with much favor. Dr. J. B. Jessett, surgeon to the Cancer Hospital, Brompton, has performed it five times, with three successes. It has also been performed by a number of others. This was the operation done on the man whose history has been given above by Dr. L. McFarlane, assisted by Dr. James F. W. Ross, December, 1891. The abdomen was opened by an incision in the median line between the ensiform cartilage and the umbilicus. On passing the hand into the abdomen, the pylorus was found twisted back behind the stomach, and containing a hard mass the size of a small orange. This explains why no tumor could be felt on palpation. The stomach and upper part of the jejunum were drawn up through the wound, and the jejunum approximated to the anterior surface of the stomach by

Senn's decalcified bone plates, an opening having been made through. The technique of the operation is as follows:

The upper part of the jejeunum is laid transversely on the anterior wall of the stomach, and its posterior part is united to the stomach by sutures which pass through the serous and muscular coats; then an opening is made in the stomach 1 or 1¼ inches in length, and a similar opening in a corresponding part of the intestine. Then one of the bone plates is passed into the stomach, and the lateral sutures made to penetrate the wall close to the edge of the wound. The other plate is passed into the intestine, and the same care exercised about passing lateral sutures, so as to have them come through the wall close to the cut edge. The object of this is to prevent spontaneous closure of the opening. The end sutures are allowed to come through the extremities of the wound without penetrating the wall of the stomach or intestine. Then the posterior two of the lateral sutures are tied next the two sutures of one end, then the anterior pair of lateral, then the sutures of the other end. Now, continue the sutures, which were first applied to the posterior part around the plates, being very careful to cover in and hide completely the four anchor sutures; and although the threads must enter the muscular coat to avoid danger of tearing out, yet the utmost caution must be exercised never to penetrate the lumen of the gut or stomach. In passing this suture around the plates, the continuous or interrupted style of sutures may be used. Of the interrupted, Halsted's square stitch is unquestionably the best, giving better coaptation, and being more quickly applied than the Lembert suture.

Dr. Dawbarn prefers the continuous suture, and applies two rows, which he says he can apply nearly equally quickly as the Halsted, three stitches to the inch. He uses the basting stitch, which is passed parallel to the line of union, and there is less danger of sewing too deeply than in any of the interrupted sutures. The second row of this continuous suture should be so applied that where in the first row it went above the line of union, it now goes below. The second row should conceal the first.

I would like here to present a specimen which I removed from a dog a short time ago, four months subsequent to an intestinal anastomosis which I had performed on him. The opening between the two portions of intestine is perfectly round and smooth, and larger than the lumen of the gut. This specimen shows an invaginated portion about 1½ inches in length, whereas originally only ¼ of an inch was turned in, and is, I presume, due to the part invaginated irritating the mucous membrane, and so stimulating peristalsis that invagination proceeded until prevented by the adhesions which had taken place around. Had this continued until it passed the artificial opening, it would have been sufficient cause for ob-

struction. Turnip plates were used, and by having a ring of thick catgut to apply to one side of the turnip, with four threads of lighter catgut attached, which were passed through the plate, there was no trouble with threads tearing through. There is another advantage in the ring of catgut, as it swells considerably in any watery solution—such as the semi-liquid fæces; this will tighten the sutures and tend to make them more secure, and the approximation of the two serous surfaces more complete. Raw vegetable tissue was first used and recommended for plates to be used in intestinal anastomosis by Dr. R. M. Dawbarn, of New York, June, 1891. He preferred raw potato to any other kind of raw vegetable. The advantage of these vegetable plates will be readily seen, as the material for their production—*e.g.*, potato, turnip, etc.—can be procured anywhere without delay and without cost. I do not see why a turnip plate—which appears to me to be better than potato on account of its more fibrous structure, and consequently tougher character—would not do for gastro-enterostomy. If a plate is only required to facilitate by its presence the speedy application of sutures, and to keep quiet and in contact the serous surfaces for a few hours until primary agglutination has occurred, then the turnip plate will fill the bill. To aid perfect quietude of the parts during this period, hypodermic injections of morphia should be used. The serous surfaces to be coapted should be well scraped with a knife, and a rapid plastic exudation will be thrown out. Dr. Dawbarn, in experimenting on dogs, always previously injects hypodermically morphine, as it diminishes the amount of anæsthetic required. This acts beneficially in another way, for I have noticed in the five or six cases that I have seen that emesis occurs almost immediately after the injection, so that in gastro-enterostomy you will get rid of the contents of the stomach, which might interfere somewhat with the operation, and this will also prevent sickness during the administration of the anæsthetic, and diminish it subsequently. By injecting one grain of morphine into a small dog, I kept him anæsthetized for nearly two hours with one ounce of the A.C.E. mixture.

Dr. G. A. Peters uses pieces of white flannel for keeping the intestines warm while out of the abdomen, and they appear to be a decided improvement on sponges, retaining the heat much longer, and being very much cheaper.

Dr. Jessett says that in catching up a loop of intestine, the usual direction given to turn the great omentum over to the left is wrong. If this is turned up and over to the right, and the index finger passed down to the right of the spinal column along the lower side of the transverse mesocolon, the notch in the peritoneum where the duodenum ends and jejunum commences will be readily felt, and it is easy to catch up a loop of

jejunum quite at its commencement. He says that the importance of attaching the small intestine as near to its origin as possible cannot be overestimated, and the practice of catching up the first portion of the small intestine that presents itself is highly to be condemned, as a portion of the small intestine within a few feet of the ileo-cæcal valve may be attached to the stomach, and the patient die of marasmus.

A danger that has been experienced in at least one case of gastro-enterostomy reported is the closure of the opening artificially made between stomach and intestine. To avoid this, it is recommended that the opening be made sufficiently large (1¼ inch), and that the lateral sutures be passed quite closely to the cut edges. The opening may be closed by spread of the disease over it. In this case, and where the opening has closed spontaneously or by cicatricial contraction, and the stomach is involved to a large extent by the disease, and it would be impossible or unwise to do another gastro-enterostomy, life may be prolonged and some relief given by doing jejunostomy. I shall briefly describe a novel method of doing this operation, introduced and practised by Dr. Jessett.

An incision is made in the median line two or three inches long, and a loop of intestine is drawn through the wound. A long straight needle, armed with silkworm gut or chromicized catgut, is passed beneath the serous and muscular coats of the viscus in a longitudinal direction for about 1½ inches on one side; another suture is passed in a similar manner, parallel to the first, and about one inch from it; two other sutures are then passed from the points of exit of the longitudinal sutures on one side, and brought out at the points of exit of the opposite longitudinal suture, thus forming a parallelogram between the four sutures. The sutures armed with needles are next passed through the whole abdominal parietes about half an inch from the cut edges, and passed through a bone or other plate with an opening in the centre, and held in position by clamp forceps, while a couple of sutures are inserted at each end of the incision through all the parietes and tied. A small portion of the viscus is next caught up by passing a pair of clamp forceps through the opening in the plate, and drawn through it; a hare-lip pin is then passed through the coats of the intestine, which is thus fixed. In the course of two or three days, the gut is readily opened by cutting down on the pin. It is well to pass a suture through the cut edges of the gut on each side, and fasten it to one of the sutures crossing the plate. A winged soft india-rubber catheter is passed through the opening into the gut, and the patient fed through it. Dr. Jessett has performed this operation on three patients, with good results, the opening being small, and there being little or no leakage of intestinal fluid.

If the disease is very extensive and a large part of the stomach wall is affected, or if it has fixed the pylorus to the neighboring parts, or if the

glands behind the lesser curvature are involved, it is useless to attempt to remove the growth, but life may be prolonged and suffering alleviated by gastro-enterostomy.

Billroth reported twenty-eight cases of gastro-enterostomy in twelve years, thirteen men and fifteen women, aged from twenty-seven to fifty-eight. Fourteen died, and fourteen recovered. Nine deaths were from collapse. It was of physiological interest to note that the shortened stay of food in the stomach entailed by gastro-enterostomy did not interfere with digestion. Let us compare this with Billroth's report during the same period of twenty-nine cases of malignant disease of the pylorus in which resection of the pylorus was performed—fifteen died; death from recurrence in from one and a half to eleven years.

Since the introduction of Senn's bone plates, or some of their modifications, whereby much time in suturing is saved, the mortality in eleven cases of gastro-enterostomy has been a little over nine per cent; so that now the operation may be done with a reasonable expectation of a favorable issue.

However, in those cases in which the new growth is confined, for the most part, to the pylorus, and the lymphatic glands are not involved, and there are no adhesions, the proper thing to do is to combine pylorectomy with gastro-enterostomy. This not only prolongs the patient's life, and diminishes his suffering, but it gives him freedom from that constant gnawing or lancinating pain incident to the presence of the cancerous growth, for a longer or shorter period depending upon the rapidity or slowness of recurrence of the disease. This combined operation has been done by Billroth and W. T. Bull, of New York. It is performed by excising the pylorus and closing the divided ends of the stomach and duodenum, and restoring the continuity of the canal by uniting the jejunum with the anterior part of the stomach by means of approximation discs—Senn's bone plates, Abbe's rings, Robinson's rawhide plates, Brokaw's segmented rubber rings, Matas' solid catgut ring, Davis' solid catgut plate, Dawbarn's vegetable plate—thus combining pylorectomy with gastro-enterostomy. Both operations thus performed were very successful, and this operation appears to me to be preferable to performing pylorectomy alone, as one can remove a much larger portion of the stomach without extra risk and ensure being perfectly clear of the disease, and the greater ease with which the jejunum can be approximated to the anterior wall of the stomach.

I omitted giving the patient's condition immediately following the operation. He suffered very little from shock, and was fed by nutrient enemata until the second day after the operation, when he was given a little champagne by the mouth. This caused symptoms of vomiting, and a hypodermic injection of morphia, one-half grain, was given, which relieved

him. On the third day he took a little milk and lime water by the mouth, and retained it. From this he went to peptonized milk, pure milk, custards, oyster soup, chicken broth, etc., until in two weeks he was able to take an ordinary diet of meat, potatoes, bread, etc., with only an occasional vomit. Soon after this he left the hospital and returned home, enjoying splendid health, having very little pain in the stomach, and eating well and gaining in flesh. By February 18th he had gained twenty-seven pounds since the operation. He went on without much change until the end of February, when vomiting returned, and gradually all former symptoms came back, and he died in the first part of June, 1892. *Post-mortem* examination showed complete closure of the artificial opening between stomach and jejunum, a firm cicatrix being left. The growth had increased very little in size, and a lead pencil could be passed through the pylorus. It seems to me that if instead of simply making a slit in the stomach and intestine before passing in the plates an elliptical piece was removed from both, there would be much less likelihood of having this spontaneous closure.

A very strange thing happened in this case which I have not seen described in any work on the subject, viz., the return of hydrochloric acid to the gastric juice four days after the operation. This would seem to militate against the theory which ascribes absence of hydrochloric acid to atrophy of the gastric mucous membrane, for four days would seem a very short time for the gastric mucous membrane to return to its normal condition.

THE PREVENTION OF MASTITIS.*

By A. H. Wright, B.A., M.D.,
Professor of Obstetrics, University of Toronto, etc.

Abscess of the breast in the puerperal period has always appeared to me a thing that brings a certain amount of disgrace on the accoucheur or the nurse—a thing that ought to be avoided. The ordinary text-books are scarcely as explicit as they might be in giving directions as to treatment or methods of prevention. I will quote from one of the most recent text-books, the author being G. Ernest Herman, M.B., London, F.R.C.P., one of the most distinguished among British obstetricians:

"Painful Fullness of Breasts.—Sometimes—especially if the nipples are sore, or the child feeble—more milk is produced than the child draws out; the breasts become very full, swollen, knotted, hard, and tender; and this condition may make the patient feverish, and, if not relieved, may go on to abscess. If the breasts are so full as to be uncomfortable,

* Abstract of remarks at a meeting of the Toronto Medical Society.

they should be emptied by a breast pump or a soda-water bottle. If the child was stillborn, or has died, or the mother is not going to suckle her child, this may be repeated as often as necessary, and will soon cease to be required; for if the breasts are deprived of the stimulus of a sucking baby, they soon leave off producing milk. It would often be very desirable, in the case of babies too feeble to suck, or nipples too badly-shaped for the baby to grasp them, to draw the milk from the breast with a pump, and give it to the child with a spoon; but, as a rule, this cannot be done, for the breast soon ceases to produce milk when the child is not applied to it. You need not, therefore, prescribe any medicines to drive away the milk. See that the breasts are made comfortable, and the milk will go away if the mother does not suckle."

While I entertain the highest respect for Dr. Herman, I fear that the physician who treats "painful fullness of the breasts" on the lines above indicated will have rather a large proportion of mammary abscesses in his obstetric practice. We are told that statistics show that about six per cent. of nursing women are afflicted with mastitis. Surely the time has arrived when such statistics should be considered ancient history. I sincerely hope that there is not now a maternity hospital in the world which shows any such disgraceful record as this. I am told by Miss MacKellar, the matron of the Burnside Lying-in Hospital, in connection with the General Hospital of Toronto, that there has not been a single case of serious mastitis—certainly not a case of mammary abscess—among the last 500 patients confined in that institution. As a member of the staff, I have watched pretty carefully the results in the Burnside for about four years, and I have never seen there a single mastitis. Dr. Garrigues, of New York, has for several years followed a certain line of treatment, which he says "is so effective that we have no mammary abscesses at all" in the maternity over which he has charge.

I will not detain you by attempting any description of abscesses of the breast, including those horrible multiple ones, which continue for many weeks, or even months, always producing an immense amount of suffering, and sometimes even causing death. Velpeau gives reports of cases lasting three, six, and eight months respectively. My intention is to confine my remarks to prophylactic treatment—the all-important part of the subject; because I consider mastitis which leads to abscess largely a preventable condition. I understand that Drs. Machell and Primrose, and other members present, will discuss other aspects of the subject, such as curative treatment, and especially the treatment of abscesses.

Of course, before we can decide how we are to prevent mastitis, we must make up our minds as to the causes. Without any attempt at a discussion of the matter in detail, I will take it for granted that the chief cause

is sore nipples, while a secondary, but not insignificant, cause is what Garrigues calls milk stasis.

Prevention of Sore Nipples. We have been told by many that it is well to look after the nipples and breasts, especially primiparæ, for some time before the advent of labor, and employ applications of astringent and spirit lotions for the purpose of hardening the nipples. Herman says, "This often prevents sore nipples." I simply mention such meddlesome methods in order that I may condemn them in the most emphatic fashion possible. I believe that nipples "hardened" in any such way are much more apt to crack and become "sore" than those that are severely left alone.

I shall not refer to the thousand and one remedies for sore nipples. Among the many good ones at hand, each practitioner is apt to choose his favorite. For some years I have used what I consider to be the best application I have ever seen, and which was first recommended, so far as I know, by Hirst, of Philadelphia, viz.:

Castor oil,
Subnitrate of bismuth, } Equal parts.

I have applied this in all cases as soon as there is the slightest suspicion of tenderness in the nipples. It is, of course, perfectly bland and safe for both mother and babe, and it is not necessary to wash the nipples before the child is applied to the breast. If you desire to have a woman amuse herself for a few weeks before labor by manipulating her nipples, it is far safer to place this combination in her hands than astringent and spirit lotions. If the castor oil and bismuth fail to give relief, I use a nipple shield. I will not recommend any particular form of shield, but I generally prefer one with a broad base and a dome which will not press on the nipple.

Treatment of Congested Breast and "Caking." When the breasts become swollen and tender, the best form of treatment is well-directed pressure. The idea is not new, but I think many of the methods in vogue are faulty. For some time I used either a roller bandage or adhesive straps. The bandages easily got out of place, while the straps frequently caused much irritation. During the last few years I have followed the plan of Dr. Garrigues, of New York, who applies a breast-binder in all such cases. Before his time the general plan in the New York Maternity Hospital had been to empty distended breasts with breast pumps, rub and knead them when caked, and apply poultices. In 1882 Garrigues stopped the pumping, rubbing, and poulticing business, and applied even compression by means of a binder, made of muslin, enveloping the chest, pinned rather tightly in front, and held up by shoulder straps. The head nurse of the hospital, Miss Murphy, improved on this by devising a very suitable and convenient binder, which is known as "The Miss Murphy Breast-binder."

In speaking of this binder, Dr. Garrigues says: "It is used on all patients, without exception, from the time the breasts begin to fill until the patients are removed to the convalescent ward; that is, from the third or fourth day until the ninth. It is pinned from below upward, the patient herself helping to bring the breasts as high upward and inward as they will go, and a piece of wadding is inserted between the two so as to have a corresponding pressure over the inner portions. Last of all, the shoulder flaps are pinned together. In normal cases the binder is put on in such a way as just to give support, and is opened down half way every time the child nurses."

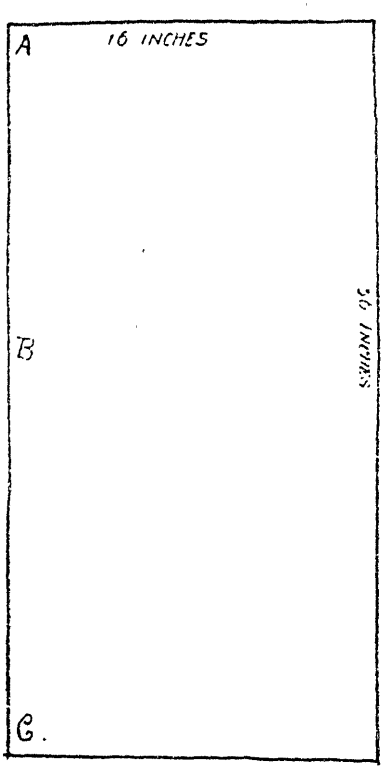
The Murphy binder has been used in the Toronto Burnside for some time, with very satisfactory results. I liked it so well that I desired to use it in private practice. It is, however, "ready-made and hemmed," and, as I dislike to carry in my obstetrical satchel too many things, I wished to get some modification which I could make, or have made, in the patient's house when required. I consulted Miss Snively, the lady superintendent of the Toronto General Hospital, and she accomplished what I wanted in a very satisfactory way. All that is required is a piece of cotton and a pair of scissors; and, in a very short time, one can cut out what is practically a Murphy binder without the *hem* and *make-up*. The following rules and diagrams, furnished by Miss Snively, explain very clearly how it is made:

In private practice, I use the Miss Snively binder in all cases where the breasts become in the slightest degree uncomfortable from distension. It affords a wondrous degree of comfort in a large proportion of cases; especially is it useful when the child is stillborn, and it becomes necessary to "dry up" the breasts. In such cases Garrigues first covers the breast with a circular piece of lint soaked in atropin-glycerine (gr.i. ad. ℥i.), places cotton batting over this, and then fastens the jacket tightly over all. He often leaves this dressing untouched for a week. I have followed this plan with most gratifying results. I do not find, however, any necessity for the atropin, and do not now use it.

