

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for scanning. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of scanning are checked below.

L'Institut a numérisé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de numérisation sont indiqués ci-dessous.

- Coloured covers /
Couverture de couleur
- Covers damaged /
Couverture endommagée
- Covers restored and/or laminated /
Couverture restaurée et/ou pelliculée
- Cover title missing /
Le titre de couverture manque
- Coloured maps /
Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black) /
Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations /
Planches et/ou illustrations en couleur
- Bound with other material /
Relié avec d'autres documents
- Only edition available /
Seule édition disponible
- Tight binding may cause shadows or distortion
along interior margin / La reliure serrée peut
causer de l'ombre ou de la distorsion le long de la
marge intérieure.
- Additional comments /
Commentaires supplémentaires:

Continuous pagination.

- Coloured pages / Pages de couleur
- Pages damaged / Pages endommagées
- Pages restored and/or laminated /
Pages restaurées et/ou pelliculées
- Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées
- Pages detached / Pages détachées
- Showthrough / Transparence
- Quality of print varies /
Qualité inégale de l'impression
- Includes supplementary materials /
Comprend du matériel supplémentaire
- Blank leaves added during restorations may
appear within the text. Whenever possible, these
have been omitted from scanning / Il se peut que
certaines pages blanches ajoutées lors d'une
restauration apparaissent dans le texte, mais,
lorsque cela était possible, ces pages n'ont pas
été numérisées.

CANADA

MEDICAL & SURGICAL JOURNAL

MARCH, 1887.

Original Communications.

DUODENAL ULCER.

CLINICAL AND ANATOMICAL CONSIDERATIONS BASED ON NINE CASES.

BY WILLIAM OSLER, M.D.,
Professor of Clinical Medicine in the University of Pennsylvania.

(Read before the Philadelphia County Medical Society.)

The solitary ulcer occurs more frequently in the duodenum than in any other portion of the intestine, and in its ætiology and morbid anatomy is almost identical with the gastric ulcer. It is rarely met with below the bile papilla, at which point the acid chyme is neutralized. Blood stasis in a circumscribed area of the mucous membrane is the condition which permits of erosion by the gastric juice. Although the cases are few in number in which actual disease of a vessel has been discovered, they confirm in a striking manner this view. Thus Merkel* found an embolus in a duodenal vessel at the base of an ulcer, and there were emboli in other organs; similar cases have been reported of plugging of the arteries at the base of ulcers of the stomach. Thrombosis is also a cause, leading first to hemorrhagic infiltration and inducing a condition which permits of erosion. The experimental production of gastric ulcer by Cohnheim and others lend additional support to the embolic view. The following case suggests that in the duodenum there is possibly another mode in which ulcers may arise :—

* Wiener Med. Presse, 1866.

CASE I.—*Phthisis ; small ulcers in ileum ; ulcers in cæcum and colon ; an ulcer in duodenum half an inch outside pyloric ring ; cyst of Brunner's gland.*

J. I., middle-aged man, died of phthisis in Montreal General Hospital. No special symptoms. The lungs showed cavities ; the heart valves were normal. There were a few small ulcers in the lower patches of Peyer, and a number of small ulcers in cæcum and colon. Just outside the pyloric ring there was a loss of substance in the posterior wall of the duodenum 1.5 cm. in diameter. The base was smooth, the edges overlapped so that the actual diameter of the ulcer was much greater than was apparent. Not far from this there was a small dark spot, with a little depression leading into a definite cyst-like cavity in the submucosa the size of a large pea, which contained a thick turbid fluid. Brunner's glands were very distinct, but not more so than is often seen when the mucosa is thin, and not deeply congested.

The open ulcer with undermined edges had possibly resulted from the rupture of a cyst of a Brunner's gland similar to the one which existed in its vicinity. One can readily understand that under such circumstances the thin mucosa covering the cyst, undermined and separated from its blood supply, might be eroded, or, after bursting, the acid gastric juice might dissolve the thin edges. In debilitated persons, or in conditions of portal congestion, such a small erosion might not readily heal, but rather increase, and be the starting point of an ulcer. Brunner's glands are not often found diseased, but they belong to the racemose variety in which cystic dilatation of acini is not uncommon. They exist most abundantly on the first portion of the duodenum, the region most prone to the disease.

Duodenal ulcer is not so frequent as the ventricular. I am sure, from my own experience, that it would be oftener found if the stomach and duodenum were opened together, *in situ*, and the mucous membrane examined. If, as is so commonly done, the stomach is cut away just beyond the pyloric ring, the chances are that, if an ulcer is present, the incision passes through it. I have found nine cases in about one thousand dissections.

Males are more subject to ulcer of the duodenum than females.

Thus the combined statistics of Krauss,* Chvostek,† Lebert‡ and Trier (quoted by Chvostek) give 171 cases in males and 39 females. Of the nine cases which I have noted, seven were males and two females. It occurs most frequently in middle age. One of my cases was in a child of twelve.

There are no constitutional peculiarities which predispose to duodenal ulcer. Chlorosis, which seems to favor the production of the gastric ulcer, has no special influence.

In the following case the ulcer may have been tuberculous, as there was extensive affection of ileum and cæcum:—

CASE II.—*Phthisis; extensive ulceration of ileum, cæcum and colon; single ulcer in duodenum; slight jaundice.*

E. G., aged 23, died in the Montreal General Hospital with the usual symptoms of chronic phthisis. There were diarrhoea and abdominal tenderness, but no special features indicating ulceration in the upper part of the intestine. The autopsy showed cavities in both lungs. Extensive tuberculous ulceration of ileum, cæcum and colon, with recent peritonitis due to extension from the bases of the ulcers. In the anterior wall of first part of duodenum was a circular ulcer, a third of an inch in diameter, with clean cut edges and smooth base. It looked of recent origin. It did not involve the bile duct. There was congestion of the mucous membrane of the duodenum. There were no tubercles in the vicinity and no ulcers in the upper part of jejunum.

The ulcers in intestinal tuberculosis sometimes reach very high, and in a recent case at the Philadelphia Hospital there was an ulcer the size of a ten-cent piece at the upper end of the jejunum, not two inches from the duodenum. In *Case II*, although there were no signs of tubercle in the base of the ulcer, it may have been of this nature. In Krauss' 64 cases, there were seven instances of ulcer in connection with phthisis.

Chronic valvulitis and atheroma of the aorta were present in only one of the nine cases.

* Das Perfor. Geschwur im Duodenum, Berlin, 1865.

† Medizinische Jahrbucher, Wien. 1833.

‡ Die Krankheiten des Magens, 1878.

I have not met with a duodenal ulcer in death from extensive burns.

In all of the cases the ulcer was solitary, and occupied the first or horizontal part of the gut. The form was round in all, and the diameter ranged from half an inch to an inch and a half. The base was either the submucosa, the head of the pancreas, or thickened connective tissues. In *Cases III* and *IV* the ulcer had cicatrized. The edges were usually rounded and not undermined. Perforation into the peritoneum, which occurs so frequently, was not met with. Perforation of a duodenal artery occurred twice with fatal hemorrhage.

Two of the cases illustrate healing of the ulcer, one with and the other without alteration in the lumen of the tube.

CASE III.—Typhoid fever; illness of fourteen days; perforation; peritonitis; cicatrix of ulcer in duodenum.

A. B., aged 40, night-porter at Montreal General Hospital, had been ill for two weeks with typhoid fever, when perforation took place, and death followed in eighteen hours from acute peritonitis. The post-mortem showed extensive typhoid lesions and a perforated ulcer one foot from the ileo-cæcal valve. In the first portion of the duodenum, an inch from the pylorus, on the anterior wall, was a stellate cicatrix about three-quarters of an inch in diameter. There was slight puckering in the vicinity, but no narrowing of the gut. The heart and valves were normal. A few patches of atheroma on the aorta.

This illustrates the most favorable termination of an ulcer. Such cicatrices, according to some authors, are not uncommon. They have been so in my experience.

CASE IV.—Phthisis; healed ulcer of duodenum, with stenosis of first portion; dilatation and hypertrophy of stomach.

S. F., aged 35, had been in medical wards Philadelphia Hospital for six months with symptoms of advanced phthisis. He had on several occasions complained of gastric pain, and at times vomiting was a troublesome symptom; but attention was not specially directed to the abdomen.

Post-mortem.—Extensive pulmonary tuberculosis. Stomach moderately dilated; mucous membrane thick; muscular walls at least twice the normal diameter. Pyloric ring of normal size, a little firmer and thicker than usual. Duodenum, for three-fourths of an inch beyond the ring, normal and had a circumference of two and a half inches. Beyond this, at a distance of about one inch from the ring, there was a stricture admitting the top of the little finger. When slit open, it extended one and three-fourths inches, and measured one inch in circumference. The narrow portion reached nearly to the bile papilla. There was not much thickening of the coats at this part, indeed in places it was very thin, and the texture of the pancreas could be seen through the thin wall. Towards the stomach there was puckering and greyish-white cicatricial tissue. The ulcer appeared to have completely healed except at one small spot. There was pigmentation of the tissues of this portion of the bowel; not much thickening of the contiguous parts attached to the stenosed portion. There had evidently been an extensive ulcer, which had healed and produced stenosis just as happens not infrequently in gastric ulcer when near the pylorus.

Cases are reported in which the ulcer has perforated the liver or eroded the portal vein or the hepatic artery. The following case, in which I performed the autopsy for Dr. Rodger, is remarkable, inasmuch as the ulcer perforated the gall-bladder, eroded the tissues in the hilus, and ultimately divided the right branch of the hepatic artery, from which the patient bled to death. There are four other instances in literature in which this occurred, and in the first published case of duodenal ulcer by Broussais (quoted by Chvostek) the hepatic artery was eroded:—

CASE V.—*Jaundice for more than three months; repeated hæmorrhages from stomach and bowels; large ulcer of duodenum; perforation of gall-bladder; erosion of right branch of hepatic artery.*

Mrs. R. S., aged 48 years, a stout, well-nourished person. The following notes have been furnished by Dr. Rodger, under whose care the patient was:

“ She had been married upwards of twenty-four years, but never had been pregnant; menstruation had been regular, but had ceased about three years ago.

“ The only illness of consequence that she ever had was about fifteen years ago, when she was laid up in bed for about six weeks, with what was called an attack of inflammation of the liver. No jaundice was perceptible at that time. Ever since, however, she has been troubled with dyspepsia, obstinate constipation, and more or less pain or feeling of discomfort in the region of the stomach. Her condition to-day (March 18th, 1879) is that of a person suffering from a well-marked attack of jaundice; skin and conjunctivæ deeply tinged; urine dark, and stools pipe-clay in color; tongue coated; loss of appetite; no increase of temperature. She states that she has not felt well all winter, but was always able to attend to her household duties.

“ Patient came to my office for about four weeks, at the end of which time the symptoms had not improved.

“ On April 24th, visited the patient at her house. Examination revealed no enlargement of the liver, and only slight tenderness on firm pressure over the organ. Heart and lungs healthy.

“ Has noticed considerable blood at stool during the past few days, and fæces still pipe-clay in color. No hæmorrhoids. Dr. G. W. Campbell saw the case in consultation, and gave a very unfavorable prognosis, though the exact nature of the disease was doubtful.

“ All treatment adopted proved of no avail; the patient rapidly became emaciated, and continued deeply jaundiced. Several severe attacks of epistaxis have occurred lately, and to-day (May 30th) has passed more blood than usual by stool.

“ At 3 p.m., May 31st, commenced vomiting blood, and continued to do so frequently all afternoon, in spite of treatment. The hemorrhage from stomach and bowels became excessive, and death followed in a few minutes.”

Autopsy.—Body that of a well-nourished, moderately stout woman. In abdomen, coils of intestines dark-colored from staining of mucosa; peritoneal layer smooth. Liver dark-colored; the ascending colon, the stomach and duodenum are closely ad-

herent to the under surface of its anterior margin. Stomach duodenum, pancreas and liver removed together. Stomach dilated and contains dark-colored clots and remnants of food; mucosa dark and blood-stained, otherwise unaltered. Pylorus normal. Immediately outside its well-marked ring, in the upper and back part of the duodenum, is a large orifice 3.5 cm. in length and 1.5 cm. in breadth. It is partially blocked with clots, on the removal of which an oblong cavity is disclosed, occupying the under surface of the liver, in the position of the gall-bladder. The edges of the orifice are smooth and round, and the two fingers can be inserted into the cavity as far as the second joint. A good deal of thickening exists about the duodenum, where it is attached to the gall-bladder. Mucous membrane is not, however, puckered, and in the rest of its extent is normal. The following is the condition of the tissues in the hepatico-duodenal ligament: Portal vein uninvolved, normal in size. Common bile duct pervious, and can be traced down to the upper margin of the ulcer, where it appears to open; at least the probe-pointed scissors cut down freely and exposed the orifice at this situation, and it could not be further traced. It has probably been cut across by the ulcer. Walls are thickened. Branches in the liver normal. The cystic duct joins it by a small orifice, into which the probe can pass for 1.2 cm., and then meets with an obstruction on the wall of the sac. The hepatic artery, when slit up, is natural-looking; on following the branches, a probe inserted into the main division of the right branch, which passes backwards and outwards, enters the upper end of the gall-bladder, and on slitting it open the wall is seen to be ulcerated through in a space 3 by 2 m., and the vessel communicates freely with the sac. The gall-bladder was then exposed, and is found in a condition of ulceration. Only towards the upper part is there any trace of mucous membrane; in the rest of its extent the wall is rough, ulcerated, and, in places, sloughing. There is a deep prolongation towards the hilus of the liver, the tissue of which at this part is exposed and sloughing. It is here where the ulceration of the artery has taken place. The ascending colon, close to the flexure, is adherent to

the gall-bladder, and between the two there exists a circular orifice of communication, 7 m. in diameter, with rounded edges.

Death not uncommonly takes place by gradual exhaustion, consequent upon repeated vomiting.

CASE VI.—*Symptoms of gastric ulcer for many months ; progressive emaciation ; large irregular ulcer just outside pyloric ring.*

W. W., aged 72, patient of Dr. Wilkins. Well-marked symptoms of ulcer, supposed to be gastric. Death took place slowly, after many months illness.

Autopsy.—Body much emaciated. In abdomen, peritoneum dull and lustreless ; two pints of turbid fluid, mixed with lymph, removed. Stomach appears dilated. Œsophagus presents in its terminal part an oval area, 3·5 by 1·2 cm., from which the mucous membrane has been completely removed by the action of the gastric juice. In the centre a thin external layer alone remains. Stomach moderately dilated, and contains a dirty-looking, highly acid fluid. Mucous membrane pale ; that of the fundus thin, owing to post-mortem solution. At the pyloric end it is thick, and present numerous mammillations. The pylorus is greatly narrowed, admitting only the top of the little finger as far as the root of the nail. On slitting open the ring and the duodenum, the following condition is observed : Pylorus not thickened ; ring prominent, but not more so than is often seen. Immediately external to it is an irregular ulcer extending round the greater part of the circumference of the gut, and presenting an imperfect division into two portions, the larger of which occupies the lower part of the tube, resting upon the pancreas, the other being placed above and to the right. The extreme length of the ulcer is 3·7 cm., the breadth ranges from 6 to 13 m. The edges are round and somewhat undermined. The base is formed of firm fibrous tissue of a greyish-white color. Close to the lower edge there is seen, on the floor, a small nodular body, looking like the end of a closed artery. The mucous membrane of the duodenum near the ulcer is greatly puckered, particularly the upper part. The bile papilla is about 5 cm. below the ulcer.

Nothing of special note in the other organs beyond the atrophy of extreme emaciation.

The symptoms of duodenal ulcer are extremely variable and rarely distinctive enough to make the diagnosis more than probable. In very many cases the process is latent, and the first symptom may be hemorrhage or peritonitis from perforation. In others the ulcer is accidentally found post-mortem, and has had no apparent influence in the course of the disease from which the individual has died, as in the following instance :—

CASE VII. — *Spinal curvature; bronchitis, pulmonary collapse; ulcer in first portion of duodenum; no symptoms.*

M. G., a boy aged 12, admitted to the Montreal General Hospital in March, 1877, with bronchitis. He had great deformity of the spine, with contraction (vertical) of the thorax. He became very cyanotic, and died in about a week. There was intense bronchitis, with splenization of lower lobes of the lungs. The right ventricle was large and the walls thick. The valves on both sides were normal. The mucous membrane of stomach and intestines was congested; in the jejunum the edges of the valvulæ conniventes were in places ecchymosed. In the first part of duodenum, one and a half inches from the pylorus, there was a punched out ulcer in the posterior wall, about 1·5 centimetres in diameter. The edges were well defined, the base made up of the muscular layer, and there was no special thickening in the neighborhood.

In essential details the symptoms of the duodenal are identical with those of the gastric ulcer. There are, however, certain peculiarities. Dyspepsia is not so constant a feature in duodenal ulcer, and may not amount to more than a slight feeling of uneasiness some time after eating. In Chvostek's list of cases collected since 1865, there were 44 in which this symptom was specially referred to, and of the entire number only 16 had loss of appetite and uneasiness after eating.

Vomiting is a variable symptom, and was only present in one-fourth of Chvostek's list of cases. Usually it occurs at the end of attacks of severe pain.

Hemorrhage is a common symptom, occurring in a third of the cases, and the blood may be either vomited or passed in the stools, or appear in both.

CASE VIII.—*Gastric symptoms for seven or eight years; attacks of severe gastralgia; prolonged periods of freedom: hemorrhage from stomach and bowels.*

M. I., aged 40, patient of Dr. F. W. Campbell. This case was remarkable for the long duration of the symptoms, the severe gastralgic attacks, and the remarkable periods of freedom from troublesome symptoms. He had on several occasions hemorrhage from the bowels without hæmatemesis, and this feature of the case led Dr. F. W. Campbell and Dr. R. P. Howard to suspect that the condition was one of duodenal, not gastric, ulcer.

Autopsy.—Moderate emaciation. In abdomen, stomach appears a little dilated; lower coils of small intestine dark-colored. Nothing special in thorax. Stomach somewhat dilated; walls of moderate thickness. Mucous membrane pale; at the cardiac end, thin. Pyloric orifice is narrowed, admitting the little finger to the second joint. When slit open, there is no special thickening; but the mucosa is puckered, and presents an elevated ridge. Duodenum: Part immediately outside the ring much narrower than adjacent regions, measuring only 3·7 cm. About 10 m. from the pylorus there is an oval ulcer 2·5 by 1·8 cm., extending in direction of axis of gut, and occupying chiefly the posterior section of the tube. It is deep, with rounded edges, which, toward the upper and back part, are undermined for about 6 m. In places the floor of the ulcer is quite 6 or 7 m. below the level of the mucosa, and presents a tolerably smooth, fibrous appearance. The head of the pancreas forms the base of the lower three-fourths, the upper part is protected only by the thin muscular walls of the first piece of the duodenum, the peritoneal surface of which, at the site of the ulcer, is puckered and cicatricial. Immediately in the centre of the floor is a small, dark, blood-stained elevation, consisting chiefly of fibrin. On injecting water through the hepatic artery, small clots are washed out at this point, and the water flows freely into the ulcer through an

opening in the gastro-epiploica dextra, 2 m. across, and with smooth edges. The papilla of the bile duct is 6 cm. below the ulcer. Nothing else of note in intestines.

CASE IX.—*Severe gastralgic attacks for six months; slight dyspeptic symptoms; hemorrhage from stomach and bowels.*

J. G., aged 45, seen with Dr. Whiteside June 13th, 1885. Patient was a large, stout man, who had been strong and healthy. He had taken alcohol freely, and of late has had business worries. No history of syphilis. He had suffered at times with dyspepsia, but, as a rule, he had a good appetite and good digestion. In February he began to have pains in the abdomen. The first attack came on suddenly one night, and was so severe that he got no sleep. They have recurred on and off ever since, most frequently at night, lasting from one to three hours. He described the pain as starting in the epigastric region and passing to the back and round the sides. He would frequently sit on the edge of the bed for hours doubled with the pain. In the intervals of the paroxysms there was a dull, heavy sensation in epigastrium. There was never any vomiting with these attacks. Food, he insisted, had no special influence one way or the other in inducing or aggravating the pain. Sometimes there was a sense of oppression after a full meal. Pressure often gave relief during the paroxysm. Since February he has not been a week free from attacks, and has lost between 30 and 40 lbs. in weight.

Inspection showed a stout, well-nourished man. Face pale, tongue lightly furred; pulse 104, tension increased. The abdomen large and fat, and in the epigastric region there was a remarkable throbbing, most distinct about two inches and a half from the ensiform cartilage, but a large wave of pulsation passed over the whole abdomen from this point. The shock, indeed, of the pulsation was unusually forcible, and was perceptibly communicated to the bed. The heart impulse was not very marked. On palpation, there was a sense of deep resistance between navel and ensiform cartilage, but no distinct tumor could be felt, no thrill. The thick panniculus, however, made the examination

very difficult. The throbbing was very violent with each systole; but the pulsation which could be felt was trifling in comparison with the visible pulsation. This I underlined in my notes. The spot where it was most distinct corresponded to a point a little more than two inches from the ensiform cartilage. There was no expansile movement; no dullness. There was no dilatation of stomach. On auscultation, a systolic murmur was heard at ensiform cartilage and for one and a half inches below it, also audible in 7th and 8th left costal cartilages. In these positions it was a distant but very distinct murmur. In the genu-pectoral position the throbbing was less marked, but no tumor could be felt. No murmur could be heard at the back, and there was not special tenderness over spines. The liver and spleen were normal. There was a soft systolic murmur at apex of heart, and the second aortic sound was very sharp and clear.

I only saw the patient on this occasion, and a positive diagnosis was not reached. Three possibilities were discussed—ulcer of stomach, aneurism of abdominal aorta, and deep-seated tumor lying upon the aorta. The cardialgic attacks, so pronounced, and of a character so similar to those which occur in ulcer, seemed to point to this condition, but the entire absence of vomiting and the tolerance of food seemed inconsistent with this view. The remarkable throbbing and the systolic murmur suggested aneurism, in which, also, there may be, as in Stokes' celebrated case, the most intense paroxysms of pain, but in the absence of a positive tumor, throbbing and a bruit do not suffice to establish the diagnosis of aneurism.

Dr. W. L. Morris has kindly furnished me with the notes of the case subsequent to my visit. On the evening of the 13th he had most excruciating pain, lasting two hours; no vomiting. On the 14th he vomited in the morning; no gastralgic attack. On the 15th he vomited two quarts of thin fluid, in which there was a blackish sediment. On the 16th, vomited a great deal. For the next week he had repeated attacks, bringing up dark material like altered blood, and passed dark stools. He gradually sank and died on the 24th.

Autopsy, twenty hours after death.—Skin blanched; much

subcutaneous and omental fat. The heart was flabby and soft. The mitral curtains a little thickened at edges; aortic cusps also thickened about the corpora Arantii. The aorta presented advanced atheromatous changes, particularly in arch and its branches. The abdominal aorta was also roughened by numerous irregular projections. The lungs presented no special changes. The stomach was distended with gas, and contained about a pint of dark fluid. Mucosa towards pylorus thickened; no other changes. Duodenum, half an inch from the pyloric ring, presented a round ulcer the size of a half-dollar piece (3 cm.), the base formed partly by head of pancreas and partly by thickened omental tissue. A small orifice existed in the wall of the superior pancreatico-duodenal artery which ran along the floor of the ulcer. There was thickening about the head of the pancreas, and the subjacent tissues were matted together.

Pain is a very variable symptom in duodenal ulcer, and is absent in at least one-half of the cases. There may be for years agonizing gastralgic attacks recurring at irregular intervals, usually worse at night, and coming on from two to six hours after taking food. * As in *Case VIII*, there may be prolonged periods of freedom from the attacks. The diagnosis of duodenal from gastric ulcer is rarely possible, as there are no distinctive features. The gastralgic attacks recurring at intervals for many years appear to be more common in duodenal disease, and was the symptom, I believe, which led a distinguished American clinician to make the diagnosis in his own case.

ASEPTIC MIDWIFERY.

AN ABSTRACT OF A PAPER READ BEFORE THE MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

BY J. C. CAMERON, M.D.

Professor of Obstetrics, McGill University.

Under the term *sepsis* are popularly included a number of morbid processes which differ clinically as well as pathologically, but in all cases, whether grave or mild, two things seem to be essential—an absorbing surface and noxious matter capable of absorption.

In puerperal cases the absorptive power is specially active, a convenient surface for the entrance of infective matter being presented by the denuded placental site and the numerous lacerations and abrasions which are usually present after labor.

The absorbable septic agents may be conveniently divided into three classes :

1. *Specific microbes*, which multiply rapidly and invade the whole body, even when absorbed in small quantities.

2. *Putrines* or ferments, active inanimate septic matters, frequently the product of microbes acting upon the tissues, giving rise to the condition called by some *sapraemia*.

3. *Pyogenic cocci*, which penetrate rapidly and in large numbers, and which may or may not produce metastases. They have the power of setting up suppuration in the tissues with which they come in contact. The most important of them is the *Streptococcus Pyogenes*, the cause of ordinary acute abscess. From cultivation experiments it seems highly probable that, under favorable circumstances, this coccus may rival the anthrax bacillus in virulence and ability to spread throughout the body.

The true relations existing between micro-organisms and septicæmia have not yet been definitely settled; some observers regard micro-organisms as the cause, while others consider them merely the result of the septic state. Ogston claims that septicæmia and pyæmia are but *secondary* phenomena dependent upon local centres of coccus growth, and argues that, as they are only symptoms, they should disappear as soon as the primary local cause is removed. However the question may be decided.

in the future, the evidence at present seems to show (1) that no single microbe has yet been discovered invariably present in puerperal septicæmia; (2) that septic cases can seldom be classed clinically as purely toxic or purely infective, but that usually several causative factors are present; (3) that clinically, infective matter which produces a local abscess in one case may cause moderate constitutional symptoms in a second, or such profound disturbance in a third as to terminate rapidly in death. In this respect, the causative elements resemble those of zymotic diseases like variola and scarlatina.