The binder has one drawback which should ever be kept in view in the nursing woman. It diminishes the secretion of the milk when tightly applied. In consequence of this I do not use it in all cases, as Garrigues does, but only when the breasts become tender. I am very careful only to make it sufficiently tight to relieve pain, and I remove it as soon as I can.

I may say that my experience agrees with Garrigues' in this respect, that I have not had quite such good results in private practice as I have seen in the Burnside. This is probably due to a want of skill in the use of the bandage by parties who have never used it before. However, I am well satisfied with my record as to mammary abscess, showing, as it does, a frequency of about one-fifth of one per cent. I am still doing my best to bring it down to *nil*, and hope to succeed.

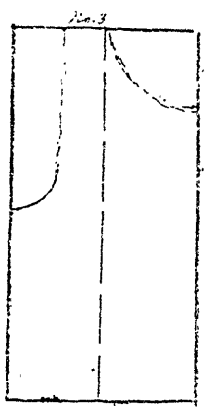
BREAST BINDER.



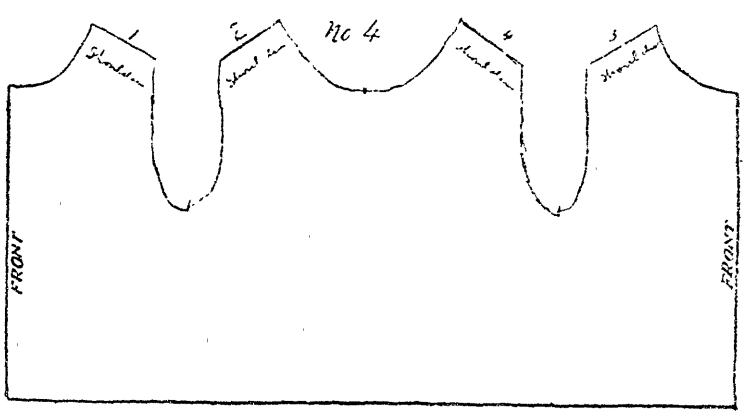
No. 1.
Fold *A* to *C*, then *B* to *C*.

No. 2.
Represents cloth folded ready for cutting.

No. 3.
Represents by dotted line the part to be cut out for arm and neck, with centre line representing fold.



No. 4.
Represents binder completed. Pin No. 1 and 2 together, and 3 and 4 together, to form the shoulders.



PEPSIN AND ITS INCOMPATIBLES.

By J. T. Fotheringham, B.A., M.D., Etc.

Perhaps no drug has more frequently had a coach and four driven through its compatibilities than pepsin, partly because until recently the books were inexplicit as to its uses, and partly from forgetfulness of the rules that lie on the surface of our latter-day physiology. No drug, perhaps, in the pharmacopœia is looked upon with such suspicion as to purity, and prescribed with as little confidence; and so long as the production of the drug lies in the hands mainly, or at least largely, of the meat-packing concerns, so long will this uncertainty exist. The mere price of the article, and the name of the firm, are no guarantee as to the merits of the particular brand, and, being often liquid or powdered, adulterations are very common. The real test of merit is its zymotic or digestive power, and simple ways of applying it are given, that of the U.S.P. differing somewhat from that of the B.P. Dr. R. G. Eccles, of Brooklyn, N.Y., in the December number of *The Brooklyn Medical Journal*, has an interesting paper, entitled, "How Physicians Prescribe Pepsin." He points out how the manufacturers take advantage of the fact that while the earlier pharmacopœias did not order the allowance used in testing to be comminuted, the more recent ones do, and thus "the earlier saccharated pepsins, being expected to digest fifty times their weight of lump albumen at 100°F., were therefore nearly ten times stronger than our modern ones." The test now reads, that "digested at 100°F. for six hours, a slightly opalescent solution is obtained from 1 saccharated pepsin, 500 water, 7.5 hydrochloric acid, and 50 of hard-boiled egg-albumen," which is ordered to be finely subdivided by squeezing through a sieve. The German standard requires 100 grains of albumen instead of 50. The British test demands that 2 grains should in 30 minutes dissolve 100 grains of finely divided hard-boiled egg-albumen, the other conditions corresponding to the U.S.P. test. Dr. Eccles points out the danger of prescribing a pepsin without naming the maker. "The druggist can take his choice from any one of the dozens upon the market. Five grains may be able to digest over twenty thousand grains of comminuted albumen, or it may not be able to digest more than five hundred. If the druggist puts in the best, it will be forty or fifty times stronger than the poorest. Price is no criterion, for one of the poorest is a high-priced article, and one of the very best

sells wholesale at a reasonable rate. Nor can the claims of the manufacturers always be relied on. Usually, it is wise to take their florid statements *cum grano salis.*" He might have added that it is unsafe to specify a brand unless the patient be sent to a particular druggist whom the prescriber knows to keep it. As to its purity, the sense of smell is the best criterion. An article prepared from stomachs that have lain till putrescent will be septic with various germs, and "a pepsin that is highly insoluble in water and very dilute acid is very likely to be highly infected, because of the way in which it is procured. A soluble pepsin that gives out a foul odor after twenty-four hours in solution in a warm room should never be used."

As regards compatibiliy, pepsin, like the alkaloids of high and unstable molecular structure, is best given alone. It is easier to remember the few substances with which it may be given than those which destroy it. They are sugar of milk, dilute acids, glycerine, water, and alcoholic solutions of not over twenty per cent. strength. The dose is usually too small; a drachm of the best may be taken quite safely. As to giving it with alkalies, when it is the natural enzyme of the acid gastric juice little can be said of the thoughtfulness of those who prescribe it; yet Dr. Eccles gives this as the work of a gentleman in good standing in the profession:

R.—Pepsinæ sacch. ..... ℥i.
Sodæ bicarb. ..... ℥ss.
M. Ft. chart. No. xv.
Sig.: One every three hours.

He goes on to add that a single grain of the soda would destroy all the pepsin in the prescription as effectually as if it were thrown into a furnace.

The foolishness, also, of giving pepsin and pancreatin in one powder needs no comment, though such preparations are much exploited by some firms. The *time* conditions in the test are essential, as food passes through the stomach in two or three hours, and the pepsin must act within that time to be of service. The reason of the error that prescribers fall into is probably that they seek to counteract the acidity usually accompanying the conditions in which relief is sought from pepsin. The acidity must be relieved before the pepsin is given, unless the pepsin be given with the stomach's natural antiseptic, hydrochloric acid, which checks hyperacidity by preventing fermentation and the formation of lactic, and even acetic, acid.

OSTEO-CHONDROMA OF THE HAND.*

By Edmund E. King, M.D., L.R.C.P. Lond.,
Surgeon to St. Michael's Hospital; Physician to House of Providence and Home for Incurables.

Mr. President and Gentlemen,—The case I wish briefly to draw your attention to this evening is one that, while it cannot be looked upon as exceedingly rare, is not by any means common. It is the first case of the kind I have seen outside the anatomical museums. Its size will certainly allow it to stand amongst the best specimens we have of the enchondroma or osteo-chondroma (for both names are used) of the hand. If the tumor be named from the preponderance of one tissue, and from its point of origin, we would say enchondroma; but should we take into consideration the bony development, and the manner in which this development takes place, at isolated spots throughout the tumor and at the borders, just as in normal bone formation, then osteo-chondroma or ossifying chondroma is proper. This is the term which I adopt.

David B., aged 22, single.

Family history. Good. No growths of similar kind have ever been known in the family.

Previous history. Good. No illness except measles in early childhood.

History of present condition. When about six years of age, small nodules were noticed on his fingers and on the back of the hand, his mother says in the location of the present larger ones; these were not painful nor sensitive, nor was movement of the hand and fingers affected. His mother also says that he was in the habit of crying when this hand was washed; but, from childhood's experience, we should not lay too much stress on this. When about seven years of age, his hand was stepped on by a grown person, which is the nearest approach to injury that I can find in his history. The growth was slow and gradual, although some tumors grew more rapidly than others. The growth on the second finger has been frequently bruised by a hammer blow, without causing pain; it would bleed freely, but hemorrhage was easily controlled. The tumor on the second metacarpal bone was the one of most rapid growth, but during the last two years it seems to have decreased in size.

Present condition. The fourth finger and thumb are free from growths. The first finger has one, on the inner side of third phalanx, about one inch wide, an inch and a half long, and raised nearly three-quarters of an inch from

*Read before the Toronto Clinical Society.

surface of the bone. The terminal phalanges of second and third fingers are free; the rest are all implicated. The second, third, and fourth metacarpal bones are seats of growth, that on the second metacarpal being the largest, while the os magnum and unciform bones of the carpus are affected. The first and fourth fingers have good movement, but extension is not complete in fourth owing to the tumor on fifth metacarpal, affecting the tendon of the extensor muscles. The extensor movement of second and third fingers is entirely

PHOTOGRAPH OF BACK OF HAND
(Showing at extreme left the growth on fifth metacarpal).

PHOTOGRAPH OF FRONT OF HAND
(Showing growth on third phalanx of first finger).

PHOTOGRAPH OF HAND AFTER THE OPERATION.

gone. There is no impairment of the flexor muscles, and the patient has strength enough in the terminal phalanges of second and third fingers to hold a pailful of water.

On May 7th, I operated—assisted by Drs. W. Lehmann, W. H. B. Aikins, and John Caven—removing the second and third fingers, metacarpal bones, and part of the os magnum and unciform bones of carpus. I

made a dorsal incision and dissected back a flap, disarticulating the lateral metacarpal articulations, cutting through the wrist bones with chisel; then, dissecting close to the bone on the palmar surface, made the second flap without wounding the palmar arch. I also removed part of the growth on the first finger, leaving a groove for the extensor tendon to work in. A considerable hemorrhage occurred from the cut bones and the surrounding tissues, but was controlled by ligation of the vessels that we could pick up, and the oozing by hot water. The flaps were brought as well as possible together, and the wound dressed with iodoform crystals and gauze. Recovery was uninterrupted; but owing to the fact that a large cavity had to fill with granulations, healing was not completed until June 3rd. The result I show you in this photograph, taken a few weeks ago. The tumors and fingers weighed after removal 2 lbs. and 5 oz.

The chondromata are of two sources of origin—either peripheral, from the outer layers of the bone and fibrous layer of the periosteum; or central, from the medullary canal. When central, the whole bone enlarges with regularity in all directions of its circumference; but when peripheral, only outward from the seat of origin. The central variety is mostly found in the long bones. Sometimes these tumors coalesce and form one large mass (Paget). This can be seen in this specimen, but the tumors of different fingers did not coalesce—only those of the same finger. The skin rarely ulcerates from pressure; but in one case, the history of which I have, a large ulcerating surface was seen on one of the large tumors. The disease occurs in the early period of life, and is more frequent in boys than girls. The size to which these tumors attain I should attribute to the little inconvenience they cause, outside of their bulk and unsightliness.

The predilection of the disease is for the hand. Councilman says that 50 per cent. occur on the hands and the feet, and on the hand five times as often as on the feet. The thumb is much less frequently affected than any other part of the hand; the remaining parts are about equally often affected. Paget thinks that in the majority, if not in all of the cases, the tumor is of the central variety—*en*chondroma proper—that is, within the bone; but these tumors of the phalanges here shown appear to me to be of the peripheral variety, or else we should expect to have a symmetrical enlargement, as much on the palmar surface as on the dorsal. We can see how the fibres of the extensor tendon and the periosteum have been stretched and spread out like a fan; how they have indented and impressed the tumor into ridges where the greater resistance has been. But on looking at the palmar side, we see that the flexor tendons are working in a perfect manner; although some of the tumor has surrounded them, it has not caused pressure behind them to destroy their usefulness. This may be explained by the manner in which the flexor

tendons pass through one another, divide and unite again, and are bound to the joint by the fibrous aponeurosis; but still if the tumor were central, I should expect to see these tendons, like the extensors, stretched and distorted out of all shape. The patient presented himself about six weeks ago to see if I would remove the growth on the fifth metacarpal, believing that its removal might give more extensor movement to the little finger. Although since the partial removal of the growth from the first finger it has steadily decreased in size, yet I would not decide to operate further until at least a year has elapsed.

(TRANSLATION.)

ULTRA-ABORTIVE TREATMENT OF GONORRHŒA.

By M. P. Diday.

This title means a progress. Like every other pretension, it has to be explained; it has to be justified, before all.

Most writers on this subject say: "Abortion has chances of success only as far as the inflammation of the urethra has not gone beyond a certain degree." And as this given degree can be overcome by a certain given dose of the medicinal agent, they make this dose the normal one. Every one has his own, it is true; but every one, from Musitanus to ourselves, sticks to his own, prescribes and uses invariably the same in all cases when he thinks he should try abortion.

I have made the same mistake. But happening to have been enlightened by success obtained under the opposite conditions, I reason and act differently now. Starting from a different point, and making it a rule to adapt in each single case the dose of the remedy to the intensity of the disease, we are going, before all, to save unnecessary suffering to certain patients that see us in the—so to say—pre-gonorrhœic period; but especially—and that is of greater value—we are going to extend the limits of the so called possible abortion.

The period during which one single injection can be effectful certainly has a limit; and this limit is put before all by a certain stage of development of the inflammation. But there is nothing absolutely certain about it, for I have been lucky enough to heal by one injection cases of gonorrhœa that were already decidedly purulent; and, on the other hand, I have seen failures in cases that were only of thirty-six hours' standing. But putting apart these intrinsic causes of success or failure, we evidently also have to take into account the degree of the strength of the medicinal agent at our disposal that it is advisable to use.

Are we going to fix this degree according to the development which the symptoms offer at the moment before application? Are we going to make the solution of nitrate of silver 1 in 50, 1 in 40, 1 in 30, according to the degree of œdema and redness of the lips of the meatus, of pain in passing the urine, of the quantity and purulent tinge of the secretion? This is quite rational, and much better than the uniform dose; but is it sufficient?

I, for my part, have not found it sufficient. And this is easily understood. If our therapeutical prescription is based on clinical signs only, it has the character and the value of these signs only—the character of a conjecture, the value of a mere supposition. To give to the patient a prescription in which the dose of the nitrate of silver is calculated on the basis of those signs only is just the same as in the case of a patient sick with typhoid fever, telling the attendant to give him his bath of such and such a temperature and duration . . . and walk away.

However, this will do, generally, in a case where everything goes its regular course, and has done so before. But does the high temperature resist your treatment? Does any grave complication seem to be imminent? You sit down by your patient, with your thermometer, and, judging from the immediate effect that you observe, you make up your mind to what degree it is necessary, as well as wise, to push and to keep acting the therapeutic agent.

This comparison justifies, I think, the reform which I am proposing. And as to the reform itself, it consists in the following:

It is beyond doubt that the injection of nitrate of silver takes so much the more effect the more concentrated it is. But it is not less true that it acts so much the more the longer it remains in contact with the tissues. To fix the dose beforehand by the prescription given to the druggist, or to fix it during the treatment of the patient and in the urethra, are, as far as the effect that can be produced is concerned, two equivalent processes; but the second one has the advantage to show to the physician when the effect *is* produced—produced to the desired extent.

This is, in two words, my way of proceeding: I always use a strong solution—one gramme of nitrate of silver to twenty grammes of distilled water. But, according to the case, I allow it to remain in the urethra a longer or shorter time.

What are the limits of this longer or shorter time? I have published a case of gonorrhœa of three days' standing, with purulent secretion, that has been cured by one injection, which the patient did not keep longer than seven or eight seconds.

"Did not keep?" This is not the proper expression for the bare fact. "Could not keep longer" expresses all that is useful to know about it.

In fact, you may explain the action of nitrate of silver either as a substituting one, or as being based on the destruction of tissues, or on the destruction of the microbes (the latter two really meaning the same). An established empirical fact decides the discussion, and must be our leading point in practice: I always saw those injections fail which—whatever may have been the strength—caused only slight pain at the moment of injection. The pain, therefore, is for me the necessary criterion of a sufficient curative effect.

The nitrate of silver asks the question, and the pain answers.

And this is why I prefer a dose that provides the physician with an excess of power, the use of which is going to regulate according to the information that the administration in each case gives him.

"But does the pain speak a plain and distinct language?" you may say. "Does it not vary? Is it not feeble or strong according to the nervous susceptibility of the patient? And even if two individuals have perceived it in the very same degree, will not one of them express it by much more marked manifestations?"

These difficulties, that seem insurmountable in theory, do not hinder the practitioner. Tell your patient candidly beforehand that the injection *is going to give him pain.* This is a moral duty for the physician; but it is, before all, a means of seeing clearer, for from the very way in which he accepts this notice you may judge the degree of his nervosity; and, besides, this will help you to distinguish during the administration the signs of fright from the signs of real pain.

In the second place, one has to know that every injection, even one of cold water, causes a certain shock. Let us pass over this sensation, which is quite different from true pain. In the fourth or fifth second this commences, and from this moment it will increase.