Whatever difference of opinion may exist *theoretically* as to the cause of puerperal septicæmia, *practically* it seems pretty well agreed that the infectious matter, whether animate or inanimate, comes directly or indirectly from without, and is absorbed through some lesion in the parturient canal. If, then, we can manage to exclude noxious matters from genital abrasions, or prevent their formation or absorption, septicæmia will not occur. The rational treatment of the puerperal period lies therefore in the direction of *asepsis* or *antiseptis*, the exclusion or the destruction of germs.

The *aseptic* or dry method aims to exclude germs, and is theoretically preferable; but, practically, it requires great care, and the lochia sometimes become offensive in spite of every precaution.

The *antiseptic* or moist method aims to destroy the germs by frequent antiseptic douches or to wash them and their products away, thus preventing the accumulation and absorption of foul matters. But constant douching is laborious, often irksome and unpleasant, and is, moreover, liable to certain risks, notably the absorption of the antiseptic or the production of pelvic inflammation.

In Germany many slight forms of constitutional disturbance are called septic, which often pass unnoticed or are summarily dismissed as ephemeral fever, milk fever, etc. For instance, subinvolution, when not the result of traumatism or old catarrhal inflammation, is considered a common indication of mild sepsis. Normally, after the expulsion of the placenta, firm uterine con-

traction is established and hemorrhage prevented, the lochia soon fade, and involution proceeds steadily. But the absorption of septic matter interferes with normal involution by impairing the contractile power of the uterine muscle; involution is retarded, the lochia fade more slowly, slight hemorrhages are apt to occur, the uterine tissue feels softer, and chronic pelvic troubles are more apt to result. The symptoms vary according to the intensity of the septic process, the uterine muscle being as sensitive to the presence of septic matter as the thermometer is to variations of temperature; so that the manifestations of the earlier and slighter degrees of sepsis are to be found in uterine muscle before pulse and temperature have been appreciably affected.

(An account was then given of the antiseptic and aseptic methods employed in the leading maternity hospitals of England, France and Germany.)

The method now in use in the University Maternity, and which, with some slight modifications, I adopt in private practice, is as follows:

1. Strict precautions are taken to scrub and disinfect the hands thoroughly before each vaginal examination.

2. Whenever possible, a preliminary vaginal douche (sublimate) is given at the beginning of the second stage of labor.

3. Great pains are taken to secure and maintain firm uterine contraction after the expulsion of the placenta; frictions to the fundus are kept up for an hour before the binder is applied.

4. After the birth of the child the vulva is kept covered with a pad of sublimated jute, and is carefully washed with a sublimate solution every time the pad is changed. Vaginal or uterine douches are not employed except in operative cases or where the hand has been introduced within the vagina or uterus after the expulsion of the placenta.

5. A few hours after delivery, the vulva and anterior portion of the vagina are thoroughly douched out with a strong sublimate solution, the parts carefully inspected, stitches applied if necessary, and about a drachm of boro-iodoform insufflated into the vulva and ostium vaginæ; a thick pad of sublimated jute is

applied, and whenever it is changed the external parts are washed with a sublimate solution. No further dressing or douching is usually required, the uterus generally involutes rapidly, and the lochia soon fade. If the lochia become offensive, an antiseptic vaginal douche is given; boro-iodoform again applied to the vulva, and the dry dressings continued. As the pathologist sterilises his culture-tube and then plugs it with cotton-wool to filter and sterilize any air which may thereafter enter, so the obstetrician, by filling the vulva with boro-iodoform and covering it with a thick pad of sublimated jute, strives to filter and sterilize any air which may enter the vagina and keep the parturient canal *aseptic* as far as possible. Practically, this plan works admirably; the patients are more comfortable, elevations of temperature rare, involution more rapid and complete, and convalescence more satisfactory.

When temperature and pulse rise rapidly from the third to sixth day, and other causes can be excluded, sepsis may be generally inferred. In such cases the septic condition is most frequently due to the presence of decomposing debris in the uterine cavity; loose shreds and clots are not usually as dangerous as bits of placenta or membrane which remain adherent to the uterine wall, and are therefore in more intimate relations with the maternal circulation. A simple uterine douche is generally sufficient to sweep away loose debris, but is unable to dislodge those portions which adhere to the uterine wall. When a uterine douche fails to bring down the temperature in a few hours, it is good practice to follow the German method, viz., pass a blunt curette into the uterine cavity and scrape away the adherent decomposing material. Thus in a few minutes septic matters are removed from the uterus which would otherwise take a week or more to separate, the patient being meanwhile subjected to the danger of septic absorption. I first saw this method last July in Carl Braun's wards in Vienna; it was then quite a novelty, having been in use only a few weeks, but has now become a recognized treatment. The case was one of placenta prævia much exhausted from loss of blood. Version was performed successfully, but the placenta being extensively ad-

herent had to be removed. In thirty-six hours the temperature rose to 103° ; the patient was carried at once into the operating room, the anterior lip seized with a vulsellum, the uterus well drawn down, the blunt curette passed, and the uterine cavity thoroughly scraped out. A piece of placenta the size of a walnut and a quantity of broken-down debris came away; the uterus was then douched out with a sublimate solution and the vagina packed with an iodoform tampon. The next day the temperature was normal, and the patient made an uninterrupted recovery. Since my return I have had occasion to use the curette in several cases. In all of them I scraped away shreds of membranes or decomposing debris firmly adherent to the uterine wall, which repeated douches had failed to dislodge. In two of the cases the curetted matters were examined under the microscope and streptococci found in abundance. Without the curette, the chances of these patients would have been very slight.

The most important points in the antiseptic treatment may be briefly summarized as follows:

1. Great care in the disinfection of hands and clothing.
2. A preliminary vaginal douche (sublimate) when possible.
3. Careful management of the third stage of labor, and securing firm contraction of the uterus.
4. The dry method of dressing.
5. A vaginal douche if there is rise of temperature or offensive discharge; if that fails, a uterine douche; if that fails, immediate curetting of the uterine cavity.
6. If, later on, there is evidence of peritonitis and the presence of pus in the peritoneal cavity, abdominal section with thorough cleansing and draining offer the best chance of recovery.

WOUND OF THE INTERNAL JUGULAR VEIN,
FOLLOWED BY RECOVERY.

BY JAMES BELL, M.D.,

Surgeon to the Montreal General Hospital.

On the 27th of November last Fred V., a carpenter, aged 27, was working on a scaffold placed on ladders, when one of the ladders gave way and he fell to the floor, a distance of about four feet, with a sharp inch-and-a-half carpenter's chisel in his right hand. In falling the chisel entered the right side of his neck, making a vertical wound a little more than an inch long, with its upper extremity just below and behind the angle of the jaw. He immediately withdrew the chisel, which was followed by a tremendous gush of blood. He grasped the side of his neck with his hand, and got up and walked down a flight of a dozen steps of stairs to where his comrade was working. The change of position and the pressure of his hand stopped the bleeding for the moment, but the neck swelled rapidly and the bleeding recommenced. When he reached his comrade he felt faint and giddy, and when he attempted to speak he found that "his voice was gone" and that he could only speak in a whisper. His comrade laid him down and tied a handkerchief tightly round his neck, but as this failed to stop the bleeding he applied pressure over the handkerchief with his hand. The Montreal General Hospital Ambulance was telephoned for and arrived in a few minutes, accompanied by Dr. Kirkpatrick of the hospital, who found that the patient had lost and was still losing a large quantity of blood. He took charge of the wound and controlled the hemorrhage by compression until he reached the hospital, when he was assisted by the medical superintendent and the other resident medical officers. I was immediately telephoned for, and on reaching the hospital I found him still losing a great deal of blood in spite of the well-directed efforts of the resident staff to control it by digital compression applied over the wound. The patient was weak and pale, and showed unmistakeably the evidences of having lost a large quantity of blood. Having made the necessary preparations, I directed compression to be applied over the common carotid artery (which could be felt in

the lower part of the neck, although the tissues higher up were much infiltrated with blood), and the compressing hand having been removed from the wound I hastily thrust my right fore-finger into it. The performance of this act, although easily and speedily executed, was accompanied by an alarming gush of blood. I directed the wound to be compressed around and against my finger, which arrested the hemorrhage. The blood was apparently venous in character, although up to this time the lesion had been thought to be a wound of the carotid artery. I found that the wound extended upwards and backwards behind the sterno-mastoid muscle and along the base of the skull. I could feel the bodies of the upper cervical vertebrae, the styloid process of the temporal bone, and other prominent points about the base of the skull, but I could not put my finger upon the bleeding point so as to arrest the hemorrhage. As his condition was a very desperate one, and the permanent arrest of the hemorrhage seemed to be almost an impossibility, I sent for Dr. Fenwick in order to have his advice and assistance before removing my finger from the wound. I consequently retained my finger in the wound, and compression was applied against it as already described, until Dr. Fenwick arrived. Dr. McClure then took my place and introduced his finger as I withdrew mine, the change being again accompanied by a tremendous gush of dark venous blood. We then decided to tie the common carotid artery, thinking that although the gushes of blood were very dark and apparently venous in character, a large vein could hardly be wounded in this situation without some of the great arterial trunks being wounded at the same time, and that this operation would be a wise precaution as a prelude to further treatment. The patient was then etherized and the artery was tied below the omohyoid muscle, the infiltration of the cellular tissue with blood greatly obscuring the ordinary guides to the vessel. The ligature of the carotid had no effect in reducing the hemorrhage. We then decided that, judging from the rate at which the blood flowed whenever the pressure was relaxed, any attempt to enlarge the wound and catch the bleeding vessel would be fatal in a few seconds, and that our only recourse was

to compression within the wound. Accordingly two large-sized fine Turkish sponges which had been prepared but had never been used were taken from corrosive sublimate solution and their interstices filled with iodoform. Taking one of them I rolled it up tightly in a somewhat conical form, and introducing it through the skin wound, pushed it firmly back to the base of the skull along the track of the wound; the second sponge was then introduced on top of this and a Lister dressing firmly applied to the neck. This completely arrested the hemorrhage—a little blood-stained serum only finding its way through the dressing. The patient was now very weak and pale, and almost pulseless. He could not swallow except with the greatest difficulty, could not speak above a whisper, and his right pupil was very much contracted. He soon rallied, however, and in a day or two could swallow very well, although his voice has never been restored. A moderate degree of ptosis of the right lid was observed the following day. It probably existed from the first, but was overlooked in the presence of so much graver symptoms. The dressings were changed on the fourth day and again on the ninth day, when the outer sponge was withdrawn without difficulty, and without being followed by any sign of hemorrhage. On the sixteenth day after injury the dressings were again removed. The external wound was lengthened and enlarged by an incision backwards from its posterior border and the larger part of the remaining sponge, which was firmly held in the wound, was cut away with curved scissors. The wound was then irrigated and stuffed with iodoform gauze, and a gauze dressing applied. It was again dressed on the twenty-first day, and again on the twenty-eighth day after the accident. At this latter dressing the sponge was found to have become detached and to have worked its way out nearly to the surface of the wound. It was easily removed. The subsequent progress of the case was uninterrupted, and the wound is now (seven weeks after the accident) almost completely healed. There is still a little sinus leading down to the ligature which was applied to the carotid artery; the ptosis remains unchanged, as well as the contraction of the right pupil. The voice has slightly improved, but is still

whispering and low pitched, and he carries his head towards the injured side. The latter is probably due to the contraction and stiffness about the wounds.

Remarks.—There can be no doubt, I think, that the source of the hemorrhage was a wound of the internal jugular vein close to the base of the skull. The paralytic symptoms also show clearly that the sympathetic and superior laryngeal nerves were severed. The partial ptosis may also be explained by the sympathetic nerve lesion. It seems scarcely credible that, under the circumstances, this patient did not bleed to death on the spot. This may be explained, I think, by the fact that the wound was a valvular one, and when he altered the position of his head so as to stand up and look straight before him, the sterno-mastoid muscle was interposed between the bleeding vessel and the wound in the skin so as to completely close the latter, and thus the flow was for a time arrested. The behavior of the sponges is very instructive, and shows that venous bleeding from any source may be controlled permanently by well applied pressure. Both the original wound and that made for the ligation of the artery remained aseptic throughout.

QUARTERLY RETROSPECT OF SURGERY.

BY FRANCIS J. SHEPHERD, M.D., C.M., M.R.C.S., ENG.

Surgeon to the Montreal General Hospital; Professor of Anatomy and Lecturer on Operative Surgery, McGill University.