How can we know if it is sufficient? and if, on the other hand, it does not go beyond the desirable degree? As we have no algometers, it is easily understood that there is no definite rule for this matter. Nevertheless, it would be imprudent to rely only on what is called the *tact* of the practitioner. The following remarks are perhaps apt to serve as a guide:

Does the patient who has received the injection feel immediately a sharp, violent, and continued pain? Do not allow the fluid to remain in for more that fifteen or twenty seconds.

The same mode of proceeding if after the fortieth or fiftieth second the pain—having been strong, but endurable, at the beginning—is increasing yet.

With the exception of these cases, one may and one should leave the fluid in the canal up to about two minutes if the pain is uniform and is well marked, but not unendurable.

As I have—to my great regret—to leave the practitioner so imperfectly informed in this somewhat delicate affair, he will often have to ask himself if he has not erred from excess of timidity or from excess of prudence. Especially against the first of these apprehensions I am going to protect him. It is not the true interest of the patient to suffer a little less from the administration and its immediate consequences. What he asks from you and what you promise him is to rid him in a few minutes of a disease which often lasts for months, and the physical, moral, and social inconveniences of which cannot be overrated.

And this is the way the patients look at it. Those that have been most abused by my syringe are afterwards those who show the greatest gratitude for my not having given way under their complaints. The visit on the fourth day is always, I can assure you, one of hearty thankfulness, provided that you have to pronounce the case cured.

A few words on the opposite case. Sometimes, whatever you may think to have done to follow the rule, one must suffer if he wants to be cured. Sometimes the pain, that seemed to be sufficient, has stopped two minutes after the escape of the fluid. You see the patient rub his hands and congratulate himself on having escaped so easily! Without any intention of deceit on his part, you have been taken in. He has shown more pain than he really had.

In these cases make good, right away, by a second injection what has been left incomplete. This has to be done immediately. If, as some authorities of good reputation advise, you await till the third or fourth day to judge, after the relapse has taken place, if the same administration should be made use of, you are sure to fail. Why, indeed, did you fail the first time? Solely because the disease was too far advanced in its development. Well, three or four days more could only aggravate the unfavorable condition of affairs. What right have you to hope to conquer it if you are going to fight it with the same weapon that has already shown its impotence? In cases of gonorrhœa, a second or a third injection given with a view to abortion of the disease is only a second or a third logical contradiction.

As to the results, shall I give here a list of minute observations? The way in which I have treated my subject does not seem to combine well with that kind of proof. I prefer to simply declare that for one year I have been working on these principles, and that I have often been successful in my trials of abortion—successful in rather advanced stages of development of gonorrhœa.

I give, however, as a conclusion, a condensed report of a fact that is as instructive as it is interesting ("spicy") in its detail.

I am sorry—and glad at the same time—that I differ from one of our most amiable colleagues on a point of special practice. In a given case of

established gonorrhœa, that is to say, in the inflammatory stage, he teaches —because he thinks one can be successful—that one should attack the disease by copaiba and injections; whereas I pretend that this treatment will in most cases fail to give satisfaction, and it is preferable, after the moment for attempting abortion is passed, so wait until the secretion has become "ripe."

One day, after a discussion that was more animated than usual, we parted, I obliging myself to try his method (which I had written down carefully from his dictation), he promising to send me *his proofs;* that is to say, patients treated and cured by him.

In consequence I received, on the 29th of last March, the visit of a student of medicine that had been treated by him for a week for beginning gonorrhœa, with a result that he had described to me as a half success, but which since the day when my colleague made this too modest statement had transformed into a full success—to the entire satisfaction of the three parties interested, myself included.

What, then, had happened? The patient at least explained it to me. "I had the copaiba and the injection prepared," said he, "and I have made use of them as prescribed. Only, instead of three injections a day—as had been ordered—I could only make one, as it made me suffer terribly!"

Myself: "Indeed! Please let me see the prescription."

The Student: "Here it is. Read it, sir."

Aq. dist.	180 grm.
Van Swieten's liq.	20 grm.
Zinci sulph.	1 grm.
Bismuth salicyl.	5 grm.

Myself: "20 grammes of Van Swieten's liquor to 180 grammes water. . . . This may well be called a stiff dose, but there is nothing extraordinary about it. And I don't understand. . . . But let us see; how long did you keep it?"

The Student: "As I had been ordered; forty-five minutes. Oh! sir, I needed all my courage."

Myself: "But there has been a mistake; one should have told you, and one certainly has told you—four or five minutes."

The Student: "Oh, that is it! That is good!" Then, after some reflection, "However, I am cured."

And indeed he was, and of a gonorrhœa the gonococcic nature of which had been verified by a hospital surgeon. Just as my patient of 188, with his *ten per cent.* solution of nitrate of silver (which he thought he had seen recommended in my book), this one with his forty-five minutes—the one by having read erroneously, the other for having misunderstood a direction. Both happy victims of an error—an error that is, I dare hope, destined to become the basis of a system.

Clinical Notes.

EXTENSIVE INJURY TO ELBOW JOINT.

By J. H. Wesley, M.B.,
Keswick, Ont.

W. P. Farmer's son, æt. 15. Family and personal history good.

On February 8th, 1892, was cutting feed with a straw cutter, and as the material was not going through properly he gave the wheel several quick turns, then ran round to raise up with his right hand the pin that compressed the straw, and in so doing stuck his elbow in the way of one of the knives of the large wheel. As the patient lived five miles out in the country, considerable hemorrhage had taken place before surgical assistance arrived.

State on Examination. A clean cut, four inches in length, fairly over the posterior and under the surface of the right elbow joint, directed from above and behind obliquely downward and forward, chipping the lower extremity of the humerus, and opening the joint cavity by separating the epiphysis from the shaft of the ulna. The olecranon process was drawn up two inches by the contraction of the triceps muscle. The nerve trunks were all intact, and only a few small anastomotic arteries cut.

Treatment. Patient was put under an anæsthetic by Dr. Bentley, of Sutton. The olecranon was drawn down to position and united to the shaft by a silver wire suture, a common table-fork being used in the absence of Brynard's bone drill. The drainage tube had to pass between the coapted surfaces of bone into the joint cavity, and for this reason they could not be brought close together by the silver wire.

The external wound was closed with silk sutures, and dressed with moist bichloride dressing.

The joint was placed at rest in a position a little more than a right angle, the forearm supinated, and fastened to a splint which is not likely to be found in the works on surgery, but was merely contrived to suit the demands of the case; and these were (*a*) to maintain rest and the flexed position of the limb; (*b*) and at the same time to allow of freedom in dressing the wound without disturbing the position of the joint.

The splint consisted of a triangular web of thin board. The angle fitted into the bend of the elbow, and was hollowed out sufficiently to permit of bandaging the entire circumference of the joint. On the sides were fastened thin strips of board one and a half inches wide, well padded, and, lastly, on these two padded surfaces were tacked strips of adhesive plaster, by which the splint was held to the arm and forearm.

For the first week or ten days the temperature was between 100° and 102⅗°; but by probing and syringing out the joint cavity every day with antiseptic solution, the temperature soon became normal, and the large wound, which on account of tension had failed to unite by first intention, began to assume a healthy appearance. Twenty-one days after the operation the silver suture was found loose and taken out; the epiphysis had firmly united. The wound was completely healed by March 1st, 1892.

RESULT. Patient has perfect use of his arm for all kinds of heavy and light work. There is ankylosis through an angle of about 20° on extension; but flexion, supination, and pronation are excellent.

A CASE OF CHOREA AND RHEUMATISM.

BY W. B. THISTLE, M.B., TORONTO.

As bearing on the relation of chorea and the rheumatic state, the following case is of interest. The patient, a well-developed girl of about fourteen, was admitted to the Victoria Hospital suffering from pronounced chorea. The history brought out the fact that until about a week previous to admission she had been in robust health. At that time she complained of pain and tenderness in wrists, followed shortly by involuntary movements. At the present time both wrists and ankles are swollen, red, and tender. She has elevation of temperature, and there is an erythematous rash on the face; no heart murmur is audible. The choreic movements are almost constant, and so violent and extreme as to prevent her walking or feeding herself. Precautions were necessary to prevent her falling out of the bed. She was ordered to be kept in bed, and as free from worry and excitement as possible; liq. arsenicalis, beginning with *m* vii. dose, to be given three times a day, the arsenic to be increased *m* i. every second day. In addition, she was put upon a mixture of soda salicyl. and the acetate of potash, grs. xv. of each every four hours. The bowels were freely moved by calomel. In order to procure sleep, and, as a result, cessation of movement, sulphonal, grs. xx., to be given in hot milk one hour before bedtime. Improvement began at once. On the second night she slept five hours naturally, the next seven hours, and from that time the usual amount of sleep was obtained. Salicylate mixture was discontinued at the end of a week, the joint symptoms having disappeared. Three weeks from date of admission patient was almost well, slight movement only remaining. It would seem that the action of the rheumatic poison on the nerve cells is in these cases sufficiently irritating to interfere with their function and bring about the chorea. To eliminate, and as far as possible counteract, the poison in every case in which there is or has been evidence of its presence would seem to meet the indication in the way of preliminary treatment.

Progress of Medicine.

MEDICINE

IN CHARGE OF

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The Irregular Heart.

At a recent meeting of the Medical Society of London, Dr. A. E. Sansom read a paper on the above subject based on an observation of forty-seven cases presenting pronounced cardiac irregularity for long periods, all of them being independent of structural disease of the heart. They were considered in two groups, the smaller being made up of ten cases of Graves' disease. The associations of cardiac irregularity in the larger group were: 1, Dyspepsia; 2, syphilis; 3, osteo-arthritis; 4, disturbances of the sense of hearing and naso-pharyngeal affections (illustrative cases were given under this head which tended to show that a reflex from the naso-pharyngeal tract and from the neighborhood of the auditory mechanism was often a potent cause of cardiac irregularity; 5, influenza (instances were given of special forms of arrhythmia due to the disturbance of the nervous mechanism by this cause); 6, mental disturbances and the effects of severe nervous shock; 7, cases without notable associations (these were parallel with those cases of rapid heart which showed no notable morbid alliances).

The author submitted that all forms and degrees of irregularity, from the slight to the most pronounced, were to be ascribed to disturbances of the nervous mechanism of the heart.

The cases without notable associations might point the lesson that whilst the central disturbance from which the other affections of Graves' disease were offshoots brought about in the majority abnormal rapidity of the heart's contractions, in the minority it induced irregularity. So, in many instances, arrythmia cordis might be considered a *forme fruste* of Graves' disease, only it was better to express it that the *ensemble* of the phenomena of Graves' disease was due to the extension from the area of disturbance, which was focally that portion of the nervous system which was concerned with the regulation of the heart's movements. In all such cases, whether manifesting tachycardia or arrhythmia, outbreaks of dyspnœa or of gastro-intestinal disturbance—vague storms, as he had termed them

—were frequently observed. It seemed probable that whilst sudden overstrain was more likely to produce a tendency to morbid acceleration, the more chronic forms of mental depression tended to be associated with irregularity.—*American Journal of the Medical Sciences.*

Students in the Scottish Universities.

The Edinburgh Evening Dispatch of January 12th, 1893, gives the following interesting statement of the numbers of matriculated students in Edinburgh University for the past four years:

Year.	Arts.	Divinity.	Law.	Medicine.	Total.
1889.....	981	124	472	2025	3602
1890.....	940	116	468	1979	3505
1891.....	942	88	485	1839	3354
1892.....	881	82	460	1715	3138

Total diminution during the four years, 464—made up of 100 arts, 42 divinity, 12 law, 310 medicine. The corresponding figures of Glasgow University are as follows:

Year.	Arts.	Divinity.	Law.	Medicine.	Total.
1889.....	996	95	192	818	2101
1890.....	998	88	197	770	2053
1891.....	972	93	206	820	2091
1892.....	941	89	205	760	1995

Net diminution during the four years, 106—made up of 55 arts, 6 divinity, 58 medicine—less increase in law, 13. The foregoing figures do not, in the case of either university, include students enrolled in non-curriculum classes on payment of 5s. fee, or include female students. For the current session 127 women are matriculated at Glasgow and 70 at Edinburgh.—*London Lancet.*

Glycosuria in Infancy.

Considerable attention has recently been directed to the occurrence of diabetes and glycosuria in young children. Dr. Julius Grosz, of Prague, writing in the *Jahrbuch für Kinderheilkunde*, Band xxxiv., Heft 1, comes to the following conclusions: In certain digestive disturbances there is occasionally present in the urine of infants a strong reducing agent which gives the qualitative tests for sugar, and which is optically active, but does not ferment (not answering, therefore, to the yeast test). Minute quantities of carbohydrates are also found. Dr. Grosz never found glycosuria in healthy breast-fed infants. When it did occur there was always some alimentary

trouble, most commonly gastro-enteritis. There is often an increase of reducing substances in the urine of infants in addition to the substance referred to above, which is probably either lactose or some product of it. The limit of assimilation of milk sugar in infants is very high, being in healthy breast-fed children about three grammes and three-tenths per kilogramme, against one gramme and four-tenths in adults. This limit, however, is easily lowered, especially by digestive disturbances, and the glycosuria in such cases is therefore probably due to this lowering of the assimilation limit, and partly also to the action of intestinal bacteria.—*London Lancet.*

The Reflexes in Typhoid Fever of Children.

Albouze, in a recent thesis (*Etat des Réflexes dans la Fièvre Typhoïde chez les Enfants*, Lyon, 1892), deals with this interesting subject. After considering the significance of the absence of the reflexes, especially the knee-jerk, in childhood, he alludes to the contradictory results obtained by different observers when the condition of these reflexes in typhoid fever has been the subject of investigation. These differences, he believes, can be explained by assuming that the researches have not been made at the same periods of the disease. As a result of numerous personal observations, he concludes that in typhoid fever in childhood, in the great majority of cases, the tendon reflexes are diminished in the acute stage, and increased in convalescence; and that from this sign an important prognostic indication may be drawn, a very feeble degree, or even entire loss of the reflexes, pointing to an extremely grave form of disease.

On the other hand, the disappearance of the exaggeration of the reflexes will indicate the absolute cessation of the action of the typhoid poison upon the organism.—*American Journal of the Medical Sciences.*

Bromoform in Pertussis.

Cassel (*Deutsche medicinische Wochenschrift*, 1892, No. 5, p. 100) presents the results of treatment of thirteen cases of pertussis by this drug. The dose was three to four drops three times a day for children under one year, and four to five drops for older patients. The total amount of the drug employed during the treatment of a case varied from ten to twenty grammes. The mean duration of the disease was 61.3 days, 45.9 days having elapsed before the cases came under treatment. The paroxysms diminished notably in frequency and intensity, but the duration of disease was not lessened. It may therefore be said that bromoform acts like all narcotics in diminishing the excitability of the respiratory mucous mem-

brane, but it certainly exerts no specific action upon the disease. Perhaps with larger doses the paroxysms might be suppressed, but, in the author's judgment, the risk of intoxication is to be dreaded.—*American Journal of the Medical Sciences.*

Murmurs Heard in the Neck.

In view of the great difference of opinion amongst authors and teachers as to the diagnostic significance of the venous and arterial murmurs in the neck, Dr. James K. Crook's conclusions, after an examination of fifteen hundred persons, are of more than ordinary interest. He concludes as follows:

Conclusions. The important deductions from the foregoing statistical study of these vascular phenomena may be briefly summarized as follows:

(1) Hæmic bruits are rarely heard in healthy persons.

(2) They are not often heard in persons not showing a considerable degree of anæmia.

(3) They are heard in 90 per cent. of persons showing a well-marked degree of anæmia.

(4) They are, therefore, of great significance in the diagnosis of this condition.—*American Journal of the Medical Sciences.*

THERAPEUTICS

IN CHARGE OF

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The Bicyle From a Medical Standpoint.

Seneca Egbert, A.M., M.D., Lecturer on Hygiene, Drexel Institute, Philadelphia, in the *University Medical Magazine*, November, 1892, makes a strong plea for the cycle, and points out its therapeutic application.

In the first place, as an exercise, cycling is superior to most, if not all others, at our command. It takes one into the outdoor air, is entirely under control, can be made as gentle or as vigorous as one desires, is active and not passive, takes the rider out of himself and the thoughts and cares of his daily work; develops his will, his attention, courage, and independence, and makes pleasant what is otherwise often most irksome;

moreover, the exercise is well and equally distributed over almost the whole body, and, as Parkes says, when all the muscles are exercised, no muscle is likely to be over-exercised. This general muscular exercise also has its direct effect upon the other and vital organs of the body, especially the heart, lungs, and digestive organs; and the improvement in general health and digestion after a few weeks' riding is by no means illusory or fleeting. We all know that the trouble with many of our patients is purely functional, and that their maladies have been brought on by lack of pure air, too little exercise, and too much mental worry over their work or business. For these the bicycle furnishes an agreeable remedy.

Take a case of nervous or anæmic dyspepsia, of hepatic or intestinal torpor; the increase in the flow of the blood current, the gentle vibration, and the additional elimination of waste matter through the lungs and skin, all results of a ride on the wheel, are just what we desire for the cure of our patient. Or with one of a tuberculous diathesis or with incipient phthisis, how much depends upon teaching him to breathe properly, *i.e.*, fully and deeply, and to spend much of his time in the open air! This the bicycle will do for him, perforce. Cases, also, of neurasthenia, melancholia, and other nervous troubles, will derive much benefit from our present hobby; for, in addition to the above hygienic elements, the wheelman must develop—whether he will or not—his will, his independence and self-reliance, and the accurate control of all his muscles. Those of rheumatic tendencies, especially, will find that regular and systematic riding will do much to keep the disease in abeyance, and even to act as a cure. Some one has said that every muscle is a little heart; and surely no better means can be devised of eliminating deleterious waste matters from the whole system than the general and active use of all the muscles, voluntary and involuntary.

Undoubtedly, the excessive use of the bicycle or tricycle by very young children is not advisable. Bad habits of position and carriage are only too readily acquired at this age, and there is danger of serious muscle strain and possibly nerve injury. Another fault is that parents too often purchase a machine too large for the child in order to save the expense of a new one the following year, the result being that both the weight and the power needed to propel it are in excess of the child's abilities. Moderate riding on a proper wheel need not, however, be forbidden. For older boys and girls there is probably not the same danger, though intelligent supervision is never harmful, and especially watchfulness for incipient harm is advisable with girls about the time of puberty. Even at this time the bicycle may do good by drawing a too studious or house-loving youth or maiden into the open air and active exercise.—*Medical Age.*

[I have found the use of the bicycle of great service, and can endorse the above article. During last summer I found myself entirely relieved from attacks of migraine, which were becoming altogether too frequent and severe, after I began the use of the bicycle. My power of endurance was greatly increased, and I was able to perform more work.—O.R.A.]

Hydrogen Peroxide.

In the December number, 1892, of the *Archives of Pediatrics*, this disinfecting agent received a severe criticism from the pen of A. Jacobi, M.D., New York.

There is no doubt that extravagant claims have been, at times, made in its behalf; but it is equally true that it has proven itself, when properly used, one of the best helps which the surgeon has within reach for the cleansing of pus-bearing cavities or surfaces. The following are some of the conditions in which experience has shown it to be of service:

Purulent otitis: To dislodge and drive out adherent pus from the middle ear and from the external canal. The suppuration has been of shorter duration, and the damage to the tissues less, in cases treated with this drug.

Abscess cavities can be quickly and thoroughly cleansed by injecting them with this solution and waiting until the reaction ceases, when it is well to wash the cavity out with hot water and repeat the treatment with the peroxide. To be successful, the cleansing should be thorough.

Diphtheria has been extensively treated by it in Toronto, both in private and hospital practice. The disadvantage in these cases is that it may, if sprayed into the throat, irritate the larynx and prepare it, by congesting its mucous membrane, for a more ready attack of diphtheritic croup. This can be avoided by using it carefully, and, instead of spraying it forcibly into the throat, simply brushing it on the diphtheritic membrane frequently, so as not to cause it to touch the larynx.

It thus becomes a very valuable help in washing out of the throat the toxines, the absorption of which renders the disease so dangerous to life. O.R.A.

Galactagogues.

Griniewitsch (*Münchener medicinische Wochenschrift*, No. 34, 1892) discusses the remedies which promote the secretion of milk. He mentions electricity, galega, urtica, anise, caraway, and fennel.

These remedies are entirely harmless to women, and the improvement

in children who before their use showed defects of nutrition demonstrates how advantageously the milk is changed by them. The best of these remedies is galega, which is used as follows:

℞. Extr. galeg.....50.0(℥iss.)
Syr. simpl.....1000.0 (f℥xxxii.)

M. d. s. A tablespoonful four or five times daily.

It may be administered in pills containing 0.25 grm. (gr. iv.) of the extract of goat's rue each, and 1 to 4 pills given daily.

Urtica is prescribed thus:

℞. Extr. urtic.....200.0 (℥vi.)
Syr. simpl.....1000.0 (f℥ xxxii.)

M. d. s. A tablespoonful four or five times daily.

Anise, caraway, and fennel are given powdered, one to five grammes (gr. xv. to iv.) daily.

[Galega certainly appears to have a decided galactagogue effect. Not only the quantity of milk is increased, but its quality is improved, while at the same time the health of the mother is benefited. This should be borne in mind, as we very often need just such a remedy, and in the past have looked in vain for one.—O.R.A.]

The Cardiac Tonics and Their Indications.

At a recent meeting of the British Medical Association, the subject of the heart tonics was discussed. Broadbent spoke of rest or moderate exercise, and of eliminative agents. He said that strophanthus seemed to be the typical heart tonic, since it increases the power of the cardiac systole without modifying the contractility of the blood vessels. The author, who appears somewhat partial to this medicament, asserts that the failures reported at various times regarding strophanthus in practical medicine are due to the impurities of the preparations used. After strophanthus he places digitalis, adding that the former remedy sometimes acts from the first or second dose. He said that digitalis increases the elimination of liquids, while caffeine enhances that of the solids, and hence the utility of prescribing these two agents in combination in order to obtain the same good effect that a large single doze of digitalis would produce. Lauder Brunton answered that digitalis is at the same time a cardiac and a vascular tonic, but that it must not be forgotten that the principles of the drug do not act in the same manner. *Digitaline*, he said, increases both the contractility of the cardiac muscular fibre and that of the coats of the blood vessels, while *digitoin* produces a contrary effect; thus, when in a cardiopathy there is an excessive constriction of the blood vessels, it is advisable to combine digitalis with vaso-dilator substances as nitrous

ether, for example. Alongside of strophanthus Brunton places the oxy-spartein, which, like it, acts decidedly upon the heart, but not so much upon the vessels themselves. He believes that the best cardiac medicaments after digitalis are strophanthus and nitrous ether. The same author also insisted on the employment of muscular exercise in order to increase the arterial tension, but without putting strain upon the heart. In mitral disease, for instance, the rule is to have absolute rest; but in such cases massage is to be resorted to, a method by which the general nutrition may be increased without producing cardiac muscular exertion. It is, then, useful to associate to massage passive exercise. Lastly, Brunton recommended, in the treatment of mitral disease, for example, the administration of blue mass during the night and jalap by day.—*University Medical Magazine.*

Salophen.

This drug, a combination of salicylic acid and acetyl-paramidophenol, has been introduced to replace salol and other salicylates, as it is without taste or odor, and has a very feeble toxic action. It crystallizes in small flakes, insoluble in water, but soluble in alcohol and ether.

Dr. Camner (*Therapeutische Monateschefte*) says that it is not acted upon by the acid secretions of the stomach, and that it is only after it has passed into the intestine that is decomposed into its constituents, salicylic acid and acetyl-paramidophenol, under the action of alkaline intestinal secretions. He obtained particularly good results in acute articular rheumatism by administering ninety grains a day, in six doses of fifteen grains each. It did not in the least disarrange digestion; and, under its influence, there was a marked decrease in pain, redness, and swelling; and in from six to ten days the patient entirely recovered, nor have any relapses so far been observed. The analgesic action of the drug is probably due in part to acetyl-paramidophenol, which is a decomposition product of phenacetine. He has also found it successful in habitual headaches, trigeminal neuralgias, and records its failure in one case of sciatica. In all the cases no toxic effect was noticed. Dr. Wm. H. Flint (*N. Y. Medical Journal*) confirms its usefulness in cases of acute rheumatic arthritis. G.C.

Is Milk the Best Food in Typhoid?

At a recent meeting of the Practitioners' Society of New York, at the Academy of Medicine, a discussion took place between the prominent physicians present on the question of a milk diet in continued fevers. It was the general opinion of Drs. Beverly Robinson, A. H. Smith, Robert

Abbe, and W. H. Polk that an exclusive milk diet in typhoid, as was so generally advised by doctors, led to much harm. They all thought that such a diet prolonged the fever, and all reported cases in which convalescence at once set in on giving solid food. The objection brought up against milk was that it fermented and irritated the existing ulcers. It was shown that solid foods, if properly prepared, were not solid after leaving the stomach, and were in no condition upon reaching the ilium to irritate typhoid lesions. They claimed that a patient on a milk diet was hungry, and that hunger itself, being a form of pain, kept up the temperature; but that solid food, properly given, relieved this pain, hence lowered the temperature. It was mentioned that in former days a patient who was to have his abdominal cavity operated upon was restricted to a milk diet for two days before and for ten days after the operation; and that often disastrous results, which were attributed to shock and sepsis, were due to inanition. The foods that were suggested as a substitute for milk were stale bread, scraped meat, baked potatoes, bouillon, fermented milk, beaten egg, wine jelly, and junket.—*Medical Age.*

Tetanus Treated Successfully by Antipyrin.

Caviana and Venturoli (*Riforma Médicale*, 1892) record two cases in which the administration of antipyrin, in large doses, seems to have contributed largely to the ultimate recovery of the patients. It is true that chloral was given at the same time, but the authors do not judge that drug to have been the essential part of the treatment, for the spasms were only modified as long as the antipyrin was taken, and recurred when chloral alone was given. This is by no means the first case recorded in which antipyrin has been reported as successful in tetanus, and it may well be that, even if it be not actually curative, it does good by enabling the patient to live through what would otherwise be the fatal course of the disease, while the toxine is being eliminated by the ordinary channels.—*University Medical Magazine.*

A New Substitute for Cocaine.

The acetamide of eugenol—which is contained in oil of cloves—has recently been prepared; it occurs in crystalline form, and appears to enjoy the property of producing local anæsthesia in a very high degree. It may be used similarly to cocaine for this purpose, and, as it has no caustic action and is an energetic antiseptic, it may be found to be even superior to cocaine for minor operations on the mucous membranes.—*The Medical Age.*

OBSTETRICS

IN CHARGE OF
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The Induction of Premature Labor by Champetier De Ribes' Bag.

At the last meeting of the British Medical Association, Mr. Ernest Herman opened the discussion on the Induction of Premature Labor, and gave the following description of Champetier De Ribes' Bag, together with his experiences in its use *(British Medical Journal)*:

This is a bag with a tube attached to it. It is put into the uterus empty, folded up, and held in the grasp of a pair of forceps sold with it. The blades of the forceps are disarticulated, and withdrawn one at a time. Then water is pumped into the bag so as to distend it. When it is full the tap is turned, so that the water is retained; and then the bag is left in the lower segment of the uterus till it is expelled or pulled out.

The shape of the bag is that of an inverted cone, the apex of the cone lying in the internal os. It is made of waterproof silk, not elastic, so that it will receive a definite amount of water and no more. Its size is such that the os uteri must be fully dilated to allow it to pass out. It contains about seventeen ounces of fluid, and when full its base measures about three and one-half inches across.

The use of the bag is to dilate the cervix and lower segment of the uterus when it is desired to empty the uterus prematurely; or when in labor at term the natural agencies which should perform the first stage of labor fail. In English practice at the present time, the favorite way of doing this is by Barnes' fiddle-shaped india-rubber bags. I think this bag, devised by Champetier de Ribes, is a great improvement on Barnes' bags, and therefore have brought forward this communication.

The advantages of this bag over Barnes' are the following: (1) With Barnes' bags successive sizes have to be put in one after the other, and the introduction of each needs a visit from the doctor, and manipulations troublesome to him and disagreeable to the patient. One operation only is required with Champetier de Ribes' bag; when this is in its place, it dilates the cervix to the full extent without any need for further interference, and the doctor may leave the patient, trusting the nurse to send when pains become strong. (2) Barnes' bags are made of india rubber, which stretches when fluid is pumped in. Hence, the operator has no clear indication when the bag is full; and hence also, if the cervix

is rigid, the part in the cervix remains unexpanded, while the part above, and especially the part below, bulge out instead. Champetier de Ribes' bag is made of inelastic material; when it is full no more fluid can be pumped in, and it does not alter its shape. (3) Barnes' bags are put in with a rod or sound in a little pocket at the side of the bag. This little pocket is very apt to give way. Modifications have been made in the bags by others to remedy this imperfection; but I have seen no way so satisfactory as the convenient forceps by which Champetier de Ribes' bag is put in. (4) It is not possible with Barnes' bags to get complete dilatation of the os. Champetier de Ribes' dilates it fully. (5) In the introduction of Barnes' bags the membranes are sometimes ruptured, and the presence of the bag in the lower segment of the uterus sometimes displaces the presenting head, making a natural into a transverse presentation. With Barnes' bags these are serious drawbacks, for, if these accidents have happened, there is much risk to the life of the child in turning and extraction. They may happen also with Champetier de Ribes' bag, but when it is used they are not important, for the bag completely fills the cervix uteri and retains the greater part of the liquor amnii, and when the work of the bag is complete the child can be at once turned and extracted without difficulty. (6) Barnes' bag partly dilates the cervix; but if pains are not provoked (and I have known this happen) when the bag is removed, the cervix may recontract. With Barnes' bag there is no way of accelerating labor if pains are weak. If Champetier de Ribes' bag be used, and the first stage is protracted by weakness and infrequency of pains to an undesirable extent, we can accelerate dilatation by pulling on the bag.

When folded up, the bag is rather thicker than a finger. Hence it cannot be put into a cervical canal that has not reached this degree of dilatation. Dilatation must be started in some other way, by a bougie or a tent, or by a dilator invented by Mr. J. W. Taylor, of Birmingham, and similar in principle to Champetier de Ribes', but smaller. Pinard has recorded forty cases in which Champetier de Ribes' bag was thus used to induce labor. In twenty-three dilatation was complete in from six to twelve hours; in seven it occupied from twelve to twenty-four hours; and in ten, between twenty-four and forty-eight hours. I have used it in four cases. (Mr. Herman then gave brief histories—results good.)

In these cases the duration of the part of the first stage of labor effected by the bag varied from six and one-half to forty-four hours. The long duration in Case 4 was owing to the absence of pains. In no case did there seem to be any ill effect from the bag, either from its introduction and rapid distension or from its continued presence in the uterus.

Dr. Herbert Spencer followed, and generally agreed with Mr. Herman. We abstract the following from his address:

My experience during the last few years of the induction of premature labor by the Krause method (that is, by the insertion of a bougie into the uterine cavity) is that, with antiseptic precautions, the method is free from mortality to mother and child, but that it is exceedingly wearisome for mother and doctor, the operation usually taking about three days. I have only once known labor to occur within twenty-four hours of the introduction of the bougie; in the majority of cases it takes from three to four days, sometimes five or six, and occasionally as long as ten days, in spite of the use of hot douches and the introduction of additional bougies.

I have employed Champetier de Ribes' bag for induction of premature labor in four cases of contracted pelvis, short notes of which I append. . . .

Champetier de Ribes' bag has a great advantage over the bougie in point of rapidity. The rupture of the membranes and separation of a portion of placenta, which sometimes occur, are of slight importance in this method of treatment, as the bag is a good substitute for the membranes, and the hemorrhage ceases when it is distended. The bag has one real disadvantage—that it displaces the head. This can usually be corrected by abdominal manipulations, and by removing the bag when labor is well advanced. In cases in which a malpresentation occurs, the full dilatation produced by the bag is a valuable preliminary to treatment.

Of other hydrostatic dilators, the best known in this country is Barnes' bag. This useful instrument I have on many occasions employed in placenta prævia and accidental hæmorrhage. For the purpose of induction of labor it is much inferior to Champetier de Ribes' bag, being very apt to escape into the vagina, and to produce œdema of that passage and to "blister" or burst. It also requires much more manipulation, as several sizes are necessary.

In order to obviate the difficulty of the escape of Barnes' bag, I have held it *in situ* by a thick sound, while dilatation was performed under chloroform, and, in this way, have succeeded in terminating the labor within a few hours. Used in this manner, however, it is not so gentle a means of dilatation as Champetier de Ribes' instrument. This has the great advantage of being a gentle, speedy, certain, and safe method of inducing labor and of producing full dilatation of the cervix. I consider it the most perfect instrument known to me for the induction of premature labor in cases of contracted pelvis.

In the discussion which followed, Dr. Robert Barnes observed that Dr. Herman's and Dr. Spencer's experience had been small, but certainly so far satisfactory. Dr. Barnes exhibited two drawings showing Champetier de Ribes' *ballon* (1887) and Barnes' bag (1860) in action. No. 1 showed the dilator contrived by Dr. Barnes in 1860. The first bag was pear-shaped, like Champetier de Ribes'. After various modifications he

settled on the fiddle-shaped pattern, with a curved depression on the uterine end. The advantages of this model were: (1) That it was easy of introduction, either at once using the full size, or, if the uterine canal was too small at first, by using a smaller one as preparatory; the ordinary uterine sound served easily for the introduction; (2) the bag, expanding at both ends when filled with water, bore with even pressure upon the two rings of greatest resistance—namely, the os internum and the os externum; thus the entire cervical canal was expanded, offering free access for the forceps or for turning, or for the unaided passage of the child; (3) it secured the object desired with the minimum of force, and without displacing the relation of the parts of the child, since the ball of the head lodged in the hollow of the uterine end of the bag; (4) it dilated the cervical canal throughout, making it of equal calibre, or nearly so, with that of "Barnes' boundary line," which coincided with the equator of the child's head. Fig. 2 showed in position Champetier de Ribes' modification of Tarnier's "ballon." It had the following faults: (1) Difficulty of introduction; it was passed in by squeezing it in forceps, an awkward proceeding requiring sometimes an assistant; (2) its expanding action was spent mainly upon the os internum and lower segment of the uterus, leaving the os externum comparatively untouched; (3) it had the very serious faults of displacing the head, converting a natural presentation into a transverse or dorsal one, rendering the operation of version necessary to deliver. Since the "ballon" could only find room for expansion in the proper cavity of the uterus, the immediate effect was to put a sudden distending force upon the uterus to accommodate a body as large as the child's head. The first effect of this was, in most cases, to excite active uterine contraction which might be useful, but could not facilitate version; and it might, it was to be feared, although cases had not yet been reported, lead to rupture of the uterus. The experience as yet gained or published was but small, whilst the records published, and the wide testimony of practitioners from all parts of the world, left no doubt as to the safety and efficiency of Barnes' bags. Barnes' bag, properly chosen and adapted, was not liable to slip into the uterus or out into the vagina. In conclusion, Dr. Barnes could not help expressing his gratification at having invented a method of inducing labor which had been so largely adopted, and often modified, even to the extent of reinventing the original form which he had discarded as faulty. [How like Dr. Barnes this sentence is! In discussions such as this, the distinguished veteran seldom comes out second best.]

A Case of Symphysiotomy.

At the December meeting of the Montreal Medico-Chirurgical Society, Dr. J. A. Springle gave the following history:

Mrs. M.L., primipara, aged 25, of Irish parentage, gives the following history: She has been healthy up to her marriage, four years ago; since then, to the date of her pregnancy she has suffered from what a local gynecologist pronounced to be pyosalpingitis. However, she became pregnant, and appeared to do well.