Trephining in cases of Bleeding from the Middle Meningeal Artery without Fracture of the Skull.—Prof. Krönlein, in a lecture published in the *Deutsche Zeitschrift für Chirurgie*, Band XXII, Hft. 3 and 4, points out that trephining in cases of rupture of the middle meningeal artery without fracture of the skull is one of the most satisfactory operations of surgery with regard to certainty and promptness in removing a very serious danger to life, and when performed under antiseptic conditions, to freedom of the operation from risk. During the last three years Prof. Krönlein has trephined in four cases where he had diagnosed rupture of the middle meningeal artery. In every case the diagnosis was confirmed, and there was always found a considerable supra-dural extravasation of blood in the

region of the middle meningeal artery on the side of the operation. In two of the cases the hæmatoma was found and removed at the time of the operation; in the other two cases the hæmatoma was not found till after death. The first two mentioned cases recovered. Prof. Krönlein says there are many forms of hæmatoma from rupture of the middle cerebral artery, but most of these may be referred to one of two types—either that of a *diffused hæmatoma*, in which the extravasation of blood is very abundant and spread over the whole concavity of the affected side of the skull, or that of *circumscribed hæmatoma*, which may, however, be of considerable extent, but in which some portion of the dura mater on the affected side of the head remains attached to the bone. This latter variety of hæmatoma is sharply defined at its periphery, is oval or round in form, and frequently is most thick at its central part. The most frequent situation of circumscribed hæmatoma is the middle segment of the skull. The high vulnerability of the temporal region, together with its free supply of large arterial vessels, explain sufficiently the fact that this is most frequently the locality of intra-cranial hemorrhages.

In discussing the proper seat of the operation in trephining for hemorrhage from the middle meningeal artery, Krönlein points out that, though the application of the trephine at the seat of election for ligature of this artery in its continuity, viz., over the anterior inferior angle of the parietal bone, will expose any diffused hæmatoma and the temporo-parietal and fronto-temporal varieties of circumscribed hæmatoma, the posterior or parieto-occipital variety is not accessible at this spot. The rule, therefore, is laid down that when dangerous hæmatoma of the middle meningeal artery has been diagnosed, and no trustworthy indications of the precise locality of the extravasation are presented, either on the scalp or the cranial vault, trephining should be performed at the above-mentioned seat of election. Should this operation, however, fail to detect any collection of blood, the surgeon, if still holding by his diagnosis, should again trephine, and with the expectation of exposing a parieto-occipito hæmatoma, penetrate the skull immediately below the parietal emi-

nence. The following directions are given for determining the proper places on the surface of the skull for the application of the trephine: A line is drawn from the upper margin of the orbit backwards along the side of the head and parallel to the horizontal line of the head (a line drawn from the auditory meatus to the lower margin of the orbit). In this line should lie both orifices made by the trephine, the anterior being between three and four cm. (about $1\frac{3}{4}$ inches) behind the external angular process of the parietal bone, and the posterior at the crossing of this line by a vertical line drawn directly upwards immediately behind the mastoid process. A second trephining, which, if made under proper antiseptic conditions, is not likely to subject the patient to any additional danger, is said to be indicated for the purposes of better removal of coagula and also of drainage in cases of diffuse hæmatoma reaching from the frontal bone to the occipital protuberances.—(*London Med. Record*, Oct. '86.)

Ever since Sir Charles Bell demonstrated that a blow on the side of the head, not producing a fracture, could separate the dura mater from the skull at the point of injury, and that this separation was followed by hemorrhage due to the tearing of branches of the middle meningeal artery or the main artery itself, surgeons have endeavored to save the life of the patient by trephining the skull for the purpose of arresting the hemorrhage and removing the effused blood. The cases operated on, as a rule, ended fatally until within the last few years, when antiseptic precautions were introduced and the actual risk of the operation reduced to a minimum. Cases of meningeal hemorrhage are by no means uncommon, and scarcely a year passes without the daily press recording many deaths occurring after injury to the head, and due, unmistakably, to meningeal hemorrhage. As a rule, these cases expire before they come under the care of a competent surgeon, and the patient is allowed to die without any attempt being made to save his life by operative measures.

Only the other day a case occurred near here, where a young man fell a short distance and struck his head; he was senseless for a few minutes, and then recovered sufficiently to walk some

distance to his home. After going to bed he gradually became unconscious, and died comatose next day. I read in the daily papers a short time ago of another case. A young man was going to his room in his hotel, and whilst passing along the corridor was struck on the head with a cane by a person who was in a semi-drunken state. He felt a slight pain at the time, but went to bed, and next morning was found dead. Both these proved to be cases of rupture of the middle meningeal artery without fracture of the skull. They might have been saved by the operation of trephining performed in proper time.

Dr. F. G. Dennis (*Medical News*, Nov. 13, 1886) says:—
“The presence of symptoms of cerebral irritation followed by unilateral paralysis, with a slow tense pulse, the Cheyne-Stokes respiration, accompanied by a sudden rise of temperature due to disturbance of the heat centre, form a group of symptoms which, if they were preceded by a short interval after the injury in which no serious manifestations of brain lesion were present, make it extremely probable that an intra-cranial meningeal hemorrhage has occurred.”

In such cases the surgeon who did not trephine would be guilty of gross negligence of duty, and although many of the cases could not be saved, still a sufficient number would recover to justify operative measures being undertaken in all cases where meningeal hemorrhage is suspected.

Relation of Modern Surgery to Medicine.—During the late meeting of the German Scientific Medical Association, held at Berlin, Prof. von Bergmann delivered an address on the above subject (*Brit. Med. Journal*, January 15, 1887). Prof. Bergmann dwelt on the extraordinary progress made by surgery during the last few years, and said that it now leads medicine, and that the relationship which exists between medicine and surgery should be examined afresh. “Such disturbances and ruptures now threaten the peace of the great medical family that it becomes necessary to examine and settle new claims and ancient titles of possession.” He drew attention to the fact that the scientific development of ophthalmology “had brought the treatment of eye diseases to a degree of perfection far be-

yond the reach of any other branch of surgery. All national differences in ophthalmology have ceased and their place has been taken by one method and one school." General surgery now claims a similar position in virtue mainly of its newly acquired ability to invade, with comparative impunity, regions of the body hitherto looked upon as sacred from the knife. Though the enormous strides surgery has made during the last decade are not the effect of a blind empiricism, but of a clearer insight into the processes of nature; practice in this field has always been in advance of theory. Alphonse Paré tied arteries one hundred years before the discovery of the circulation of the blood. "The consideration that impelled Lister to adopt the antiseptic treatment had only the value of an hypothesis, which surgeons examined solely in regard to its practical consequences, until other and non-surgical experiments and results established this hypothesis on solid foundations."

The two chief principles on which the surgery of the present day is based are: (1) That all wounds necessarily heal of themselves by virtue of a natural tendency in that direction; and (2) that this tendency is only altered by external influences, to which alone all inflammation and suppuration are due. Only those wounds are fatal which prevent a vital organ from continuing its functions, with less serious injury the surgeon can now deal with success. There is no special vulnerability of tissue of any organ; age and even disease make no difference. "The flesh of a man 80 years old heals as well as that of a boy of 8, and operations on feverish consumptive patients are now as successful as those performed on patients in perfect health."

Surgery now aims at extending its ancient limits; and misled by the success of surgery, medicine is tempted to have recourse more and more to operative measures. There is now the surgery of the brain, of the lungs, of the kidneys, of the stomach, and gall-bladder. There is more or less rivalry between medicine and surgery in the cure of disease, but further progress in surgery can only take place through an increased knowledge of internal medicine. Surgeons must now avail themselves more of the accurate means of investigation which we owe to the phy-

sicians—auscultation and percussion, thermometry, chemical, microscopical, and electrical investigation. As long as internal medicine remains the guardian of scientific methods and scientific principles, so long will it remain the parent tree of which surgery is only a branch.

The few infectious diseases against which surgery is now armed are, however, but a small fraction of the plagues and pestilences which afflict mankind; numerous as were the victims of powder and shot in the struggle between France and Germany, that was the first war recorded in history in which they were not exceeded by the multitudes who fell a sacrifice to disease. It is to the better knowledge of the causes of disease that the success of both medicine and surgery is due. Medicine had isolated the group of infectious diseases, and had shown that the infectious material was reproduced in the body long before surgeons recognized all disturbance of a wound to be due to inoculation from without, and set themselves to prevent that occurrence. Surgical measures are now directed against the entrance of microphytes into the body at the surface, but numerous workers are engaged in seeking for means to destroy them after admission within the body. The study of these elementary organisms may throw more light on the vital elements of complicated organisms than the biology of the latter themselves. "At least we are no longer inclined to assume that the lowest microbes behave in a manner essentially different from the higher plants and animals. On the contrary, the physiological chemist now seeks in the fundamental structure of all living matter a single original chemical organization from which all its properties may be deduced in common."

It follows from what has been said that surgery owes all its recent development to clinical medicine, and just as the antiseptic treatment is the product of careful observation in etiology, so the energetic procedures of internal surgery will have successful results only when firmly established by the methods of clinical medicine, otherwise surgery will sink in the hands of expert specialists to a mere display of manual dexterity.

Two instances may be given of the importance of testing the

widest possible view of the surgical art. The course and limitations of tuberculosis cannot be so well grasped from the study of internal organs as from those surgical diseases which we know to be due to the presence of some morbid material. These comprise various affections of the skin, the lymphatic glands, the bones and joints, and observation of them has thrown new light upon the most important phenomena of tuberculosis. Again, the revelations made by surgery as to cancer are not less important; they have shown that this scourge is at first not a general disease of the whole system, that it has nothing to do with poisoning of the blood or juices, but is always purely local in its commencement. Thus, when viewed in its proper aspect, surgery, far from stealing from medicine, enlarges the boundaries thereof, and Prof. Bergmann's eloquent and suggestive address will be of service in defining the relationship between the two, and insisting upon the pursuit of clinical surgery as an integral part of scientific medicine.

Treatment of Cysts of the Thyroid.—At a meeting of the Clinical Society of London, held on January 14th, 1887, Mr. Mayo Robson of Leeds read a paper on the above subject. (*Lancet*, Jan. 22nd, '87.) He advocated antiseptic incision and stitching the edge of the cyst to the skin, scraping out the interior of the cyst and draining for a short time under an antiseptic dressing, then packing with zinc lotion and lint. He read notes of two cases thus treated. The first that of a young woman aged 22, who had a cyst the size of a small orange over the trachea which occasionally produced dyspnoea; the second in a woman aged 24; in whom the right lobe of the thyroid was forming one large cyst. In both, the above treatment was perfectly successful, and produced no constitutional or local disturbance. When seen some time afterwards there was very little trace of a scar and no tumor in either case. He considered the usual operations of injections, setons, etc., dangerous and unsatisfactory, and thought the advantages of this method were its simplicity, safety and certainty.

In the discussion which followed, Mr. Christopher Heath remarked that Mr. Robson had said nothing about hemorrhage,

which he knew from personal experience could be pretty severe from the interior of the sac. He did not know the reason for this, but the injection of perchloride of iron and plugging with strips of lint soaked in the perchloride succeeded very well in arresting hemorrhage.

Dr. S. Mackenzie had examined many microscopical preparations of these cysts, and the thin-walled vessels were exceedingly numerous. Iron was better than iodine to stop hemorrhage.

Mr. Clutton never thought it necessary to suture the cyst to the skin. In some cases of plugging the opened cyst, high fever developed; the use of iodoform gauze obviated this tendency. The suture of the skin had an objection, in that it might cause the sinus to remain open, as in one case which continued three years. He would prefer complete excision to scraping its walls.

Mr. Bryant supposed that Mr. Robson did not claim that free incision was a new treatment, but that stitching the capsule of a cyst to the skin was. If this were not adequately done septic matter might escape into the subcutaneous tissues. The fear of hemorrhage would be an argument in favor of laying the cyst open and making a sinus. In a case of puncture of a cyst, free incision and plugging were required to stop hemorrhages. He considered scraping out the interior of the cyst bold practice.

In reply, Mr. Robson stated that he practised sufficient scraping to separate all colloid material, but not to extend deeply into the wall of the cyst.

Operative Treatment of Goître.—Dr. C. Garré of Bâle, assuming that total extirpation of the thyroid gland cannot at the present day be regarded as a justifiable operation, directs attention to a modified operation that has been performed for some years past by Professor Socin, and with very satisfactory results in about fifty cases. This operation consists in intra-glandular “shelling out” of the degenerated portions of gland, and is similar in its mode of performance to procedures previously adopted by Juillard, Rottman and others. In a very large proportion of cases of goître submitted to operation, the disease of the gland occurs in the form of circumscribed masses, each of which is separated from the healthy and normally acting portion of the thyroid structure by a capsule of more or less thickness.