On the 4th inst. slight labor pains were experienced, and the liquor amnii began to flow away. I saw her on the morning of the 5th, and labor was then active, but the os uteri not fully dilated. The pelvis was found to be generally contracted. At 3 a.m., dilation being complete, an effort was made to extract with forceps, but without success. At 9 a.m. Drs. Lockhart and Kenneth Cameron saw the case. The uterus was then tightly contracted upon the child, whose head was tightly filling the inlet. It was easily seen that the pelvis was too small to extract, and symphysiotomy was decided upon.

A median incision over the symphysis, extending three-quarters of an inch above this and passing slightly to the left of the clitoris, was made down to the bone. A vulcanite rod in the uretha drew it over to the right, and depressed it away from the incision. Above the pubis the incision was deepened until the loose cellular tissue was reached. The left forefinger was then passed behind, and the position of the urethra being ascertained the symphysis was cut through. The two sides sprang apart, leaving an interval of over one inch. A pad was placed over the wound, and the fœtus rapidly delivered with forceps by Dr. Lockhart, proper support being given latterally to the pelvis. The child was in good condition, and not disfigured by the instruments.

The total time was one hour and a quarter from the commencement of the operation until all dressings were completed.

Both mother and child have done well since. There is considerable pain about the left sacro-iliac synchondrosis, due, I believe, to rupture of the anterior ligaments.—*Montreal Medical Journal.*

[This operation, first performed by De la Courrue in 1654, soon fell into disuse; but was revived by Sigault in 1768. After a short time, it was again abandoned. In 1881 it was again brought before the profession in Italy by Murisdin, who gave reports of several operations performed in Naples. After a time it was done by Leopold, Freund, and others, and became recognized as a legitimate operation on the continent, but not in Great Britain. Dr. Robert P. Harris, of Philadelphia, read a paper on the subject at a meeting of the American Gynecological Association, September 21st, 1892, and expressed his approval of the operation. Since that date

the operation has been performed successfully three times in the United States. Dr. Springle's symphsiotomy is the first and only one performed in Canada, so far as I know. Smylie, of Dublin, has recently done the operation in the Rotunda.—A.H.W.]

Tubal Moles and Tubal Abortions.

Sutton (in the *Medical Press*, 1892, No. 2793) describes, in a well-illustrated paper, tubal moles. They differ from uterine moles in several particulars: The uterine mole is more or less spherical; the amniotic cavity is of fair size, and occupies the centre of the mole. The embryo may or may not be present. It is very misshapen when recognized, and the umbilical cord is often œdematous.

A tubal mole in its early stage is spherical, but later becomes ovoid; in most cases the amniotic cavity is excentric. The amnion is easily ruptured, and permits the escape of the embryo. This explains the difficulty of finding the embryo where the mole has been discharged through a rent in the wall of the tube, or through an enclosed ostium with hemorrhage. The mole is found in the clot, and the embryo can be found, if all the blood be collected and the clots carefully washed. In hard, firm clots, in which no amniotic cavity is recognized, the specimen must be cut in sections and examined for villi of the chorion. This part in sections has clusters of circular bodies occurring in groups. Under a low power, they show an external layer of epithelial-like cells, with irregular cells in the centre. Under a high power, the epithelium becomes distinct. The presence of a tubal mole is decisive proof of pregnancy. Blood and blood-clots, however, may be found in the tube when pregnancy is absent. Accurately speaking, the term "hæmatosalpinx" should be applied to a non-gravid Fallopian tube distended with blood secondary to occlusion of the abdominal portion of the tube.

By "tubal abortion," we understand the discharge of an ovum through the ostium into the peritoneal cavity, or by rupture of the tube when the ostium is enclosed. Hemorrhage is usually more abundant in total abortion than where the tube ruptures and the ovum escapes into the broad ligament. The uterine decidua is usually discharged at the time of the tubal abortion. Sutton concludes his observations as follows:

"(1) The transformation of a tubal ovum into a mole or apoplectic ovum is beyond doubt. (2) The majority of the specimens described as examples of hæmato-salpinx are gravid tubes. (3) Rupture of a gravid tube and tubal abortion are the common causes of pelvic hæmatoma. (4) Mesenteric rupture of a gravid tube is a common cause of pelvic hæmatoma. (5) To affirm that bands of fibrin resemble chorionic villi indicates great

want of histological knowledge. (6) Every clot of blood found in a Fallopian tube is not a tubal mole."—*American Journal of the Medical Sciences.*

Pelvic Dermoid Cyst Removed from a Woman Six Months Pregnant.

Dr. Wm. Gardner, at the October meeting of the Montreal Medico-Chirurgical Society (*Montreal Medical Journal*), exhibited the specimen and related the following history: Patient is married fourteen years; has had three full-term children, the last seven years ago. In December, 1890, the tumor was diagnosed and operation advised. Menses absent since April 2nd, 1892. Six weeks ago, when already pregnant to four or four and a half months, had a severe attack of pelvic pain, requiring full doses of morphia. When examined, it was discovered that the tumor was adherent to the floor of the pelvis. Operation was done on October 1st. The tumor was of the left ovary, and being successfully shelled out from its bed of adhesions in the floor of the pelvis was then easily brought to the level of the abdominal incision and tied off, catgut ligature being used. The size of the tumor was that of a medium orange. It was filled with sebaceous matter and hair, and also contained one tooth. The cyst wall contained some leathery blood-clot. The recovery was smooth, and without any interference with the course of pregnancy. The nature of the tumor and the fact that it was adherent in the pelvis rendered its removal an absolute necessity to save the patient from very great danger from the passage of the child during labor.

SURGERY

IN CHARGE OF

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Shock and Its Treatment.

Kottmann (*Wiener med. Presse*) states that the most important signs of shock are weakness of the heart, faint respiration, skin pale, and covered with cold sweat; face drawn out, sunken eyes and livid lips; consciousness remains; insensibility reduced. Shock appears when certain very sensitive organs, as testicles, bones, or bowels, have been subjected to contusion or other serious injury. Shock may occur from hemorrhage, and is then associated with functional changes in the body of which there are no

post-mortem evidences. Two theories are advanced: the first defines shock as a reflex paralysis of the heart and vessels caused by the trauma. According to the second the injury causes, reflexly, exhaustion of the medulla oblongata and of the spinal cord, and, as the nerve centres are affected, there is debility of the heart and respiration. The fever which accompanies shock is, according to Kottmann, the consequence of trauma. The substances causing the fever are here chemical, and not bacterial, are freed from normal tissue matter by the injury, and include hæmoglobin, febrin ferment, and similar elements. The author objects to confounding shock with debility due to hemorrhage. In the latter there is rapid pulse, quick, deep, panting respiration. In shock the patient does not present the evidences of cerebral irritation, noises in the ears, affected vision, palpitation, yawning, and even convulsions. In severe cases of shock the usual remedies—alcohol, ether, caffeine, and camphor—may be used without relief. The similarity in appearances resulting from hemorrhage and from shock induced Kottmann to use salt-water transfusion in four cases, with good results. By the neuro-pathological theory the explanation is that the effect of the salt solution is to stimulate the centres with which it comes in contact, and with increased arterial pressure the central nervous system would receive more blood and recuperate more quickly. If the hæmo-pathological theory is accepted, the explanation is even more simple; the salt water would fill the empty heart and vessels, and the hydraulic requirements would be fulfilled while the blood in the distended abdominal vessels was being restored to the circulation. Patients suffering from shock often require severe operations, especially the amputation of members. Experience shows that chloroform anæthesia in these cases is attended with unusual danger; which is less with ether, which acts as a heart stimulant. —*Nashville Journal of Medicine and Surgery.*

[In three well-marked cases of shock, we recently employed atropia sulph., with apparently the best result. The first case, a man twenty-five years of age, was struck on the head by a locomotive tender; fifteen minutes later he threatened to become pulseless before the atropia could be injected, but responded promptly and thoroughly. The other two had received blows in the neighborhood of the stomach, one in falling through several stories of an elevator shaft, and the other in being thrown against a projecting log while coasting. Seen, the one six and the other eight hours after the accident, both presented the symptoms of shock in a marked degree; promptly after the injection of the atropia the color improved, and both made good recoveries. In surgical shock, especially on that following abdominal section for the removal of large growths or accumulations, where we have the shock of the operation proper intensified by that produced by the anæsthetic, the hemorrhage, and the lessened abdominal

tension, hypodermic injections of strychnine, repeated every three hours, may with advantage be substituted for the atropia, or the strychnine and atropia may be injected in combination for the first two injections, and then the strychnine continued alone until the patient has reacted fully. In the Johns Hopkins Hospital, where this hypodermic treatment is carried out with the utmost care, we have seen some surprising recoveries.—L.M.S.]

A Case of Cerebral Surgery.

W. C. Dugan, M.D., reporting a case of cerebral surgery, says that a lady about fifty years of age had great pain in the head for eight or ten months, and it has steadily increased. She has been treated by a number of physicians on various lines, and she has grown steadily and rather rapidly worse. Her hearing was at first but slightly involved, but latterly to such an extent that she could hardly hear at all. During the last few weeks I am confident there has been marked impairment of intellect.

I saw her for the first time several months ago, and then did not see her again for about two months. Meantime her physician asked Dr. Dabney to make an examination, and he reported double-choked disk, the right more marked than the left. Later she had partial paralysis of the right leg, twitching of the right side of the face, and incomplete loss of sensation of the right arm.

Diagnosis of tumor was made, its most probable location being in the left side, about the upper part of the fissure of Rolando. She had two convulsions during this time, whether unilateral or bilateral I am unable to say, but they were rather severe, and were followed by considerable stupor. Exploratory operation was advised for the purpose of finding the tumor, the understanding being that, if it could be removed, it would be done.

A very large semi-circular incision was made over the left parietal bone, the flap turned down leaving the periosteum intact. After going through the periosteum and turning it back separately, we took a large-sized trephine, expecting to take out a large button, but found it slow work, the skull being very thick. I then decided to take out a smaller-sized button. The bone was removed and the membrane bulged up almost half way through the skull, very tense, and feeling almost like wood. I then took a chisel and mallet and cut out the entire two inches of bone, the size of the original trephine. The tension was so great that the membranes came up almost on a level with the outer part of the skull. The dura was then incised, and, to my very great surprise—and perhaps I should say, my chagrin—the brain just swelled up, almost like quicksilver, through the incision in the dura. There was a mass of cerebral tissue, as large and thick as your finger, pressed through the opening in the dura, and the constric-

tion was so great, and the tension from within so much, that it produced intense engorgement. The dilemma was not one to be envied, I assure you. I did not know how to close the dura. Knowing that there must be something to account for the great pressure, I explored with a hypodermic needle and found no fluid. I then took a groove director and passed it down to the ventricle, and found a large quantity of fluid in the left cavity—at least three ounces, and perhaps more. As the fluid flowed through the groove, the brain settled back in its place, and at the conclusion of the aspiration I was able to pass my finger around the dura, palpating the brain so as to ascertain whether there was a tumor anywhere. No tumor was discovered. I then thought best to pass the groove director through the septum to the other ventricle to see if any fluid existed there. This was carefully done, but no fluid was found. The dura was then closed and the scalp sutured, no drainage being used, and the patient dressed and put to bed. She reacted well from the operation, there being no shock.

She has had some little trouble since with loss of speech, but she is able to articulate some sounds distinctly and intelligently. She has suffered very little pain since the operation, and has been doing very well. Instead of finding a tumor, we discovered an accumulation of fluid in the left ventricle, the pathology of which I am unable to give. The fluid seemed to be perfectly clear, but whether it was tubercular or otherwise I am unable to say. The future of the case is purely one of conjecture; I am not prepared to say what the outcome will be. Her physical condition is good; the operation was done one week ago, and she sat up to-night and is suffering no pain. The paralysis has been relieved, but her hearing has not returned. I cannot help believing that the trouble will return, and that the end is not very far off.

The paralysis was relieved immediately after the operation. Sensation now seems to be hyperæsthetic. Before the operation, as she could not hear, her family would write messages on paper and she would look at it for a long time, and eventually she would understand it. She would wait four or five minutes before answering a question, showing that her intellect was greatly impaired.

I left the bone out for two reasons. First, it could not have been replaced, as, after taking out the button with the trephine, the opening was considerably enlarged with the chisel; further, I would have left the button out anyway, so as to have the advantage of that amount of lack of resistance, and, in event of the fluid reaccumulating, it can be aspirated with less trouble. The opening left in the skull, as nearly as I can judge, was about two inches in diameter. The only hemorrhage experienced was from separation of the dura. If I had not explored the brain, I would never have been able to have brought the dura together.—*Medical and Surgical Reporter.*

The Treatment of Fractures of the Lower End of the Humerus, and of the Base of the Radius.

Dr. John B. Roberts has made a sort of collective investigation of the practice of some ninety American surgeons in the treatment of fracture of the lower ends o the humerus and radius, and finds considerable diversity in their methods. Quite a number agree with him in treating fractures of the lower end of the humerus with the elbow in an extended position, but the majority hold to the flexed position, for various reasons, such as a fear of ankylosis, or better retention of fragments. Roberts advocates the extended position in all cases because of the danger of losing the "carrying point" otherwise. The majority also use early passive motion within four weeks, and nearly all expect to obtain "good use of the joint." About one-tenth of the number (nine out of eighty-eight surgeons) treat fractures of the lower end of the radius frequently without any form of splint whatever, agreeing with Dr. Roberts, who employs a wristlet of adhesive plaster wound around the arm according to Moore's plan. Sixty-eight out of the eighty-eight used passive motion within four weeks. Roberts believes in leaving the elbow-joint at rest until consolidation has taken place, and encouraging patients with fracture of the lower end of the radius to use their fingers voluntarily from the first; active instead of passive motion. It is disappointing to see how many men are still trying to prevent ankylosis of the elbow by passive motion, when it is now so clear that such attempts are more likely to do harm than good, and also to find so many using apparatus on the fracture of the radius which compels them to employ passive motion here also, when active motion can be so readily maintained throughout. It appears to the reviewer that Roberts does not dwell sufficiently on the radical difference between the two parts, the wrist being a joint where motion is likely to be limited by adhesions of tendons in their sheaths, while in the elbow there is no such danger; hence for the former motion (active) is advisable from the first, but for the latter it is unnecessary.—*International Medical Magazine.*

Unjust Condemnation of Catgut.

A number of articles, abstracts, and quotations have recently appeared in several prominent journals condemning the use of catgut as suture material. One of these, by Paul Paquin, M.D., Director of the Pathological Laboratory of the Sanitarium at Battle Creek, Mich., was very decided in its tone of warning against catgut in surgical practice; yet it was based upon experiments absolutely valueless from the standpoint of the modern surgeon whose ways are ways of cleanliness.

Whether or not the experiments of this investigator were carefully con

ducted, I have no means of knowing; but I am sure from observation—both experimental and clinical—that the deductions are absolutely incorrect and wholly misleading.

All instruments are boiled in a five per cent. solution of carbonate of sodium (bi-carbonate will not do) for twenty minutes just before using; and the hands are carefully scrubbed and run through the permanganate, oxalic, and bichloride solutions just as was the field of operation. By these precautions and with sterile gut, all danger of suppuration is avoided.

I am sure that any surgeon will be convinced of the superiority of catgut to all other suture materials in proper place, if perfect antiseptic precautions be taken and good catgut be used. Carbolized gut is totally unreliable.

I prepare my own catgut thus: Good, strong gut, free from flaws, is washed in soap and water until all the "kink" is out; it is then dried with a towel, wound loosely round the fingers, and dropped into a jar of sulphuric ether, C.P., in which it lays for forty-eight hours; it is then transferred to a jar containing oil of juniper, in which it floats from two days to a week, according to size; it is then wound—with fingers surgically clean—on spools and kept in alcohol, ninety per cent., and oil of juniper, ten per cent., carefully sealed This is perfectly safe.—*International Journal of Surgery.*

GENITO-URINARY AND RECTAL SURGERY

IN CHARGE OF

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The Kraske Method of Extirpation of the Rectum.

Joseph B. Bacon, M.D., in the *North American Practitioner*, describes the above operation, and relates a case in which he had successfully performed it.

The patient, Mr. W., aged 34, druggist, married, of a constipated habit, first noticed trouble in his rectum in October, 1891, when at stool a severe hemorrhage occurred; no occurrence for three months, when, after taking a strong cathartic in December, a second profuse hemorrhage occurred. From this time he began to have obscure pains in his back, slimy discharge from his bowels, streaked with blood, and shooting pains about the anus and a more obstinate constipation. Symptoms gradually grew more annoying, until in March, 1892, he consulted his physician. He was told that stricture, probably malignant, existed, and was advised to see a surgeon. I examined him for the first time about the middle of April, and found a stricture of the

rectum caused by a malignant growth, involving the sphincters and four inches of the rectum, and only dilatable sufficient for my finger to explore the growth.

An immediate operation for the total extirpation of the anus and rectum was advised, at the same time assuring the patient that this relief would probably only prolong his life for from six months to two years.

The operation was performed in May, when five inches of the rectum, including the anus, was removed.

After the patient was partially under the anæsthetic (ether), I forced my index finger through the stricture, and with the aid of an irrigator succeeded in breaking up the hard, impacted fæcal mass, and by repeated irrigations, lasting for an hour, emptied the rectum and colon. I will here state that the complete evacuation of the colon, even at a great loss of time during anæsthesia, is very necessary before operating; otherwise the necessary constipating of the bowels for several days after the amputation of the gut will be, as a rule, impossible. The patient was now placed upon his right side and the perineal and sacral region carefully cleansed, and every means employed for an aseptic operation. An incision was made beginning at the third sacral vertebra, and extending in the median line to the anus. The soft parts were dissected loose from the two lower sacral vertebræ and coccyx and below down to the rectum, and the left sacrosciatic ligament was detached from the sacrum. The coccyx was now removed and a chisel was used to cut away the left half of the sacral vertebræ, care being taken not to wound the third sacral nerve, it being the main support to the bladder. At this stage of the operation the rectum and cancerous mass was exposed, and all bleeding vessels were carefully ligated.

Beginning now at the lower end of the wound, I dissected the mass away as follows: Inserting one blade of a large pair of curved scissors into the wound at a point near the anus, it was pushed laterally into the left ischiorectal fossa and forward to near the median line, and the intervening tissue severed; a similar incision was made around the right side, thus completely encircling the anus, except the median line near the urethra.

An assistant now inserted an urethral sound into the bladder, to be used as a guide in dissecting the tumor from the urethra, and prevent its wall being wounded. The anus and lower end of the rectum now being freed from the surrounding tissue, a strong pair of vulsellum forceps were used to hold the tumor firmly, and the levator muscles were cut away at a safe distance from the cancer. The peritoneal cavity was then opened and five inches of the rectum removed, leaving the seminal vesicles bare of bladder and small intestines exposed.

The rectum above the cancer, together with the lower end of the

sigmoid, was dissected loose, drawn down and firmly ligatured into the upper angle of the sacral wound by interrupted sutures of heavy silk, care being taken to have each suture catch up at least one-half inch of rectal tissue, sutures passing through the entire gut wall to prevent their tearing out before union took place. All bleeding vessels were now ligated, and sterilized hot water applied to the wound until capillary hemorrhage ceased. The lower end of the rectum was now packed with absorbent cotton to prevent any of its contents escaping into the wound.

Beginning now with long strips of iodoform gauze, the whole pelvic wound was carefully packed from before backwards to prevent any fæcal discharges entering the peritoneal cavity. This dressing was not changed until the end of five days (the bowels having been constipated by opiates), when the peritoneal cavity was found securely closed in with healthy granulations, and the wound was thus secure from any future infection from fæcal discharges. Daily dressing of the wound was required for three weeks, when everything had granulated around the gut, and the patient was able to sit up in bed. It is now four months since the operation.

He is well nourished, has no pain, appetite good, and there is no symptom of a return of the growth. He has perfect continence when bowels are constipated, but of course incontinence when the fæces are of a diarrhœal character.

The gut is firmly united with the tissues at the upper sacral end of the incision, and the mucous membrane appears healthy. On pulling aside the buttocks somewhat firmly, the bowel is seen filled with solid fæces; this he removes daily by warm water irrigation, and completes his toilet with a large cotton pad. I shall have him fitted with a truss pad as invented by Hochenegg, and he can go about his work as usual. The age of this patient, thirty-four, is unusual for cancer, and well illustrates how necessary it is never to take a diagnosis for granted, but make a careful search for symptoms. Had such been done for this man after the first hemorrhage, his chances for a permanent cure would have been much better.

Kraske's claims for this operation are:

(1) It enables one to remove tumors that are too high up for any other method, and considered inoperable.

(2) It enables one to secure all the cut or torn blood vessels with a certainty.

(3) Where disease is limited to tissue above sphincters, the disease can be cut away and the ends of the gut brought together again, and sphincters preserved with continence.

Some of the dangers in doing Kraske's operation are:

(1) One must avoid wounding the urethra, seminal vesicles, and bladder.

(2) In removing a part of the sacrum one must be sure that he does not destroy either of the third sacral nerves, as they mainly control the bladder, and cutting them will cause vesicle paralysis.

(3) He must use care in order to avoid wounding the ureters.

If the ureter is severed, Dr. Fred. Bryon Robinson suggested that it may be turned into the rectum. But in his experiments upon dogs he found it generally resulted in a fistula, in which case the urine from each kidney can be examined; and if the kidney connected with the fistula is secreting the smallest amount of urine it may later be extirpated.

Some of the difficulties in the performance of Kraske's operation may be overcome by carefully laying the rectum bare in making the posterior incision, and then inserting the finger around the rectum above the sphincters and freeing it from the surrounding tissues above and below. This procedure will enable one to push away the ureters, seminal vesicles, bladder, and urethra in many cases.

Treatment of Syphilis by Dog's Serum.

Cotterell, in the *English Medical Press*, reports that he has repeated the experiments of Tommasoli in the treatment of secondary syphilis by means of hypodermic injections of serum prepared from the blood of lambs and oxen.

He gives his own experience as follows: In August of this year I prepared some dog's serum, and had the opportunity of trying it upon two patients of the Lock Hospita who were suffering from recent syphilis. The results obtained were good as far as the cases were followed up, the rash and other manifestations quickly disappearing under the influence of the injections. Unfortunately I have lost sight of the patients, due probably to the injections producing a somewhat painful swelling, and partly also due to the fact that they are better, and have in consequence not returned to report themselves.

The *rationale* of the treatment appears to be the marked bactericidal action of freshly-prepared serum; and it is essential that the serum should be used when perfectly fresh, otherwise the results obtained will be disappointing.

I have noticed, as other observers have also done, that the first injection or two will send the temperature up slightly; but it quickly becomes normal, and is apparently of no moment. There is also occasionally formed at the seat of the injection a localized swelling, which is tender to touch, and the skin over it is slightly injected; but suppuration never takes place, and the tumefaction soon subsides. Now and then the injection may be followed by an urticarial rash, which, as far

as I have seen, does not spread very far from the seat of the injection, and soon disappears.

The serum was injected into the back in doses of two cubic centimetres twice a week with a Koch's hypodermic syringe, which was well sterilized, and it is a safe precaution to thoroughly wash the skin over the proposed site of injection with 1 in 20 carbolic lotion.

The method of preparing the serum is as follows:

The blood is taken aseptically from the carotid artery, and allowed to flow into a large sterilized test-tube, at the bottom of which is a little oxalate solution to prevent coagulation. When about three parts filled the tube is plugged with cotton-wool, and the tubes put in a centrifugal machine, by which means the corpuscles and plasma are separated. The plasma is then decanted off, and allowed to clot, from which the serum separates, and can be drawn off into small sterilized test-tubes, which are plugged with common wool; or, if required to be transported, it may be drawn into sterilized glass pipettes, the ends of which can be sealed in a gas flame.

Afterwards a necropsy is performed on the dog, and serum only retained if the animal is perfectly healthy.

I have had a small electric motor made, attached to a turn-table, which forms a very convenient apparatus for centrifugalizing small quantities of blood, as it can be attached to an ordinary wall plug where the electric light is laid on; and as it is essential to use the serum freshly prepared, one only makes it as required.—*Epitome of Medicine.*

Caisson Work in Bladder Surgery.

At a meeting of the Medical Society of London, Mr. Harry Fenwick made a communication on what—borrowing an engineering term—he termed "caisson working" in bladder surgery. Th method he employed was as follows: The patient was nearly always placed in the Trendelenburg position. Rectal bags were not used. The bladder was then opened above the pubes, the opening being made just large enough to admit a thin white porcelain cylinder, which was sunk, without allowing any of the water in the bladder to escape, on to the spot where he had previously ascertained, by the use of the electric cystoscope, that the tumor was placed. The cylinders were of various lengths and sizes, according to the thickness of the parietes, the depth of the bladder, and the size of the area to be operated on (in his first case he had used a Ferguson's speculum). A Jacques catheter was placed in the cylinder when it rested on the bladder, and siphon action established by suction from a syringe; the water was thus run out of the caisson, and the tumor seen, dry and bloodless, at

the bottom. By throwing in a beam of electric light by means of Dr. Washington Isaac's incandescent "search-lamp," it became possible to remove the growth by forceps, with extreme accuracy and thoroughness. The method had proved of special value in the early stages of benign tumors, where the growth was often very small—also in removing small, sessile, secondary splashes of villous growth, which were often left behind untouched or unrecognized by the finger after the main piece of the tumor had been wrenched or scraped off. If vesical growths were operated on earlier, the mortality of the actual operation would diminish, and even in epitheliomatus degeneration of the mucous membrane a cure might in some instances ensue. Mr. Fenwick said he based this belief upon an experience of over 100 cases of tumor of the bladder. The method could be used in bladder growth for curetting or cauterizing definite catarrhal or tuberculous ulcerations, for incising the mouths of sacs of encysted stones, and for marking out the lines of enucleation of the intravesical growth of the senile enlarged prostate. It was unfit for contracted bladder. He recommended the procedure on the grounds that only a small incision was necessary; that it avoided bruising and tearing of the bladder by the continual passage of fingers, etc., through the wound and bladder incision; that not only the main growth, but the smallest patches of primary or secondary growth could be seen and accurately treated by shifting the caisson from place to place; that the base of the growth could be cauterized by means of a galvano-cautery point with safety and certainty, and because bleeding could be easily arrested before the patient left the table. —*Medical Record.*

Treatment of Cystitis by Means of Intravesical Injections of an Ethereal Solution of Iodoform in Oil.

In the treatment of both acute and chronic cystitis, the author advocates the use of a solution consisting of one gramme of iodoform dissolved in seven grammes of sulphuric ether, to which seven grammes of olive oil are added. This is injected into the bladder, and allowed to remain as long as possible. One gramme of iodoform is completely dissolved in five grammes of sulphuric ether, the additional ether being used to compensate for evaporation. The oil is added to modify the irritation produced by the ether on the vesical mucous membrane. During treatment the patient should be required to abstain from beer and all other fermented and alcoholic liquors, and live as much as possible upon a milk diet.

Of the cases treated, the acute, all of which were of gonorrhœal origin, showed the greatest improvement. In regard to the chronic cases, it is rather difficult to draw a parallel between this method and the use of an

iodoform emulsion; but from a purely theoretical standpoint, the solution of iodoform in ethereal oil ought to act more promptly and efficaciously, applied to an organ like the bladder, where remedies can only remain in contact with the diseased areas for a limited time.

It is not claimed that this is a universal remedy for cystitis, but in many cases (eleven out of twelve) it acts in a very efficient manner. It must be decided in each individual case as to the amount and the frequency of the injections, whether they are to be given every day, or every other day, or only at intervals of several days. Internal medication and strict diet will be found to greatly enhance this method of treatment.—*Dr. Okev-Blom, Finland, in Ann. d. Mal. d'Org. Genito-Urin.*

[In two cases (chronic) in which the above treatment was adopted, a marked improvement was manifested. Other treatments had been used, ncluding iodoform emulsion. The pain was considerable, but not sufficient for the patient to object to a second application.—E.E.K.]

Attenuation of the Virus of Syphilis.

Pellizzari (*Giorn. Ital. delle Mal. Ven. e delle Pelle*, September, 1892), believing that syphilis is due to a specific parasite, and arguing from the analogy of other infectious diseases, has been led to think that this parasite secreted during its growth a substance inimical to itself. He became convinced that a healthy organism, receiving little by little the toxic products of the syphilitic virus, would acquire either complete immunity or a relative resistance to subsequent infection. He further holds that some of the manifestations of syphilis are due to a parasite, while others are the effect of the chemical products of the growth of such a parasite, and that if at one time one could artificially increase the amount of this poison in the patient, and at another time aid its rapid elimination, one ought to be able to obtain a true parasitic effect and consequent attenuation of the disease. He began to put the idea to the test in May, 1892, injecting the serum obtained from the blood of a patient suffering from the tertiary stage of syphilis into one in the active or malignant stage who showed intolerance of mercury. He has since adopted the same plan in a considerable number of cases, making in all about 200 inoculations, principally with serum sterilized by means of a d'Arsonval's filter. The serum is not always drawn from cases in the tertiary stage of syphilis, but sometimes from those in the active eruptive stage. It has always been given subcutaneously. Patients with primary lesions have been selected for these inoculations, and treatment has been commenced as early as possible. While not yet committing himself to any absolute statement as to the effect of the injections on the course of the disease, the author is disposed to think that in most

instances there has been a diminution of the primary induration, with a lessened tendency to glandular enlargement and a shortening of the secondary eruptive stage. The dose employed has been, for each injection, from ½ to 9 c.c., and the injections have not been repeated more frequently than every second or third day.—*British Medical Journal.*

A Peculiar Case of Prostatic Concretions.

At the section on genito-urinary surgery, in the New York Academy of Medicine, Dr. E. L. Keyes presented a large number of prostatic concretions, like millet-seeds, which he had removed from a man 45 years of age. The man suffered from constant dribbling of the urine, and the urethra was always in a purulent condition. At night he suffered less than by day. He was made to pass his urine in two parts, and both parts were found to be purulent. A catheter was then introduced into the bladder, and through this perfectly clear urine flowed; the residual urine was also clear. This located the pus in the prostate. Dr. Keyes said he did not search the man for stone, as he had no symptoms of it. A central perineal incision was made and the finger introduced, and an abscess cavity in the prostate discovered. To the finger it felt like a rotten raspberry, and this seedy material was scraped out with the finger nail. The opening of the abscess was enlarged, and the entire cavity thoroughly scraped. The perineal opening was allowed to close after three weeks. There is now no more residual urine, and no dribbling from the urethra, and the man will no doubt get entirely well. He may have some trouble, however, owing to the fact that the anterior portion of his prostate was destroyed, although the mucous membrane was left.—*Journal Cutaneous and Genito-Urinary Diseases.*

PEDIATRICS

IN CHARGE OF

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Relation of Rheumatism and Chorea.

Dr. Jacobi, speaking on this subject, says: The subject is an extremely difficult one, particularly for the reason that a diagnosis of acute rheumatism is not so frequently made in little children as it ought to be, and a good many of the cases in which there is heart disease without a history have been rheumatic. We find a great many cases of fully developed

heart disease in little children of six, eight, ten, twelve years of age, disease that must have a cause. Congenital heart disease is seldom seen at that age. Children suffering from it die mostly before they are a year or year and a half old. All the cases we see in later life, with very rare exceptions, are acquired, and the cause of most acquired endocarditis is rheumatism. Very few cases are excepted; so, then, there must have been in nineteen out of twenty cases, where there is endocarditis in later life, rheumatism. It has been stated, particularly in the last statistical report, that there are a great many cases that have reported some pain which he has not taken for rheumatism. Why not? Indeed, many ill-defined pains of little children, most of the so-called growing pains, are of rheumatic origin. Acute rheumatism in infants and children is liable to yield but little swelling, and sometimes but little pain.

Decided, positive cases of rheumatism with endocarditis, that cannot be doubted at all, will frequently be found attended with very little pain about the joints, very little swelling, and sometimes not even very high fever. Sometimes the endocarditis comes very early, sometimes late. At all events, endocarditis is very frequent. I am certain a rheumatic endocarditis attending even a mild attack of rheumatism is more frequent in children than it is in adults. We see a great many cases in which no diagnosis is made, simply because the symptoms are frequently but slight.

I remind you of the fact that only ten or fifteen years ago it was stated in the text-books all around, and one copied it from the others, that acute articular rheumatism was almost unheard of in little children. Now that is certainly not true. Nowadays you can read in the text-books that it is by no means so uncommon.

I remember quite well that when I wrote my first paper on rheumatism in Seguin's series some seventeen years ago, and pronounced the same facts that I have given expression to now, those expressions were received with a great deal of distrust. Since that time I believe all of us have seen a good deal of rheumatism in small children, therefore I believe there is much more connection between chorea and rheumatism than is sometimes assumed.—*Archives of Pediatrics.*

Treatment of Infantile Syphilis.

In treatment, I have fallen into a habit of using what proved good. Inunctions of oleate of mercury for infants, with mixed treatment to the mother, if nursing. Older children, especially in late manifestations, were given mercuric chloride in doses ranging from 1-120 to 1-32 of a grain, according to age. Mercury we find lauded in all forms. Calomel, or gray powder, is easily administered, but at times proves too laxative unless

checked by an opiate Inunctions of two per cent. of oleate of mercury or the official ointment are better than internal medication. Frequent and prolonged hot baths help elimination, but are neither advocated nor used enough in these cases. Judicious feeding and general tonics must not be forgotten, for the evil is only removed by constant and long-continued vigilance.—*Dr. Stowell, in Archives of Pediatrics.*

A Unique Case of Uvulitis.

A little child, but ten months old, was brought to the office by the frightened mother, who thought that a tumor had suddenly appeared in the baby's throat. The following history was elicited: The child was apparently well up to within two hours; since then has been troubled with an irritating, exhausting cough, recurring every few seconds, and attended with considerable gagging. For the past half-hour a small red mass would show itself between the child's lips, particularly after an unusually severe coughing spell attended with gagging. There was inability to nurse or swallow, every attempt increasing the distress of the little patient. Exhaustion marked. An examination of the throat revealed, without any trouble, an elongated, reddened, and œdematous uvula. The mass measured about an inch in length, the lower globular portion about one-half inch in diameter, paler in color, the increase in size being due to œdema; the surrounding parts normal.

The uvula was punctured with a needle in half a dozen places; chlorate of potash, with small doses of opium, given internally; cold applications about neck; ice pills internally. Decided improvement in the evening. The following morning the uvula was less swollen and œdematous, and about one-third original size. On the lower and posterior aspect, a diphtheritic deposit could now be perceived. Under the internal use of tr. fer. chlor. in small and repeated doses, with nasal injections of a weak salt solution, the case went on to rapid recovery.—*F. Huber, M.D., in Archives of Pediatrics.*

Diet in Rickets.

Dr. Jacobi, in his clinical lectures on pediatrics, says: In selecting food for such a child we must not take our own habits as a guide, for many of us eat too much and of more things than is necessary. If most of us would reduce our diet one-third, we should be better off. Children, as a rule, eat very simply and uniformly, and thrive best when they are allowed so to eat. A child of that age (four years) might have a piece of beef or mutton once a day; it might have one egg a day, in some shape or other,

but not hard; it might have a pint to a quart of boiled milk; it might have some barley, rice, oatmeal, or farina with the milk—and that is all it would want.