If the surgeon in operating is able to clearly distinguish this natural limit, the procedure of shelling out is practicable, but there is a difficulty in making out this capsule with precision. If the diseased mass be situated near the surface of the thyroid the covering layer of glandular structure presents the appearance of very thin membrane. If this be left undetermined, and the dissection be commenced and carried beyond it, more and more of the proper gland structure is removed, until at last the operation becomes one of typical unilateral or even total removal of the gland. If, on the other hand, the diseased mass is deeply embedded in the gland, it was necessary to work through a thick layer of very vascular thyroid structure before the boundary of the disease is clearly indicated by the presence of a bluish transparent capsule traversed by but few vessels, the bleeding, though sometimes profuse, is simply venous. It is held to be an important point to keep close to the capsule, and not to begin the "shelling out" of the disease before this has been found. Two or more goitrous masses may be thus removed from a thyroid gland by one or more incisions without wounding any large vessel. The bleeding, as a rule, is unimportant, and can be corrected by compressions. The cavity left after removal of the disease is then drained. In not one of the fifty cases operated on by Professor Socin were any symptoms of tetanus observed. There need not be any fear of subsequent cachexia strumipriva, as only the diseased and degenerated portion of the gland is removed.—(*Centralblatt für Chirurgie*, No. 45, 1886, and *Lond. Med. Record*, Dec. 1886.)

Relation of Cachexia Strumipriva to Removal of the Thyroid.—A discussion on this subject took place at the Berlin Scientific Congress, in which it was sought to ascertain whether the myxœdematous condition always supervened upon complete removal of the gland. It seems most probable that those cases in which this condition was not observed are to be ascribed to the fact that either the thyroid gland was not completely removed or else some accessory gland in the neighborhood so far supplied its place that no bad consequences supervened.—(*Central. f. Chirurgie*, Oct. 30th, 1886, and *Practitioner for December*, 1886.)

Ligature of the Superior Thyroid Arteries for Goître.—At a meeting of the Imperio-Royal Society of Medicine in Vienna, held on the 5th November, 1886, Prof. Weinlechner presented a woman, aged 33, who had suffered from goître from infancy. It had latterly interfered much with respiration, so on the 8th of October last she entered hospital in a very serious condition, face was livid and dyspnœa was so great that extirpation was indicated. The left side of the tumor was as large as one's fist, and the right a little smaller; the upper portions of each half of the tumor were supplied by superior thyroid arteries as large as normal carotids. The right carotid was enormously dilated. The voice had been harsh since infancy. Prof. Weinlechner, not wishing to extirpate the tumor on account of the great amount of oppression, followed the example of Woelfler and ligatured the two superior thyroid arteries. Immediately the murmur ceased in the arterial trunks and carotid, the lividity of the face disappeared, the dyspnœa diminished, and the patient was considerably better. But the same day she had severe spasms of the upper and lower extremities and convulsive movements of the hands. The head and face did not participate in these spasms. The brain at first was not very clear, but soon became normal. These spasms were not repeated, and the patient continued to improve. The circumference of the tumor diminished $3\frac{1}{2}$ inches in 24 days. In Woelfler's case the circumference of the tumor after ligature of the superior and inferior thyroid of one side diminished in seven months $3\frac{1}{4}$ inches. The success in this case is very satisfactory, and if the patient had not insisted on extirpation Prof. Weinlechner would not have done it. If the right lobe hereafter enlarges, it is intended to ligature the inferior thyroids as well.—(*La Semaine Médicale*, Nov. 10, 1886.)

Treatment of Syphilis.—Prof. Neumann of Vienna (*Wiener Med. Blatt.*, Nos. 33-36, '86), who has had an immense experience in treating syphilis, says that the preventive treatment or treatment of the primary sore and enlarged glands by constitutional means is without result, and the only effect it had is to postpone the secondary rash. The local affection should, of course, be treated as the phymosis, gangrene, etc.

Of all the methods of treatment, that by mercury is the best. Prof. Neumann does hold with those who treat constitutional syphilis expectantly, because, according to his experience, (1) its duration is inordinately long, (2) the individual is always a focus of infection for those about him, and (3) more severe forms of syphilis appear under the expectant than any other method of treatment. The author sounds a note which cannot be too often sounded when he says that after apparently complete recovery from the affection there are still stored up in the body diseased conditions which can only be got rid off by an anti-syphilitic treatment.

The extirpation of the primary sore and enlarged glands is of no use in the author's opinion. In one case where he removed the primary disease twenty days after infection, the general disease appeared seven months after.—(*Central. f. Chirurgie*, No. 3, 1387.)

Cocaine.—This drug, which has of late been so extensively used in minor operations, has caused in certain cases, when administered in large doses, serious symptoms, and which on one or two occasions the cases have terminated fatally. Not long ago, in St. Petersburg, a celebrated surgeon committed suicide in consequence of one of his cases having died from the effects of cocaine. When applied about the rectum, a much larger dose appears to be required than when used elsewhere. Twenty to thirty grains injected hypodermically have proved fatal, and much smaller doses have produced alarming symptoms.

Dr. W. E. R. Wood (*Australasian Med. Gazette*, Aug. '86) gives the following instance of the effects of an overdose of cocaine used hypodermically. Four minims of a 20 per cent. solution of cocaine were injected into the cheek of a man for the relief of toothache. At the time of making the injection, Dr. Wood believed he was using a 10 per cent. solution which had been used on the patient with good effect previously. Within five minutes patient became restless and inclined to vomit. He then began to feel a sensation of pins and needles in the left hand, and which rapidly extended to the right side. This was speedily followed by contraction and rigidity of the fingers,

arms and legs, and a tendency to opisthotonos. Pulse rapid and feeble, and muscles of mouth and cheeks strongly contracted. His respirations were short and convulsive, his feet and hands very soon became cold, and profuse perspiration set in. After the use of heat to surface and stimulants internally, his pulse began to improve and his color return, but it was not till five hours had elapsed before all symptoms had subsided.—(*Practitioner*, Nov. 1886.)

Treatment of Varicose Veins.—In an editorial on the above subject in the *Philadelphia Med. News* for January 15th, 1887, the writer, after speaking of excision of varicose veins, and saying that it is a simple, safe method, and one that is almost sure to effect a cure, speaks of the plan of injecting into varicose veins various coagulating substances, and says that this plan still holds its ground and may be adopted in cases in which either the patient or the surgeon does not wish to face a cutting operation.

Surgeon-Major Stevenson, in the *Lancet* for Oct. 23rd, 1886, reported eight cases treated by the injection of pure carbolic acid with very good results. The circulation is controlled by an Esmarch's bandage applied round the thigh (the patient standing). The bandage is applied at first just tight enough to occlude the veins, and then firmly enough to cut off all the circulation. One minim of pure carbolic acid is injected at a number of points about an inch and a half apart, and cotton and collodion are applied over each puncture. The Esmarch bandage should not be removed until fifteen minutes after the completion of the last injection, and then the circulation is permitted to return only very gradually. For at least a week after the operation the patient should not assume the erect position or put his foot to the ground at all. This, of course, is to avoid the danger of an embolus being swept into the general circulation. Good results have been obtained by this method of treatment, although abscesses form at the seat of injection in about 10 per cent. of cases. The abscesses are small and painless. Weber reports in the *Medical Record* for Dec. 12, 1885, a successful case, where he injected a varicose saphenous

vein with four drops of pure carbolic acid at four different points. while the vein was compressed above and below the points injected till a coagulum formed. This method, which was introduced by Watson Cheyne, appears to be safe as well as successful. The injection of carbolic acid into piles was practised for some years as a secret method, and when tried by the general profession the results were not as good as the method at first promised.

New Radical Operation for Hemorrhoids.—At a recent meeting of the New York Surgical Society (*Medical News*, Feb. 12, 1887) Dr. Lange stated that in mild cases he had obtained good results by injecting equal parts of glycerine and pure carbolic acid. In severe cases, complicated with prolapse of the mucous membrane, he had adopted a method of operation that was to be commended not only on account of its facility and completeness of the cure, but because of the fact that it is not followed by suppuration and necrosis of the tissues. It consists in excising the entire affected portion of mucous membrane and in suturing the edge of the remaining part to the integument. The essential advantages are the perfectly aseptic character of the process and the small loss of blood. An incision is carried around the anal orifice at the point of junction of the skin and mucous membrane, the parts being put on the stretch. The incision is carried down till it reaches the sphincter. The mucous membrane is then separated from the sphincter as far as necessary. In this way the entire degenerated portion is isolated, and so far as the arterial blood supply is concerned, remains connected with healthy tissue only by the vessels which supply it. A number of buried sutures of catgut are now inserted close to one another between the base of the external flap and that of the separated mucous membrane; these do not include any of the fibres of the sphincter, neither do they penetrate the rectum. If the stitches enter the sphincter, the patient suffers from severe tenesmus. The sutures may be continuous or interrupted, and secure nearly all the vessels. The mucous membrane is excised in parts at a point from a half to one centimeter above this line and the cut edges approximated by silkworm gut. After the third day the

patient is allowed to have a passage of his bowels daily, and is kept on liquid diet for a week. He will be able to attend to his business at the end of the third week.

Reunion of Cut-off Toes and Fingers.—Dr. N. Ilinsky furnishes details (*Vratch*, No. 29, 1886, p. 538) of two cases of the kind. A boy aged ten hacked off the second phalanx of his left great toe, the part remaining connected only by means of a thin bridge of plantar skin. The patient being seen three hours later, the wound was disinfected and sewed with three sutures and an antiseptic dressing applied; complete union with restoration of sensibility and fairly free movement took place in thirteen days. Another patient, a tanner, aged 45, cut off the nail-phalanx of his left forefinger, the part being connected only by means of a very dirty and rough strip of palmar epidermis. The patient powdered his wound with soot and came to Dr. Ilinsky about five hours after the accident. The injury was treated as in the former case. On the third day after suturing, the man managed to hurt his injured forefinger, and even to dislocate the hewn-off part. It was again restored to place, and two weeks later was thoroughly united.—(*London Med. Record*, p. 529, December, 1886.)

Cerebral Surgery.—Prof. Greenfield, in a patient recently under his care in the Edinburgh Royal Infirmary who presented somewhat obscure cerebral symptoms, made the diagnosis of abscess in the anterior part of the left temporo-sphenoidal lobe. At his request, Mr. Francis M. Caird trephined and evacuated two ounces of foetid pus from the brain. The wound was completely healed in 18 days, and the man regained his health.—(*Brit. Med. Jour.*, Feb. 5th, 1887.)

Hospital Reports.

MEDICAL AND SURGICAL CASES OCCURRING IN THE PRACTICE OF THE
MONTREAL GENERAL HOSPITAL.

SELECTED MEDICAL CASES IN DR. MACDONNELL'S WARDS.

CASE. I.

Rapid emaciation with persistent vomiting; physical signs of phthisis; pneumothorax. After death a hernia of the diaphragm is found; the stomach lodged in the thorax; tubercular deposit in the lungs; rupture of a small cavity into the pleura.

H. K., aged 38, a machinist, was admitted into No. 11 ward of the Montreal General Hospital on the 3rd June, 1885, complaining of pain over the stomach, which was worse after meals, vomiting, loss of flesh, and general weakness. The members of his family had all been healthy, and there were no deaths amongst them from hereditary disease. The patient has always been in very good health, and fairly temperate in his habits. Some ten years ago he received a stab in his left side, from which he was laid up in hospital abroad for some months. There is a large scar two inches long and half an inch broad on the 7th interspace in axillary line. The original wound penetrated the intercostal muscles, the resulting scar projecting during inspiration. The present illness began eight months ago with pain in the epigastrium and upper part of abdomen, which was at first dull, but afterwards cramp-like and very severe, aggravated by the taking of food, and followed shortly by vomiting, which usually afforded relief. Since the illness began, has been unable to take any solid food. No dysphagia. Has become rapidly emaciated, his weight having become reduced from 170 to 100 lbs. There has never been any hæmatemesis, with the possible exception of one occasion in December last, when he vomitted a dark clotted mass, supposed at the time to be blood. Occasionally since then the vomited matters have been streaked with blood. The bowels have been very constipated. Has had a constant cough for the last six months.

State on admission.—The patient is anæmic and extremely

emaciated, but there is no distinct appearance of any special cachexia. The tongue is red, glazed and dry; the appetite is poor; the bowels constipated. Great pain in the epigastric region is felt after the taking of food, and is relieved by vomiting, but since his admission this latter symptom has not been observed. There is no difficulty in swallowing. The abdomen is scaphoid, moderate tenderness over the epigastric region close to the ribs. No tumor can be detected. There is a persistent hacking cough, with muco-purulent expectoration; no hæmoptysis. Suffers from night sweats. Temperature normal. Urine high-colored, specific gravity 1025; no albumen, no sugar; heavy deposit of phosphates and lithates. Beyond the presence of a few dry râles at both bases, examination of the heart and lungs yields a negative result.

Treatment.—Milk diet, with a mixture of bismuth and dilute hydrocyanic acid.

June 8th.—Vomiting occurred several times in the last few days. It was observed that at the apex of the right lung, above the second rib, there is a comparatively high-pitched percussion note. A few dry râles are occasionally heard in this region.

June 13th.—Temperature 101° . No vomiting or pain after eating. Patient is rapidly losing flesh.