A baby fed in that way will thrive. Those babies that are costive might have more oatmeal; those that have a tendency to diarrhœa might have more rice or barley with their milk. Fruit will do no harm to older children, particularly boiled fruit. A piece of orange in the morning or after meals, a piece or two of sugar in the course of the day, or plain candy, frequently is not only pleasant but useful. But all that depends on the condition of the stomach and general state of the baby. In a case like this, we must try to counteract the tendency to fermentation in the intestines. Resorcin, or naphthalin, or salol, or salicin, might be useful, or large doses of bismuth might be given from time to time. If you should give the baby naphthalin, he probably would object because of the bad taste. Resorcin is easily taken; it dissolves readily. Bismuth has no taste at all. This baby might take, an hour after each meal, three or four grains of subnitrate or subcarbonate of bismuth with a half or two-thirds of a grain of resorcin. If there were any tendency to diarrhœa, I should add to that some prepared chalk; if any tendency to constipation, add two or three grains of calcined magnesia.—*Archives of Pediatrics.*

The Care of the Nasal Passages During Childhood.

Strangways, W. F. (*Physician and Surgeon*, 1892, xiv., 436), says: The care of the nasal passages in childhood is greatly neglected, and the writer emphasizes the following facts: First, and very important, is the fact that every cold has a tendency to leave some chronic inflammation. Second, and very important, is the fact that every child which takes cold in the head easily or frequently suffers from some form of chronic rhinitis, which should be treated and cured, and until such treatment is given the child will be liable to take cold from every slight cause. Third, it is very important for us to remember that the lumen of the nasal passages in childhood is very small, and is easily destroyed by retained secretions. Fourth, all retained secretions act as irritants and perpetuate chronic rhinitis. A discharge from the nares does not invariably represent too free secretion. It more frequently represents an altered secretion, and occasionally a lessened secretion, where the currents of air take up the aqueous portion too rapidly, leaving the more solid parts to form a discharge.

The first step towards preventing and curing catarrhal troubles in the nasal passages is to gain good, vigorous health. Attention to food, exercise, clothing, baths, etc., is very important.

The next part of the subject is the medicinal. The nasal passages

should be thoroughly cleansed with warm alkaline solutions, either by pouring the solution into the nostrils with a teaspoon, snuffing it from a sponge or the palm of the hand, or by using an atomizer. All crusts should be removed, and any diseased spots should be touched with some stimulating alteratives, as iodine or chromic acid.—*Archives of Pediatrics.*

Salicylate of Soda in Chorea.

Sutherland, George W. (*The Lancet*, 1892, ii., 909), says: In a number of cases the use of this drug had been entirely without beneficial result; and in the following case the chorea developed while the patient was under salicylate of sodium, and after this remedy had removed the symptoms of rheumatic fever. F. S., a girl, aged seven years, was seized with a well-marked attack of rheumatic fever, accompanied by endocarditis of the mitral valve. Under salicylate of sodium, the child rapidly became convalescent. Three days afterwards, while the salicylate of soda treatment was being continued as a precaution against relapse, symptoms of chorea appeared, and rapidly grew very bad, until she was put on arsenic, when she began to improve and soon recovered. It would be interesting to know whether the salicylate treatment of rheumatic fever has had any influence on the number of cases of chorea immediately following the fever. —*Archives of Pediatrics.*

Gastric Ulcer in a Child Two and a Half Years Old.

Colgan, James F. E. (*Medical News*, 1892, lxi., 408), says: The patient, a girl, two and a half years old, was first seen on May 26, 1892, and was said to be suffering with spasms. The temperature was 106°; the pulse about 150, rather full and tense; the breathing was stertorous; and all of the voluntary muscles of the body were in active contraction. There were also involuntary evacuations from the bladder and rectum.

The child had been perfectly well until eleven o'clock that morning, when she said she did not feel well. There was no vomiting and no complaint of pain. The convulsions were readily controlled, and consciousness, which had been lost from the beginning of the attack, was beginning to return, when another convulsion occurred, apparently limited to the diaphragm, and terminating fatally at twelve o'clock.

The autopsy showed a perforating ulcer of the stomach. The ulcer was on the posterior wall, at the cardiac extremity, close to the greater curvature. In some places there was an entire loss of substance, the floor of the ulcer being made up of only peritoneum. There was thickening of other parts of the stomach, especially on the anterior wall, extending to the lesser curvature.

The cause of the ulcer in this case was likely chronic gastric catarrh. The stomach was thickened in several places; the mucous membrane appeared also to be swollen. The child had, no doubt, been allowed to eat everything that it wished. A gastric catarrh developed, which, becoming chronic, was eventually followed by ulcerations and perforation, with resulting peritonitis, to which must be ascribed the convulsions and death.—*Archives of Pediatrics.*

A CASE OF DIPHTHERIA IN WHICH THE MEMBRANE PERSISTED FOR A LONG TIME, WITH NEPHRITIS AS A CONSEQUENCE.

Hawkins, J. A. (*Medical News*, 1892, lxi., 407), says: The patient was a boy, ten years old, with diphtheria of the tonsils, which, in six days, extended to the naso-pharynx and involved the uvula, soft palate, the mucous membrane of both cheeks; in fact, completely lined the buccal cavities and the under surface of the tongue. This occurred in spite of the internal use of mercuric chloride and tincture of iron, and the local use of mercuric chloride.

The membrane did not entirely disappear until about four weeks from the commencement of the disease, and albumen was present in the urine during the last three weeks of this time. Two weeks after the boy was around he again began vomiting, but no albumen was found in the urine. However, on examination of his urine two weeks later, it was as follows: The quantity was one and a quarter pints in twenty-four hours. It was acid, had a specific gravity of 1.016, and contained albumen. Diuretics were given, but the quantity of urine continued to grow less, and for three days the child passed on an average only six ounces per day. His heart became weaker, and at one time he was expected to die; but the urine began to be excreted more freely, and he steadily improved, although he is still so weak that he cannot bear his own weight on his legs.

This case was the first of seven in one family, all the others of which recovered in from eight days to two weeks, except one girl, four years old, who died on the sixth day from diphtheritic poisoning, the nose being completely filled with membrane.—*Archives of Pediatrics.*

PATHOLOGY

IN CHARGE OF

JOHN CAVEN, B.A., M.D., L.R.C.P. Lond.,

Professor of Pathology, University of Toronto and Ontario Veterinary College; Pathologist to Toronto General Hospital and Home for Incurables.

TUBERCULOUS ULCERS OF THE STOMACH.

Musser (J.H.) has made the following conclusions:

(1) Tuberculous ulceration of the stomach is rare.

(2) It occurs more frequently in children.

(3) It is never primary.

(4) Gastric infection is probably due to the voluntary or involuntary swallowing of sputum.

(5) The presence of the bacillus tuberculosis is the only positive proof of the nature of the ulceration.

(6) The anatomical peculiarities of this form of ulceration include the following:

(*a*) The seat of the ulcer is in the lesser curvature, although it may be found in any position.

(*b*) More than one ulcer is usually seen.

(*c*) The ulcers are large and irregular.

d) Miliary tubercles on the floor of the ulcer in the submucous coat are seen.

(*e*) The ulcers are near vessels, and the results of vascular ulceration are found.

(*f*) Small caseating masses are seen in the ulcer or at a portion of the periphery. Similar collections are found in the territory adjacent to the ulcer, in the submucous coat.

(*g*) The peritoneum is studded with miliary tubercles very often.

(*h*) Neighboring lymphatics are often involved.

(7) In the large majority of cases there were no symptoms during life.

(8) Sudden hemorrhage is a frequent symptom and cause of death; it has been particularly noted in children.

(9) Epigastric pain and vomiting may occur.

(10) The presence of gastric symptoms of this kind, occurring in the course of tuberculosis, is significant of possible ulceration.

(11) In view of the fact that the swallowing of sputum is possibly dangerous, expectoration should be insisted upon in adults, and its method taught to children.—*English Medical Press.*

[In a considerable series of *post-mortem* examinations, I have come across two cases of tubercular ulceration of the stomach; both were girls, and both under 14 years of age. The ulcers, single in one case and multiple in the

other, were in both cases on the lesser curvature, and near the cardiac orifice. The largest ulcer had the diameter of a five-cent piece. In one case there were severe gastric symptoms, in the other none. No hemorrhage occurred. No nodules could be seen beneath the serous coat, as so commonly seen in intestinal tuberculosis.—J.C.]

Congenital Absence of the Peritoneum.

Grimsdale (T.B.) recently exhibited an interesting case of this nature before the Liverpool Medical Society. The patient was a young woman, married about eighteen months, no pregnancy, menses practically normal. From her marriage she had suffered more or less pain in the left iliac region, and a few weeks before coming under observation she fell on the stairs, striking the abdomen. Acute pain was felt at the time, but notwithstanding this she went out with her husband. While out she was suddenly seized with such pain that she had to be taken home and put to bed. A short time after this she was admitted into the Hospital for Women, under Dr. Grimsdale. From the time of her admission there was no pyrexia, nor was there any history of fever, but a cystic swelling as large as a fœtal head was felt in the left iliac region. The patient had also slight exophthalmos and a small goitre. The abdomen was eventually opened, but no trace of peritoneum could be discovered. The intestines were, as far as could be observed, universally adherent, and had to be separated in the direction of the cyst. This was finally reached, and about a pint of clear serous fluid evacuated. One or two smaller collections were also emptied, and all washed out and drained. The patient made an uninterrupted recovery. He believed the case to be one of congenital absence of general peritoneum, similar to some that had been described.—*Epitome of Medicine.*

The Toxicity of Blood Serum from Women Suffering from Puerperal Eclampsia.

Tarnier and Chambrelent (*Annales de Gynécologie*, November, 1892), in a series of six cases of eclampsia, have investigated the toxicity of blood serum. The conclusions reached by them show that the blood serum of such patients is decidedly poisonous, and that its poisonous quality is in inverse ratio with that of the urine of such patients. There was no reason to suppose that the poisonous properties of the blood serum depended at all upon drugs given to these patients. A prognosis as to the gravity of a case of eclampsia may be based upon an investigation into the properties of the blood serum of the patient.—*American Journal of the Medical Sciences.*

Pigmentation in Addison's Disease.

[Raymond: *Arch. de Physiol.*, July, 1892.]

The author takes for the subject of his study a case of melanodermia, occurring in the course of a leukæmic lymphadenosis. All of the symptoms of Addison's disease were present, although there was neither tuberclosis nor any other affection of the adrenals found. Mr. Raymond arrives at the following conclusions:

(1) Abnormal pigmentations result from disordered innervations.

(2) Pigment is carried to epidermal cells by migratory corpuscles which have relations with blood vessels.

(3) Epithelial cells have not the power in themselves of producing pigment, but there are present in the skin cells whose function is to elaborate pigment and carry it to the epidermis.

(4) These cells are in the lower animals immediately governed by the nervous system, and it is legitimate to compare them with those found in men, and to conclude that the latter are also under nerve governance.

(5) Accepting this hypothesis, the pigmentation of "bronze disease" would result from a disturbance in normal pigment formation, caused by irritation of the abdominal sympathetic, which reacts reflexly upon the centre or centres supposed to preside over that process.—*Rev. Internat. de Bibliog. Med.*

Excretion of Bacteria by the Animal Organism.

[Perince and Scagliosi: *Deutsch Med Worchensch.*, Aug. 25, 1892.]

The staphylococcus aureus, bacillus subtilis, bacillus pyocyaneus, and the micrococcus prodigiosus, when injected into an animal, are generally gotten rid of through the bile and urine. Occasionally they make their way out through the mucous membranes of the nose, mouth, trachea, stomach, or vagina, or in the milk, semen, or serous exudates. The excretion of pathogenic bacteria begins from four to six hours after their entrance into the organism, and lasts so long as the animal lives; whilst in the case of non-pathogenic forms, it does not commence till from twenty-four to forty-eight hours after injection. Anthrax bacilli and bacillus pyocyaneus preserve their virulence after being cast out. Both pathogenic and non-pathogenic organs give rise to an hyperæmia of the kidneys, with extravasation of blood into the tubules and degeneration of the living epithelium. Cultures can be made from the different organs of the body before it is possible to demonstrate the microbes in the blood. The authors present the following explanation of this fact: that many of the bacteria are destroyed in the blood after inoculation; those that escape lodge in the different organs, multiply, and keep reinoculating the blood, which finally loses its bactericidal properties and allows their circulation.—*Rev. Internat. de Bibliog. Med.*

Editorials.

OVERCROWDED PROFESSIONS.

There is a general impression that we have too many doctors and lawyers; and the opinion has been rather freely expressed in various quarters that the trend of our public school system is to give the sons of farmers a sort of education which makes them discontented with their surroundings, and drives them to the larger centres. Among those thus influenced a large number go into the professions. The tendency of the age in this and other countries appears to be in the direction of centralization; and many give the public and high schools credit for creating a certain amount of such tendency.

It is, of course, rather an old story that too much education will injure certain classes. Few there are, however, that are likely to publicly advocate measures that will impair our grand public educational system. The majority do not care to go back to the ignorance of the dark ages, notwithstanding all the "bliss" that may be connected with that, sometimes, happy condition.

We are pleased to notice that the Government of Ontario appreciates the evils referred to, and is endeavoring to find a remedy. At the meeting of the Central Farmers' Institute held in Toronto the second week in February, the Minister of Agriculture made the important announcement that an effort will be made in the public schools to so change the character of the teaching that the attention of the pupils will be directed towards "the beauties of rural life, the importance and dignity of labor, and the honor which may come to a man who excels in agricultural pursuits." The Minister gave an outline of his scheme. The following short extracts (*The Toronto Mail*) will show the main features:

"It is proposed to open a summer school at Guelph during the summer holidays, to which the teachers of our rural schools will be invited. Here there will be given a series of forty or fifty lectures on subjects appertaining to agriculture, including chemistry, botany, and geology, not with a view of fitting them in that short time to teach technical agriculture, but to prepare them to give a series of popular talks to the children on plant and animal life, nature of the soil, with special reference to their immediate surroundings, and other kindred subjects which will naturally present themselves in this connection."

* * * * * * *

"This scheme is but a commencement of this work; it may not be ideal, but the expense of it to the country will be so small that it appears to the government to be worth testing. Should the teachers make as good use of it themselves the next few years as they may, I think I can prophesy that within the next ten years you will find that instead of the brightest and best of our young people making haste to the city, they will be turning their attention to those studies connected with agricultural pursuits which will in the end give such an impetus to the prosperity of this country as never before existed."

We hope this scheme will be successful, and that the race of agriculturists will not die. After all, the doctors and lawyers, and even the manufacturers, would have rather a lonely time without the farmers.

THE DEFENCE ASSOCIATION LETTER.

A letter signed by such men as Drs. Sangster, Armour, Hillier, and Coburn, representing, as they do, a strong organization of respectable and influential members of the medical profession in Ontario, certainly deserves and is likely to receive careful consideration. From the information at our disposal we will attempt to give fair, but brief, answers to the questions in the circular.

(1) Do you desire to have the Medical Council reconstructed so as to make the medical profession strictly self-governed? The Medical Council should be reconstructed so as to make a majority of its members the direct representatives of the regular profession.

(2) Do you desire to have the assessment clause of the Ontario Medical Act repealed? Yes—as soon as possible. But the Council should be enabled to fulfil all its obligations. There is probably room for economy in certain directions.

(3) Are you in favor of triennial Council elections? There can be no objection raised excepting that it would add to the expenses of the Council.

(4) Do you approve of controverted elections being subject to judicial decision? Yes.

(5) Do you think the functions of the Medical Council should be limited and more strictly defined? Yes.

(6) Shall the obnoxious medical legislation of 1891 be repealed? It might well be amended as soon as the Council by lapse of time, with the practise of rigid economy, has a better financial basis.

(7) Do you consider that the reckless extravagance of the Council should be restrained? While it will generally be acknowledged that mis-

takes have been made in financial matters, it is doubtful if the majority of the profession are prepared to support the charge of reckless extravagance against the Council.

(8) Do you think that the Medical Council should be required to disembarrass itself by disposing of its real estate? No.

(9) Do you desire to have your name enrolled in the membership of the Medical Defence Association? It is obvious that each practitioner must answer the question for himself.

We regret the tone of the circular. Such expressions as "clandestine methods," "reckless extravagance," "reckless wastefulness," "transgressed the law," "not honest or truthful," "freely using the money of the profession to fortify itself (the Council) in a false position," "fraudulently and by misrepresentation," might well have been deleted, or at least amended.

THE "SCHOOLS" AND THE MEDICAL COUNCIL.

We are at a loss to know why a portion of the general profession should entertain any hostile feelings against the universities and the medical colleges of Ontario. We will take it for granted that the Council, if wise counsels prevail in its deliberations, is likely to assist the general profession, especially by maintaining high standards. Few are likely to deny that at the present time the Ontario standards are sufficiently high to make them "eminently respectable." They are certainly higher than any formerly known in this province, and higher than any now or formerly known on this continent outside of Ontario. Have the "school men" ever combined in attempts to lower the standard in any way, or to prevent it from being raised? Probably the most important vote ever taken in the Council on matters pertaining purely to educational questions was that which decided on the five years' course. An analysis of that vote will show that out of the eight collegiate representatives present, four voted in favor of the five years' course, viz., Britton, Moore, Rosebrugh, Thorburn; and four against, viz., Fenwick, Fowler, Geikie, Harris. This, however, is no exceptional case. In fact, we doubt if any one can name a single instance in which the college members united in opposing any measure brought forward in the interests of the profession. We have no reference to the merits of the vote above mentioned, and we believe that both parties were desirous of working in the interests of the profession.

Under such circumstances, we feel inclined to ask our friends of the "Defence Association" to explain the following sentence: "The experiment of yoking together in one council two elements so essentially antagonistic as the profession and the schools has unquestionably resulted dis-

astrously to the former." Let us come down to particulars. Take, for instance, the University of Toronto. Its senate elected as its representative in the Council—Dr. Britton. Will any one who knows Dr. Britton intimately, or who has followed his course in the Council, seriously assert that he has ever shown the slightest inclination to oppose the interests of the profession? We think not. Apart from Dr. Britton, is the University of Toronto likely at any time to endeavor to choose a representative who will be antagonistic to the profession? No; a thousand times, no!