June 16th.—Elevated temperature still continues. Complains of pain in the left breast. On examination, a loud friction murmur is heard over the lower third of the right lung in front. Ordered poultices to be applied and 15 minims of liq. opii sedativus to be given.

June 24th.—Temperature 103° at night; pulse 110; respirations 40. Great pain on inspiration over the hepatic area.

June 26th.—Slight improvement. The pain is diminished, the friction sound less loud, and not heard over so large an area. Temperature 101° at night; pulse 100; respirations 32.

July 3rd.—Weight 93 lbs. A friction sound is heard on right side, in front, as high as the 2nd rib.

July 11th.—Orthopnoea present, with stitch-like pain in the right side, and there is a very troublesome cough, with copious muco-purulent expectoration. On the right chest there is marked

bulging of the intercostal spaces, with absence of movement. On percussion, the note is throughout highly tympanitic, extending over the whole of the right side of the thorax. When in the sitting posture the note is dull up to the level of the fourth interspace in front, and behind as high as the angle of the scapula. The breathing is loudly amphoric, with a few moist râles heard throughout the lung. Bell note and Hippocratic succussion well marked. Complains of pain over the epigastric and hypogastric regions. In the afternoon, the dyspnoea rapidly increasing, the patient died.

Post-mortem examination.—Body much emaciated. On left side of the thorax, in seventh interspace, directly below the axilla, there is a large scar about three inches long by half an inch broad, with its long axis corresponding to the direction of the intercostal space. The finger, or even two fingers, can be pushed into the thorax for a distance of half an inch, the walls of the chest being very thin at this spot. *Heart*: Normal size and structure. The pericardium contained several ounces of straw-colored serum. *Right pleura*: The whole surface of the pleura was covered with the whitish-soft fibrinous deposit. The cavity of the pleura contained nearly two pints of diffuent fluid of a sero-purulent character. Opposite the second costal cartilage, on the right side, there is an opening into the lung as large as the end of one's little finger. This opening communicates with a small lung cavity the size of a filbert. *Left pleura*: The left pleura was found in a healthy condition. *Right lung*: Deposits of tubercle dotted throughout. A cavity about half an inch deep and one and a half inches long existed near the surface of the lung, opposite the third and fourth ribs in front, which had opened into the pleura. *Left lung*: Tubercle deposited throughout, but no cavities. *Diaphragm*: Between the pericardium and the left pleura there was found a large structure separating the two, which was tympanitic on percussion. This proved to be a large portion of the stomach distended by gas, which had made its way through the diaphragm. This hernial protrusion extended upwards into the chest as far as the second costal cartilage on the left side, and

its size was that of a small pine-apple. In the left half of the diaphragm, at nearly the centre, there was an opening with rounded edges, about four inches in diameter ; through this opening there passed the portion of stomach above-mentioned. The opening in the diaphragm did not present a cicatricial appearance, but looked as if it had always been present. Its situation corresponded with the large scar in the side. The stomach itself, though distended, was in a healthy condition. The abdominal organs were healthy.

REMARKS.

This case presents several points of remarkable clinical interest. We have two concurrent morbid conditions. The most marked feature, persistent vomiting with severe epigastric pain and very rapid emaciation, pointed plainly to the existence of some serious gastric disorder, malignant, most probably, from the rapidity of the emaciation. At the same time we had most distinct symptoms and physical signs of phthisis, persistent hacking cough, muco-purulent expectoration, night sweats, dulness and dry râles at the right apex, these evidences being followed by those of a fresh pleuritis, and, lastly, unequivocal signs of pneumothorax on the right side, the bulging intercostal spaces, the tympanitic percussion note above, with the moveable dulness at the base, and, lastly, the bell note and Hippocratic succussion, accompanied by urgent and eventually fatal dyspnœa. The diagnosis here was certainly in favor of uncomplicated phthisis, and on this hypothesis we explained the vomiting and emaciation. The protrusion of the stomach into the thorax must have occurred towards the close of life and while the right pleura was full of air, for most certainly the condition of affairs at the autopsy, the clear tympanitic space in the left chest, would have been detected during life had it not been merged into the percussion clearness of the right chest. That the wound in the chest had been the original cause of the opening in the diaphragm is, I believe, true, and, moreover, the occasional passage of portions of the stomach through an opening gradually made larger gave rise to the attacks of vomiting is more than probable. A similar case is recorded by Lawrence, where a patient had been stabbed in the

left side, between the fifth and sixth ribs. Some years afterwards death from internal strangulation occurred, and at the autopsy the whole omentum was found in the left pleura.*

Reviews and Notices of Books.

A Treatise on the Principles and Practice of Medicine. Designed for the use of Practitioners and Students of Medicine.—By AUSTIN FLINT, M.D., LL.D., late Professor of the Principles and Practice of Medicine and of Clinical Medicine in the Bellevue Hospital Medical College, New York, &c. Sixth edition. Revised and largely rewritten by the author. Assisted by WILLIAM H. WELCH, M.D., Professor of Pathology in the Johns-Hopkins University, Baltimore, and AUSTIN FLINT, M.D., LL.D., Professor of Physiology in the Bellevue Hospital Medical College, New York. Philadelphia: Lea Brothers & Co.

For many years Dr. Flint's work has been a standard textbook not only among physicians on this side of the Atlantic, but in all countries where the English language is commonly read. It has not only been a popular work with medical students in preparing themselves for their future work, but also with the busy practitioner in his trials and difficulties. Few modern physicians have had such opportunities as the late lamented author to prepare a treatise on the science and practice of medicine; still fewer have the indomitable perseverance necessary to make proper and full use of the matter which comes under their observation.

In the preface to this edition we are told that the basis of this work is an unbroken series of records of cases continued for more than half a century. These records embrace carefully reported histories of cases in all departments of practical medicine and observed in different parts of the country. The sixth edition has been thoroughly revised, and it contains a considerable number of important chapters on diseases which have only recently been recognized and understood. Among these additions we

* Treatise on Ruptures, by W. Lawrence, F.R.S., London, 1838.

find syphilis of the lungs and brain, spastic cerebral paralysis of children, hereditary ataxia, myxœdema, and multiple neuritis. Dr. Welch contributes the articles on Inflammation, New Formations, Degenerations, General Pathology of the Blood, and Bacteriology.

Address Delivered at the opening of the Summer Session Clinic for Diseases of the Nervous System, McGill University, April 14th, 1885.—By HENRY HOWARD, M.D., Medical Superintendent Asylum St. Jean de Dieu, Province of Quebec. (Reprint from the CANADA MEDICAL AND SURGICAL JOURNAL, May, 1885.)

Medical History of Louis David Riel during his detention in Longue Point Asylum.—By HENRY HOWARD, M.D. (Reprint from the CANADA MEDICAL AND SURGICAL JOURNAL, June, 1886.)

Criminal Responsibility.—By HENRY HOWARD, M.D. (Reprint from the "Alienist and Neurologist," July, 1886.)

Treatise on the Works of the Pseudo-Metaphysicists or False Supernatural Philosophers.—By HENRY HOWARD, M.D. (Reprint from the "Alienist and Neurologist," October, 1886.)

The Physiology of Atmospheric Matter, &c.—By H. HOWARD, M.D. (Reprint from the "Alienist and Neurologist," January, 1887.)

Dr. Henry Howard, the author of the above pamphlets, has been known for many years as one of the leading psychiatrists of this country. Few men in his department have had a greater experience, and very few, indeed, have made such good use of their time and opportunities. Full of an ardent enthusiasm for the propagation of truth and knowledge, he has spent fifty years of an active life in close and unremitting toil in his work. Like all work of a similar character, it has been in a monetary point unremunerative to the author, but rich in its good results to others, as a perusal of the papers under consideration will prove. These refer to and include matters of great and varied interest.

It is impossible in the short space at our disposal to even give a sketch of their contents. Recently, we regret to say, Dr. Howard has been unable, through failing health, to attend to his duties at the Longue Pointe Asylum. So serious is his condition that his medical attendants some time ago urged him to apply for three months leave of absence. This the Quebec Government readily granted. It is the sincere hope of his many professional friends that he may yet be long spared to enjoy the fruits of a life which has been devoted to science.

Post-Mortem Examinations, with special reference to Medico-Legal Practice.—By Professor RUDOLPH VIRCHOW, of the Berlin Charité Hospital. Translated by T. P. SMITH, M.D., M.R.C.S., with additional notes and new plates, from the fourth German edition. Philadelphia: P. Blakiston, Son & Co.

An accurate knowledge of the correct procedure in the making of post-mortem examinations constitutes an important part of the medical student's education. Skill in this art is a real accomplishment to the physician, and one which is by no means possessed by the many. It can, of course, be gained by practice alone, but Virchow's guide is the recognized standard authority to go by. It is so well known that it needs no further remark than to draw attention to this new and somewhat enlarged edition.

A Text-Book of Medicine for Students and Practitioners.—By DR. ADOLF STRUMPELL, formerly Professor and Director of the Medical Policlinic at the University of Leipsic. Translated by HERMANN F. VICKERY, A.B., M.D., and PHILIP COOMES KNAPP, A.M., M.D., with Editorial Notes by FREDERICK C. SHATTUCK, A.M., M.D., Instructor in the Theory and Practice of Physic, Harvard Medical School, &c. With 111 illustrations. New York: D. Appleton & Co.

This work, which has rapidly passed through several editions in Germany, has been very highly spoken of by those who have made use of it for some years. It is now presented to English

readers by means of the present translation, and has been adopted as the text-book at the medical department of Harvard University. The American edition says: "I am acquainted with no work which treats of the diseases of the nervous system, in our knowledge of which advance has been so rapid of late years, so fully, concisely and clearly." It is a book which it would be well for all students to have, because it presents the German views of pathology upon all subjects, and it is not advisable to be confined entirely to the study of English and American authors only. Considering the dimensions of the work—one volume, of very reasonable size—it is surprising how thoroughly the whole domain of practical medicine is covered. We commend it to the favorable notice of all.

Manual of Differential Medical Diagnosis.—By CON-
DICT W. CUTLER, M.S., M.D., Physician to the New York
Dispensary, &c. New York and London: G. P. Putnam's
Sons.

This is a small book, almost intended for the pocket, of about 150 pages. The object of the compiler is to bring out the salient points of diseases which resemble, and still differ from, each other. This is done by arranging the chief symptoms of each in parallel columns so that the necessary comparison can be made. To effect this, it is necessary to introduce a good many dogmatic statements which, to be accepted at all, would require to be modified and explained. It would certainly serve a purpose in the way of assisting students to prepare for written or oral examinations, but there is reason to doubt if it would substantially aid them in their clinical studies of disease.

Milk Analysis and Infant Feeding: A practical treatise
on the Examination of Human and Cow's Milk Cream, Con-
densed Milk, &c., and Directions as to the Diet of Young
Infants.—By ARTHUR V. MEIGS, M.D., Physician to the
Pennsylvania Hospital and to the Children's Hospital, &c.
Philadelphia: P. Blakiston, Son & Co.

The title of this little work explains itself. It is full of good

sense and of wise advice founded upon large experience and careful observation. All those in charge of families would do well to peruse it, and it is a treatise well fitted to be placed in the hands of intelligent parents for their guidance.

Pharmacopœia of the Montreal General Hospital.

Published by the authority of the Medical Board. 1887.

This small work will be welcome to many a practitioner who received his clinical training in the Montreal General Hospital. It contains the formulæ for many mixtures which have stood the test of a long experience. In addition to the formulæ used in general medical and surgical practice and diseases of children, there is a very complete list of those used in the ophthalmic department. There are two formulæ for solutions for hypodermic use, one for morphia and the other for pilocarpine. In each solution there is $\frac{1}{4}$ gr. of the alkaloid in every 10 minims. This, we think, is apt to give rise to confusion, as the hypodermic solutions of the British Pharmacopœia of these alkaloids is four times this strength. Would it not be safer and more convenient to make use of the hypodermic tablets which are now in common use? The work has evidently been prepared with great care, for, after a very critical examination of it, we find nothing to which we can take exception. Copies of this useful work may be obtained from Mr. Ashford, 816 Dorchester street, or from Dawson Brothers, 1336 St. Catherine street, for the modest sum of twenty-five cents.

Transactions of the Association of American Physicians. First session. Philadelphia: Wm. J. Dornan, printer.

We have received this volume of the transactions of the first session of the Association held in Washington last June. It contains a record of the proceedings, together with all the papers read at the meeting. Most of these have already appeared in the American journals, but several are of exceptional merit and well deserve to have been preserved in this more permanent shape. The whole forms a very handsome volume.

Books and Pamphlets Received.

TRANSACTIONS OF THE ACADEMY OF MEDICINE IN IRELAND. Vol. X.
 Edited by William Thomson, M.A., F.R.C.S. Dublin: Fannin & Co

THE SCIENCE AND ART OF OBSTETRICS. By Theophilus Parvin, M.D.,
 LL.D. Philadelphia: Lea Brothers & Co.