To try another "school man," we might take Dr. Thorburn. Did he ever act as an enemy to the profession? We think not. Indeed, he has shown himself to be a friend, a faithful worker in the interests of the profession and higher medical education. It is unnecessary to go further. The majority (at least) of the remaining collegiate representatives have, as a general rule, followed the lines of Drs. Britton and Thorburn. Under the circumstances, we think we are justified in saying that the profession and the schools are not "essentially antagonistic."

MERITORIOUS WORK.

The work of Drs. J. E. Graham and A. B. Macallum, of the Toronto University Medical Faculty, upon the question of Molluscum Contagiosum, particularly its etiology, has been received with great favor by the profession at large, judging by the favorable criticisms that have appeared upon their article published first in the *Journal of Genito-Urinary Diseases*, and since then widely quoted and reproduced. The great probability of the theory they advance as to the cause of the disease leads one to hope that some day the etiology of carcinoma, and even sarcoma, may be definitely settled. An abstract of their paper, recently printed in the Manchester *Medical Chronicle*, after speaking highly of the conservatism and "safeness" of the view advanced by Dr. Graham, proceeds to mention at much greater length the microscopic investigations of Dr. Macallum, and after giving him much credit for the skill of his technique in preparing his specimens, agrees in the main with his conclusions, finishing a generally favorable abstract of his paper with the regret that Dr. Macallum "had not shown more familiarity with the literature of the subject" by seeing certain German papers upon the same subject before publishing his own. This was written evidently in ignorance of the fact that these German investigations were not published until after Drs. Graham and Macallum had written their paper. One of our Canadian journals has recently printed an alleged abstract of the abstract appearing in the Manchester *Medical Chronicle*, which, inadvertently of course, rather fails to do justice to the original and highly meritorious work of our Toronto professors.

Meetings of Medical Societies.

TORONTO MEDICAL SOCIETY.

Extract from the proceedings of meeting held on Jan. 12th, 1893.

The President, Dr. N. A. Powell, in the chair.

Dr. Adam Wright read a paper, "The preventive treatment of puerperal mastitis." (See page 97 in this issue.)

Dr. Machell said that as to prophylaxis he has his patients wash the nipples every morning with soap and water, after which some such application as cocoa butter, or it combined with lanolin, is used for a month or two before the expected confinement. Virginiak Davis, of ————, recommends highly the use of the following: Tinct. benzoin co., mxv.; olive oil, ℥ii.; with lanolin, ℥ii. With these precautions, and the use of the binder, one is not likely to have mastitis. Should it occur, there are three periods at which it is most likely to happen: (1) From three to twelve days after labor. (2) At the cutting of the first teeth. (3) At the time of weaning. When it does occur, however, he resorts to pressure by means of an ordinary "over-waist," under which a towel may be placed on each side just behind the base of the breast. If need be, an ice bag may be used as well, and will be found comforting. Free doses of Epsom salts should be given, so as to produce two or three motions daily.

Dr. A. Primrose: Dr. Primrose spoke concerning the operative treatment of mammary abscess. There are certain anatomical peculiarities to be recognized in operating for the relief of suppuration in the breast. The breast lies in the superficial fascia, which is condensed into a membranous layer which forms a complete capsule for the gland, investing it in front and behind. A layer of lax areolar tissue lies behind it, separating it from the deep fascia over the great pectoral muscle. We have to deal with a compound racemose gland of fifteen to twenty-four lobes arranged in series, their longitudinal axes having a similar direction to that of their ducts, which run in a radial direction towards the nipple; the ducts opening by separate apertures on the apex of the nipple.

Operative treatment is modified according to the site of the pus collection, which may be (1) in the subcutaneous tissue superficial to the true gland structure; (2) in the submammary tissue; (3) in the gland proper.

When the pus has collected in the last-named locality (*parenchymatous variety* of abscess), the indications are to open freely and to drain thor-

oughly. The administration of an anæsthetic is necessary. The incision must be made in the direction of the ducts, *i.e.*, radiating from the nipple. If the abscess lies deeply and is reached by a moderately deep incision, Hilton's method may be employed with advantage; this precaution is necessary because severe or even profuse hemorrhage may result from extensive incisions in the breast tissue, and our patients, who are often profoundly anæmic, cannot bear the loss of a large quantity of blood. The finger is now introduced and the cavity thoroughly explored. In all probability, one will find connective tissue bands subdividing the abscess cavity; these must be broken down with the finger, so that every corner of the cavity is opened freely.

The breast is now gently squeezed so as to evacuate pus, and then the cavity is thoroughly irrigated with plain boiled water. Having thus cleansed the cavity of pus, perchloride of mercury, 1-3000, is substituted for the plain water, and with this the cavity is flushed out. A drainage tube is now introduced, and an antiseptic dressing of good absorbent property is applied. The dressing must be ample, and secured by a firm (figure of 8) bandage. The pressure should be considerable, and is measured by the amount which the patient is able to bear without interfering too much with respiratory movements. If the abscess be a large one, a counter opening may be necessary to secure free drainage. The after treatment is simple. Dressing is usually necessary daily for the first few days, and at each dressing irrigation is carried on, first, with plain boiled water, and subsequently a little 1-3000 perchloride of mercury is thrown in. Pressure is maintained, the drainage tube is sharpened from time to time, and under favorable circumstances we would expect complete healing in a week or ten days. The object of using boiled water prior to the use of the perchloride of mercury lotion is this: the mercurial lotion causes coagulation of albumen, and the discharge at once becomes thick and does not flow readily. In fact, it is impossible to cleanse the cavity by irrigation with the mercurial lotion alone. After flushing out the pus with plain boiled water, however, the mercurial lotion may then be used for the purpose of acting upon any infected material which may remain behind. It will do no harm at this stage, and is undoubtedly beneficial.

The submammary abscess presents greater difficulties in treatment. The lax areolar tissue here forms a suitable nidus for the spread of pus, which may form a large collection beneath the gland. It is comparable to the lax tissue which exists beneath the occipito-frontalis aponeurosis of the scalp, which is termed the dangerous region of the scalp, in which abscesses are prone to burrow so extensively. The submammary tissue may fairly be termed the dangerous region of the breast, for here abscesses form and spread extensively, and we recognize the danger which exists, in such cases of

long-continued suppuration, and of the patient suffering from general pyæmia. Early surgical interference should be insisted upon, establishing a free opening or openings, and most thorough drainage. The opening for drainage should be at the lower and outer margin of the breast. Hilton's method is useful in most cases. Complete irrigation of the cavity in the manner advocated for parenchymatous abscess should be employed. In most cases a counter opening is necessary.

In long-standing cases, the old sinuses must be freely opened and scraped, preferably with the finger nail. The walls may then be washed with a piece of sponge soaked in a solution of chloride of zinc (grs. 40 to ℥i.), and subsequently a dressing with pressure applied. The arm must be secured at rest.

Subcutaneous abscess. Such abscesses, if properly dressed, will give little or no trouble. On their early recognition depends a great deal. The injection of a little cocaine is sufficient, in most cases, to allay the pain of operation. A free incision is then made and the pus evacuated. A small drainage tube is now inserted. The subsequent progress of the case will be favorable if a little care be taken in the management. The amount of discharge is small, and it comes away slowly; the pus is apt to dry and become encrusted upon the under surface of the dressing. Over the mouth of the drainage tube the cavity, under such circumstances, will not drain efficiently. The result will be that the abscess persists, or may even spread and implicate deeper structures. A very simple method of preventing this is to apply a wet antiseptic dressing which will be kept permanently moist. This is accomplished by taking a piece of boracic lint, say, one inch square, and after immersion in boracic lotion applying it soaking wet over the wound; this is covered by a piece of gutta-percha tissue two inches square, the tissue overlapping the lint on all sides. Such a dressing will keep moist for an unlimited period. Absorbent wool may be applied outside this, and secured by an adhesive plaster of collodion; the amount of dressing depending upon the size of the abscess. An abscess treated in this way will close up rapidly. Dr. Primrose had treated such a case without removing the child from the sound breast, and succeeded in getting the abscess to close in the course of a few days, after which milk secretion was re-established in the breast which had been the seat of suppuration. Subsequently the child sucked from both breasts without further trouble. The wet dressing advocated has all the advantages of the old-fashioned poultice, without the disadvantages. A surgeon never thinks at the present day of applying a poultice to an open wound. It is looked upon as a filthy practice, which is to be condemned outright; and in the practice there exists great danger of infecting a wound which may be comparatively sweet, and thus postponing the healing of the abscess. A poultice supplies

the most favorable conditions for the growth and development of septic organisms, namely, heat, moisture, and a suitable soil. Of course it may be possible to prepare an aseptic poultice, but this dressing readily becomes foul, and is no more efficacious than the simple boracic dressing I have recommended. One is constantly seeing the ill effects of a dry dressing applied over a small septic wound. On examining such a case, one is often misled before removing the dressings; everything seems dry and apparently the wound is healed; but on removing the piece of lint or gauze, a dried portion of discharge is found blocking the mouth of the abscess, and in which green discharges of pus wells up as the scab is disturbed. If in such a case the wet boracic lint under gutta percha is substituted for the dry dressing, you will find a very different state of matters at the subsequent dressing. The discharge will now be found to have saturated the dressing, and is no longer pent up in the wound, and rapid closure and healing will result. This simple dressing for all small abscess cavities is to be strongly advocated.

Dr. Britton said that whatever other causes assist in the production of mastitis, if puerperal fever is present in the neighborhood, cases of mastitis are prevalent also; and such cases occurring within the first three or four days after labor are worse than those occurring later. He has found the iodide of potash useful as a prophylactic in diminishing the secretion of milk.

Dr. Wm. Oldright said that a frequent cause of sore nipples was the pressure backward against the breast. He thinks a nipple shield will prevent this. There is, he thinks, another reason why the pressure binder is of use; *e.g.*, that it puts the breast in a position of elevation. He thinks the "cold coil" preferable to the ice bag, for then the temperature of the application can be regulated. With reference to the Epsom salts, his experience is that their use gives rise to disagreeable symptoms in the infant.

Dr. A. A. Macdonald said that when the nipples had been pressed back, the pregnant woman should be taught to pull them out. He is in favor of "tanning," and with that end in view he uses a preparation of tannate of glycerine, borate of glycerine, and rose water, in equal parts, to the nipples daily. As to the nipple shield, he thinks the kind to use varies with the patient; but it is important to have a properly fitting one. When the nipples have become cracked, whatever else is used, he has found cocaine a useful adjunct. He has used aristol of late.

Dr. W. J. Greig thought that in treating nipples the object is to harden, and yet to avoid the tendency to crack. He has the nipples cleansed with a warm saturated solution of boracic acid, and then tint. benzoin co. is applied.

Dr. Britton desired to warn the members against the use of cocaine, and related a case where he had used it in a painful fissure. He was soon

after called to see the child, whose respirations were down to four per minute, with other symptoms of collapse. It, however, recovered.

The President, Dr. N. A. Powell, thought the application of equal parts of lanolin and vaseline, with oil of cinnamon (it has been shown to be an antiseptic in proportion of 1-2000), very useful as a preventive.

Dr. J. Spence asked if a child should be permitted to nurse from a breast in which there is an abscess.

Dr. A. B. Atherton doubted if preparatory treatment does any good. As to prophylaxis against abscess, he thought well of belladonna plaster, which, if used within 24 to 48 hours after caking commences, will prevent it. After it has been necessary to resort to surgical measure, he has found a large wet sponge the best means of keeping up compression.

Dr. Wright, in reply, said that a child should not nurse where there is a glandular abscess. He thought the free use of Epsom salts of importance, though sometimes it is unnecessary to continue their use more than a day or two; he has never found them harmful to the infant. As to nipple shields, though he has no particular favorite, he thinks it very essential that they should be proper-fitting.

The meeting then adjourned.

Medical Items.

DR. JOHN ROSS, of Embro, has been appointed an associate coroner for the county of Oxford.

DR. WORTHINGTON, of Clinton, died February 7th. An obituary notice will appear in our next issue.

DR. A. WILLS, of Belleville, has been appointed medical officer of the Northwest Mounted Police.

THE NEW YORK ACADEMY OF MEDICINE.—At the annual meeting held January 5th, Dr. D. B. St. John Roosa was elected president.

DR. WILLIAM CANNIFF has returned to Toronto, after having spent about eight months in Texas, where he went to recuperate on account of poor health. His friends will be glad to learn that he has quite recovered, and shows by his appearance that he has regained the vigor that used to characterize him in years gone by. He has resumed practice in Toronto, and will confine himself chiefly to office and consultation work. He will also devote special attention to sanitary matters.

THE French Society of Electropathy is about to manage a yearly exhibition, which will take place on Friday and Saturday of Easter week in 1893.

This exhibition will be held in the "Laboratoire de physique de la Faculté de Médecine" in Paris, and will include the instruments employed in electropathy, as well as demonstrations concerning electric methods, drawings, etc.

A NOTE ON CHLOROFORM.—Having gained confidence in chloroform, through an experimental method aiming at minimum dosage, and having as the chief factor of safety exclusive attention to the respiratory movements and rhythmical breathing, I have come to trust it under all circumstances where the unconscious state is compatible with life. The anæsthesia can be produced and maintained for one or two hours with from one drachm to three drachms of chloroform. The chest is bared, and the assistant is required to note the breathing and pay no attention to the pulse. The secret of the method is rhythmical breathing, uniform density of the chloroform vapor with the minimum quantity. This can be accomplished by covering the face with a handkerchief, pulling up a fold at the centre for an air space for the chloroform vapor, and dropping two to five drops a minute, one at a time, with the quantity regulated according to the breathing. Probably benefit might be secured in every case by breathing exercises as a part of the preparation treatment.—*Charles S. Morley, M.D., in New York Medical Journal.*

A DANGER TO SURGEONS.—An interesting observation made by Prof. Albert on himself emphasizes the importance of caution on the surgeon's part in the use of poisonous antiseptics, especially corrosive sublimate solutions. At a recent meeting of the Vienna Medical Society, the professor stated that for some time he had suffered from dyspepsia, for which no cause could be assigned by the physicians he had consulted. Lately the condition had become very troublesome, and the thought had occurred to him that the constant and free use of corrosive sublimate in his operations might have some share in the causation of the dyspepsia, by reason of the absorption of small amounts of this drug. Accordingly he had his urine examined by Prof. Ludwig, the entire quantity passed during twenty-four hours being tested. The examination revealed the presence of iodide of mercury in quantities comparatively large, if the manner of absorption of the substance be considered. While Prof. Albert is not positive that his dyspepsia is due to chronic mercurial poisoning, he thinks that the facts that his finger nails have lately become softer and that he has lost three healthy teeth seem to point in this direction.—*International Journal of Surgery.*

THE distinguished Semmelweiss, who taught German obstetric students—and, to a large extent, the obstetric world—the importance of clean hands, received only scant appreciation while he lived. After graduating in 1844, and suffering certain disappointments, he was appointed assistant in the Woman's Clinic in the Vienna General Hospital in 1846. He issued his celebrated stringent rules to the students in 1847, the result being a sudden and decided reduction in the mortality rates. He was not reappointed when his term expired in 1849 (he was practically dismissed), and was to some extent persecuted for political reasons. He then went to Pesth, where he was appointed

to the chair of midwifery at the university. His health was impaired for years, and he finally became insane, and died in Vienna in 1865. A movement is on foot to do honor to his memory by establishing an international memorial to him. A strong organization of British physicians and surgeons is co-operating with the committee in Germany which has charge of the undertaking.

THE PAN-AMERICAN MEDICAL CONGRESS.—Meeting, Washington, September 5th, 6th, 7th, and 8th, 1893. Every effort is being made to make the meetings of the section on diseases of the mind and nervous system, under the presidency of Dr. C. H. Hughes, of St. Louis, Mo., both scientifically profitable and socially pleasant. Papers of distinguished merit from neurological students and physicians eminent in phychiatry have been promised. Every physician on this continent of America, North or South, is hereby cordially solicited and welcomed to join in the meetings of this important section of the approaching Pan-American Medical Congress, and it is hoped by unity of effort and cordial co-operation to make the section of the nervous and mental diseases second to none in the congress in fruitful results to the Pan-American psychiatry.

AT the second annual meeting of the American Electro-Therapeutic Association, the following officers were elected for the ensuing year: President, Dr. Augustin H. Goelet, 531 West 57th Street, New York; first vice-president, Dr. William F. Hutchinson, Providence, R.I.; second vice-president, Dr. W. J. Herdman, Ann Arbor, Mich.; secretary, Dr. Margaret A. Cleaves, 58 Madison Avenue, New York; treasurer, R. J. Nunn, 119 York Street, Savannah, Ga. The third annual meeting will be held in Chicago on September 12th, 13th, and 14th, 1893. A cordial invitation is extended to all members of the profession interested in electro-therapeutics. Arrangements for special rates on railways and at hotels are in progress.

"APOPLEXY OF THE PANCREAS" ATTRIBUTED TO SEA-SICKNESS.—Dr. Hade describes a case of so-called apoplexy of the pancreas occurring in a female in consequence apparently of prolonged and violent sea-sickness. The symptoms were analogous to those of peritonitis—there were severe pains on the right side of the abdomen, and considerable distension, with flatus. The patient died three days after being first seen. The kidneys were found to be granular, and there was a large mass of extravasated blood, originating in the pancreatic artery, spreading over the whole of the pancreas and forcing its way to the two kidneys, which were enveloped in blood clot.—*London Lancet.*

A GENEROUS GIFT IN THE INTERESTS OF MEDICINE TO LAVAL UNIVERSITY.—The Sulpicians have donated to Laval University a large piece of ground on St. Denis street, valued at $30,000, and, besides, $74,000 in cash, the whole to be at the disposal of the medical faculty of the university. Montreal is to have another big medical school. Work is to be commenced immediately, so as to get the buildings in running order as soon as possible.—*L'Union Méd. du Canada.*