A TEXT-BOOK ON SURGERY—GENERAL, OPERATIVE AND MECHANICAL.
 By John A. Azeth, M.D. New York: D. Appleton & Co.

Society Proceedings.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, December 17th, 1886.

J. C. CAMERON, M.D., PRESIDENT, IN THE CHAIR.

Aneurism of the Innominate Artery.—DR. W. G. JOHNSTON exhibited a specimen of aneurism of the innominate artery, which had eroded the sternum and first and second ribs on right side. The arch of the aorta was unaffected. The right carotid and right subclavian were given off from the sac. The left carotid and left subclavian pressed upon and pushed over towards the left. The superior vena cava was obliterated through pressure at a point two inches above its origin. Azygos vein enlarged to the size of the ring finger, and communicated by a large branch with the superior intercostal vein. Superficial anastomoses of epigastric and hypogastric veins were prominent. Hemorrhoidal veins normal.

DR. ROSS said that the patient had been under his observation for eighteen months, and was never recognized as a case of aneurism of the innominate artery, but the symptoms pointed more to the arch of the aorta. The earliest symptoms were pain at the back of the neck and shoulder of a neuralgic nature, accompanied with cough. These were relieved by potassium iodide. The patient got better of his first attack, but was frequently laid up in hospital. Enlargement of the superficial veins of the abdomen and thorax was early evident, but lately the superficial veins were tortuous and as large as a man's finger. The patient also exhibited signs of intra-thoracic pressure—such as paralysis of the right vocal cord, rattle in the larynx, and signs of pressure on the trachea.

DR. R. L. MACDONNELL had had the case under observation for the last fourteen months, both in his wards in the Montreal General Hospital as well as during the past summer when the patient was earning his living as a night watchman. There were two points of clinical interest in the case. In the first place, the results of the use of the sphygmograph were deceptive. The tracings obtained showed very marked interference with the blood current through the left radial, hence he had assumed that the aneurism was situated on the arch at a point beyond the giving off of the innominate artery, the fact being that the great dilatation of the innominate artery caused not an impediment through that channel, but by its bulk had pressed upon the subclavian and disturbed the flow of blood to the left upper extremity. In the second place, the relief afforded by the iodide of potassium had been most effectual. Whenever the drug had been discontinued, or whenever the patient had been unable to obtain it, the pain and dyspnoea had increased. This effect had several times been noted, and particularly by the patient himself.

DR. WILKINS referred to a case in his practice where there was obliteration of the superior vena cava from clot, which produced no varicosity.

DR. ROSS said one of the early symptoms of the case was a suffused appearance of the face, but the varicosity did not progressively increase; it was sudden and at the last.

Typhoid complicated with Diphtheria.—DR. JOHNSTON exhibited for Dr. Neilson specimens from a case of typhoid fever complicated with diphtheria. There was a well defined membrane covering the fauces and extending through the larynx to the smaller divisions of the bronchial tubes. The spleen was enlarged, and there were typhoid lesions in the intestines.

DR. KENNEDY stated that the patient had consulted him about a week prior to his being sent to hospital. The symptoms present were somewhat anomalous. There was acute bronchitis with congestion of the base of both lungs. On the second day of attendance a rash made its appearance over the face and back, and as there were two children sick with measles in the next room it was looked upon as being a severe case of measles. On

the following day the patient exhibited typhoid symptoms, which increased in severity during subsequent days. Typhoid fever was clearly apparent, and the patient was sent to the hospital. The peculiarity of the case appears in the probable co-existence of measles with typhoid fever. The severity of the subsequent symptoms and rapid termination seems to strengthen the possibility of this combination.

Congenital Absence of the Petrous portion of the Temporal Bone.—DR. R. L. MACDONNELL exhibited the skull of an idiot which had been dissected at McGill College. There was on both sides deficient development of the petrous portion of the temporal bone. The base of the skull, as seen from within, was flat, the petrous bone not forming the normal ridge between the middle and posterior fossæ. The organs of hearing had never reached development, there being in reality but a rudimentary tympanic cavity. The foramina through which the various nerves passed were small. No previous history of the case had been obtained. The subject presented several other abnormalities. 1. The right common carotid divided into its external and internal division opposite the lower border of the thyroid cartilage. 2. The left common carotid did not divide at all, but was continued upwards as the internal carotid; the superior thyroid and lingual arteries were given off this common trunk, and the facial from the lingual. 3. The hypoglossal nerve was given off from the pneumogastric. 4. There was deficient development of the teeth. The bicusps were represented by small round pegs. The molars were ill formed, small, and rounded like milk teeth.

DR. WILKINS, 1st Vice-President, then took the chair, and

DR. CAMERON read a paper on "*Aseptic Midwifery.*" (See page 462.)

Discussion.—DR. KENNEDY agreed with Dr. Cameron in his conclusions. He rarely allowed a patient to have a douche; always believes in using it in person, as he found nurses, as a rule, unreliable. He could tell by the temperature chart in the hospital which nurse had charge of a ward. He did not believe in the use of a douche unless there had been operative procedures.

DR. RODDICK said he was always interested in antisepsis, and

had long believed antiseptics to be as important in midwifery as in surgery, but from his experience, as well as from the facts in the paper, he now regarded it of even more importance in the former. In 1877 he had been asked to give some rules for the guidance of a friend, then superintendent of the Hamilton General Hospital, and had laid stress on the use of antiseptic injections previous to delivery, as before operations in surgery. The results were good in Hamilton, though only tried for a very short time. He thought the excellent results obtained in the Queen Charlotte Hospital were largely due to the previous washing out of the vagina, as the discharge before labor was often septic.

DR. ALLOWAY thought no subject was of more importance than aseptic midwifery. Owing to its acceptance the mortality had notably decreased during the past five years. It is rare now to hear of septic cases, much less of death. For the last five years he had been an antisepticist, and had not witnessed a single death during that period, though, through nurse or midwife examining patients, he has seen many cases of septicæmia. He cited, as an example, where one midwife had lighted up several septic cases. Dr. Roddick's importation of Listerism had induced him long ago to apply it to midwifery cases. Dr. Cooper of New York reports 40,000 cases in Vienna with results similar to those stated by Dr. Cameron. He (Dr. Cooper) insists on using corrosive sublimate whenever there is any abrasion of the vagina.

DR. TRENHOLME said he had never had a case of septicæmia in his practice, though he never uses a tube, and believes this result due to his great care in removing the membranes and placenta entire.

DR. SHEPHERD called attention to the results, as stated by Dr. Cameron, of removing by the curette any adhering portions of the placenta as soon as septic symptoms appear.

DR. CAMERON, in replying, stated that the use of the jute pad and iodoform to the vulva after delivery was analogous to the mode of stopping a test tube in germ culture. There is always danger of carrying in air with the douche, and for that reason prefers the dry dressings.

CANADA

Medical and Surgical Journal.

MONTREAL, MARCH, 1887.

WHAT IS CADAVERIC RIGIDITY ?

The doctrine taught in all the physiological text-books up to the present is that *rigor mortis* is due to coagulation of the myosin after the death or contemporaneous with the death of the muscular tissues. This view seems to have been long ago questioned by Schiff. He maintained that cadaveric rigidity was the last act of the life and not the first consequence of the death of muscle ; he does not, however, seem to have given any very strong reasons for his belief.

Brown-Séquard called attention to some very striking facts long since which he has very recently formulated into a precise theory. He noticed that contracture might last after death for from five to twenty minutes or more ; that a contracture could intervene and disappear more than once during the first two hours after death ; that local cessation of the circulation artificially produced by ligature is followed by rigor, which disappears on removing the ligature.

Brown-Séquard finally concludes that though a coagulation of albuminous substances can contribute to the production of cadaveric rigidity, the principal and sometimes the only cause of this condition of the muscles seem to be a true contracture, an act of life, though it exists in the cadaver.

The matter has also been investigated by Hersen, who arrives at a similar conclusion on evidence furnished by physiological experiment. He holds that the contracture following somatic death is owing to the stimulating effect of the waste products of the muscular metabolism which, when the circulation is intact, are, of course, constantly removed. He would thus explain the

action of a ligature as referred to above ; the stimulus in this case is a chemical one, and the result wholly independent of the nervous system.

After section of the sciatic nerve in a rabbit it was poisoned with strychnia ; the limb on the side of the divided nerve did not, of course, partake in the general convulsions that followed, and accordingly passed into *rigor mortis* later. Such an experiment goes far to support this theory. If this explanation be sound, one would expect that, in cases of hemiplegia, cadaveric rigidity would occur soonest on the sound side, where the muscular metabolism would naturally be greatest, and with a view of testing this matter, observations are being now made in the Montreal General Hospital.

It will be seen that the new explanation does not necessarily supplant the old one of coagulation of myosin ; it only furnishes a supplementary cause of rigidity, for there can be no doubt that coagulation of myosin does occur, and rigor may be thus artificially induced in a decapitated frog by gradually raising the temperature to 40°-45° C.

ARTERIO-SCLEROSIS.

Prof. Thoma of Dorpat has recently published a series of careful researches upon the nature of arterio-sclerosis in the larger vessels, including atheroma. He considers the condition as commencing primarily as an expansion and distortion of the media ; the intima then becomes thickened by a process of compensating hypertrophy, having as its chief object the restoration of the vessel lumen to a circular or oval form, the fibrous material thrown out for this purpose may degenerate, thus producing atheroma. From this it would appear that over-exertion is the primary cause in the formation of aneurisms, and that primary atheromatous degeneration as a result of syphilis is less common than has been supposed. The novelty in Prof. Thoma's methods consisted in his employing means of obtaining sections of the large arteries under exactly the conditions in which they occur in the body during life. At an autopsy an atheromatous spot projects above the level of the normal intima. Thinking this might be largely due to the removal of the blood-pressure, he

employed parafin injections under a pressure of 7.6 cm. of mercury, the artery when containing this mass being ligatured and hardened in alcohol. It was then found that instead of the media forming a regular circle or oval at the atheromatous spot it was always bowed outwards. The apparent projections of the intima serving only to restore an even contour to the lumen of the vessel.

ON THE DIAGNOSIS OF CANCER OF THE STOMACH.

It is a well known clinical fact that cases of cancer of the stomach may be attended by such marked symptoms as to preclude the possibility of an error in diagnosis. On the other hand, the course of this disease may be so obscure that a diagnosis may be impossible during life. It is not, infrequent, however, to see another group of cases where, from the general wasting, we may suspect carcinoma, but where, owing to the absence of local symptoms, it is impossible to come to a definite conclusion. Every physician must have experienced the great anxiety necessarily attendant on the treatment of cases where he has had to wait month after month before he could finally communicate to his patient the presence or absence of a grave organic disease. From recent researches it appears highly probable that in these doubtful cases we have, in the presence or absence of hydrochloric acid in the gastric juice, an indication whether there is carcinoma of the stomach or not. Von den Welden, Ewald, Debove, Dujardin-Beaumetz and others have found that in cancer of the stomach there is an entire absence of hydrochloric acid in the gastric juice. Ewald even found the gastric juice free from hydrochloric acid in a case of cancer of the duodenum, where the examination was conducted an hour after a meal. The patient was a woman aged 67. She complained of pain over the pit of the stomach and loss of appetite. A diagnosis of gastric cancer was made, although no vomiting was present and no tumor could be detected. The filtrate of the contents of the stomach dissolved albumen slightly at the temperature of the body. On adding hydrochloric acid, the albumen was acted on more effectually. Repeated examinations of the contents of the stomach during active digestion

failed to discover any hydrochloric acid ; lactic acid was always present, peptone always, and propeptone occasionally. The treatment pursued was the internal administration of condurango wine and hydrochloric acid. The patient gradually became weaker, and died eight months after the beginning of her trouble. At the autopsy not even a trace of carcinomatous infiltration of the stomach could be found. In the duodenum, a few centimetres below the pylorus, an old ulcer with thickened walls was discovered ; its base was adherent to the liver. On microscopic examination, the walls of the ulcer were found to be the seat of commencing carcinoma. The question naturally arose : What was the cause of the entire absence of hydrochloric acid in the gastric juice, seeing that this viscus, with the exception of thin walls, appeared to be perfectly healthy ? On microscopic examination, the greater part of the mucous membrane of the stomach was found to be degenerated. This degeneration was particularly advanced in the fundus and cardiac end. In fact there was hardly a trace of the normal structure in this region. The mucous membrane was very thin, and consisted simply of homogeneous tissue in which were imbedded a few round cells. The debris of the normal gland structure was recognized by staining. In the pyloric region the glandular structure was still existing. The microscopic examination made clear why no hydrochloric acid was secreted. It was owing to the complete disappearance of the "fundus cells."

The case confirms the observations of Heidenhain that the whole glandular structure of the stomach secretes pepsine, while only the fundus cells originate hydrochloric acid. Digestion was accomplished in this case, as peptone and propeptone were found on all occasions. It must have been accomplished by the pepsine and lactic acid.

It remains to be seen whether all cases of at least cancer of the stomach are attended by degeneration of the mucosa of the fundus and cardiac end of the stomach. From the number of observations already made this appears probable. If so, we then have a valuable means of deciding the nature of doubtful cases. To have an entire absence of hydrochloric acid during digestion it is necessary that there should be extensive degene-

ration of the fundus glands. Why these should degenerate while the peptic glands still in a measure retain their functional activity it is difficult to see. To test for hydrochloric acid it is necessary that the stomach should be empty, for the presence of food materially influences the quantity of acid found. We have then to provoke a secretion of gastric juice independent of food, remove it, and test for the acid.

Leube's method, which is considered the best, is to introduce into the stomach a hundred cubic centimetres of ice-water, and after waiting for ten minutes, introduce three times the above quantity of water at the ordinary temperature. The whole is then removed and tested for hydrochloric acid in the following way: Two test tubes are taken, and into each is placed fifty cubic centimetres of distilled water, colored by a few drops of a two per cent. solution of gentian violet. Into one of the tubes a few drops of the liquid removed from the stomach is introduced. If the fluid contains even a minute trace of hydrochloric acid there will be a change in the colored solution from blue to red. If it is free from the acid, the liquor will remain blue. The procedure entails some trouble and annoyance to the patient, but if it is as valuable as is maintained, it is well worth a trial in doubtful cases. If by proving the presence of hydrochloric we eliminate cancer, our patients will certainly gladly put up with the disagreeableness of the method.

ANTIFEBRINE.

Drs. Cahn and Hepp, assistants in Kussmaul's klinik, have recently given the results of their extensive experience of the use of antifebrine as an antipyretic. Being the first to make use of this agent in the treatment of disease, they have paid very close attention to its working. In all they have treated sixty cases with it, half of which were typhoid fever. They have not noticed any specific action in any of the numerous diseases in which it was administered. Riese and Landgraf (*Deut. Med. Woch.*, No. 47, 1886), however, look upon antifebrine as having a direct and specific action in acute rheumatism; that is, an action beyond its purely antipyretic one.

There is no doubt about the marked antipyretic influence of

this agent, very numerous reports from many different sources confirming the first reports made of its action are recorded.

It would appear to be even more certain in its action than antipyrin. The dose varies from five to fifteen grains. The fall and subsequent rise of the temperature are always gradual. The greatest fall occurs from two to six hours after a full dose. Rigors do not occur. The frequency and tension of the pulse diminish with the falling temperature. A dicrotic pulse frequently loses this character after one or two doses of anti-febrine. Frequently it produces profuse diaphoresis and diuresis. It does not disorder digestion. It has not been definitely determined what changes it undergoes in the organism. Chemically it can be resolved into aniline and acetic acid. As a pure antipyretic, it will probably replace all agents of this class. Lepine (*Semaine Med.*, 47, '86) has reported good results from its use in neuralgia, tremor, and the pains of tabes dorsalis.

ISOLATION OF FLUORINE.

Probably the most interesting discovery that has been made in chemistry for many years is the method of isolating fluorine lately described by M. H. Moissan (*Comptes Rendus*, Vol. CIII, page 202). This element, though its existence was proved by Ampere in 1810, has stubbornly resisted the innumerable attempts that have been made to liberate it from its compounds. The intense affinity of fluorine for all other substances, especially for glass, seemed to preclude the possibility of our ever obtaining it in a state of purity, for, like the universal solvent so long sought after by the alchemists, if it were isolated, it seemed improbable that any vessel could be found that would hold it. M. H. Moissan, however, in the memoir referred to above, describes a method by which he has successfully brought to light this coy element. He shewed that it was possible to decompose absolutely dry hydrofluoric acid by means of an electric current. At the negative pole hydrogen collects; at the positive pole a gas is disengaged having novel properties.

The experiment was performed in a platinum U tube, with platinum electrodes. The tube was filled with dry hydrofluoric acid kept in a liquid state by surrounding it with methyl chloride,

thus reducing the temperature to -23°C . A current from 20 Bunsen cells, large size, was then passed through the liquid by means of the electrodes. This current was completely arrested when the acid was perfectly anhydrous; so to make the liquid conducting, small particles of potassium fluoride were introduced. From the positive pole there was a regular disengagement of a colorless gas possessing among other properties the following: Quartz and silicon burn brilliantly with formation of silicon fluoride. Sulphur takes fire in it, and even iodine burns with a pale flame. Water is decomposed in the cold hydrofluoric acid and active oxygen (ozone) are formed. Organic bodies are violently attacked; cork carbonizes and inflames in the gas; alcohol, ether, benzol, turpentine and petroleum take fire on contact. The gas evolved at the negative pole was hydrogen, and burned with its characteristic blue flame.

On one occasion, when the experiment had lasted several hours, and there was not enough hydrofluoric acid left at the bottom of the tube to separate the fluorine from the hydrogen, these two gases recombined in the dark and at the low temperature of the experiment with violent detonation.

Thus have the predicted properties of fluorine, founded on its atomic weight, been fully realized. It is the most active and energetic of all the elements. Its affinity for hydrogen is far greater than that of chlorine, and it has now been proved to be exactly first in the series of electro-negative elements.

Moissan probably owes his success more to his great care in having all his apparatus and materials perfectly anhydrous than to the ingenuity of his apparatus.

PULMONARY GANGRENE.

Dr. Ufredezzi, of Prof. Foa's laboratory, has recently published a study of pulmonary gangrene based on ten cases which he observed. Two of these were caused by the swallowing of gastric juice, and showed no bacteria beyond a few putrefactive ones. The other eight cases all showed the well known staphylococcus pyogenes, the microbes of acute suppuration, which were abundant in the necrosed tissues, sparingly present in a zone of small cell infiltration surrounding it, and absent in a hemorrhagic

zone which he observed at the periphery in all the cases. Five of the cases were secondary, and in cases of local suppurative disease in various parts of the body, two being in joints, the other three were due to the direct insufflation of necrosed tissues from gangrene of the tongue, erysipelas, and disease of the hyoid bone. He calls attention that in the condition we call gangrene characterized by a peculiar odor, the essential condition of necrosis has nothing to do with the special feature by which it is usually recognized, the latter being merely due to the occurrence of putrefaction after the necrosis has occurred. The uniform occurrence of staphylococcus aureus in so many consecutive cases is noteworthy, but does not imply that other organisms or causes may produce a like result in other cases.

BACILLUS OF TYPHOID FEVER.

Recently several independent observers have attempted to prove that the bacillus found in typhoid fever is pathogenic. It seems that considerable doses produce enlargement of the mesenteric glands and spleen, with follicular ulceration of the small intestine, in mice, whether given subcutaneously or by intra-peritoneal injection—the effects being apparently in direct proportion to the dose. No effect whatever could be obtained upon rabbits or guinea-pigs. It is doubtful if real typhoid does occur in these animals however, and these results cannot be considered conclusive.

AN ENDEMIC OF CEREBRO-SPINAL MENINGITIS.—A curious outbreak of this disease, limited to one household, is recorded by Dr. Ricard of this city in the last number of the *Union Medicale du Canada*. Five children of the same family were all attacked within a short time of each other, and all presented very similar symptoms. The parents are remarkably healthy people. The first case was in a boy of six. He complained suddenly of intense headache and pain in the back—then vomiting and high fever—marked retraction of the head and intermittent painful spasms—purpuric spots on the lower extremities and a vesicular eruption upon the face and ears—hyperæsthesia and great irritability. During convalescence, delusions with terror, seeing

serpents, &c. He recovered, but has remained quite deaf. The second, a boy of eight, was taken down three weeks later with similar symptoms and, in addition, great pains in certain muscles, and inflammation in the metacarpo-phalangeal joints of one hand—delirium very great for a long time. Recovered. Two weeks later the baby ten months old—fever, vomiting, retracted head, tetanic spasms accompanied by sharp cries, and prolonged somnolence—purpura upon the trunk and limbs. Recovered. Ten days later two more were attacked, a boy of four and a girl of six. The former was reduced to a mere skeleton, but ultimately got well. The latter, a delicate child, after the symptoms above detailed, fell into a state of stupor with dilated pupils, strabismus and marasmus, and finally died. We are not aware of this disease having been observed elsewhere in this form in Montreal, and such a local outbreak as this is difficult to account for.

THE BRITISH MEDICAL ASSOCIATION.

A recent number of the *British Medical Journal* takes up the subject of the formation of branches of the British Medical Association, and urges upon the profession in Canada the advantages that would result from their joining in the movement. An application has already been received from the medical men of Halifax, N.S., for the organization of a Branch in that city, and other cities are expected to follow. What would be gained by having direct connection with the parent Society in Great Britain is thus alluded to by the *Journal*:

“The pages of the *Journal* afford to all the Branches the opportunity of a systematic record of their proceedings and the means of addressing what is now practically the whole body of the educated and intelligent practitioners of Great Britain. The by-laws by which each Branch is governed, subject to certain general regulations which time and long experience have shown to be advantageous, are capable of very large modification to suit the needs and wishes of the Branch; while the influence which the British Medical Association has gathered in its long years of growth by the efforts of the many able, eminent, and self-sacrificing men who have guided its councils, and raised it to great power in the profession and in the State, is always at the command of any of its Branches in response to every legiti-

mate appeal. This influence is felt not only in the decision of social and ethical questions affecting individuals, but in appeals addressed to Municipalities, Governments and States. There are few circumstances arising in the medical polity of any colonial dependency which have not some direct relation to precedents existing in the previous history of Great Britain or of some other part of the Empire; and the Parliamentary and scientific committees of the British Medical Association have now a recognized influence in the councils of all the great bodies of the State. We venture to hope that the material, social, and scientific advantages of membership of the Association may commend themselves very extensively to our medical brethren in Canada. We can promise that our pages will be readily opened to contributions from our colleagues in the Dominion; no visitors are more welcome at the annual meetings of the Association, which are held at a convenient season in the autumn, than our brethren across the sea. In heartily welcoming the new Canadian branch, we also express the hope that a large accession of members throughout the whole Dominion may accrue to the Association, and that a network of Branches will be formed which will constitute a true medical federation uniting the whole profession in Great Britain and in Canada in the closest bonds of social, scientific and fraternal intercourse."

It is true that in Canada we have already some good working societies, such as in Toronto, Montreal, and in many districts, which are purely local. We have also a very active Provincial Association in Ontario, and we have the Canadian Medical Association, whose interests take a wider scope; but it is a matter for the consideration of the profession whether the formation of branches of the British Association would not be found to forward that which is the object of all, viz., the advancement of the profession, and to assist in giving it that influence which it should everywhere possess.

GYNÆCOLOGISTS *vs.* GENERAL SURGEONS.—The committee of the "Liverpool Hospital for Women," in their recent report, went out of their way when they recommended that in future operations on the liver, kidneys, spleen and other abdominal viscera should be left entirely in the hands of general surgeons. To whom do we owe the great advances of modern abdominal surgery generally, if not to gynæcologists? Many of the opera-

tions now performed for the relief of diseased conditions of the liver, spleen and kidneys were never even attempted before the establishment of special hospitals. Fortunately the recommendations of the committee will not have any permanent influence in preventing the gynæcologists from taking part in the further progress of abdominal surgery. These cases will find their way into the hands of the men best able to deal with them. Every competent and unprejudiced onlooker must feel that the general surgeon of the present day has not proven himself equal to the gynæcologist in abdominal surgery.

NOTES AND COMMENTS.*

Pasteur's work on Rabies continues to excite the greatest interest. It is stated that the English commission will report favorably upon the method and advise the establishment of a London Institute. On the 7th ult., Dr. Ernst, Demonstrator of Bacteriology at Harvard, read a paper before the Philadelphia Academy of Surgery giving the results of his studies on rabies, the virus of which—in the form of infected rabbits—was obtained direct from Pasteur's laboratory. Entering upon the work as a skeptic, and uninfluenced by personal considerations—not having studied with Pasteur—his investigations have a special value. He finds (1) a specific virus most concentrated in the brain and cord; (2) that this virus can be attenuated and gradually loses its strength; (3) that by the process of vaccination immunity can be given to rabbits. The question is not, however, finally settled. At the meeting of the Paris Academy of Medicine, Jan. 18th, M. Peter made a violent attack on Pasteur's method and claimed that several of the persons recently inoculated had died of paralytic rabies, induced by the vaccinations. In his last communication, von Frisch of Vienna states that after infection with ordinary street rabies, the preventive inoculations are always futile, and, further, that healthy dogs submitted to Pasteur's preventive treatment by the rapid method *become rabid*. This is, indeed, serious, and lends support to Peter's statement. Time and more work will give us the truth.

Dr. H. D. Schmidt, Pathologist to the Charity Hospital, New Orleans, is a man who has suffered in no small measure "the slings and arrows of outrageous fortune." Terribly crippled

*By the kindness of the Editors, I shall have the privilege of occupying, periodically, a few pages of the JOURNAL with comments on matters of general professional interest, and with notes on practice, books, and men. WILLIAM OSLER.

with rheumatism, which recurs in prolonged and painful attacks, he keeps on bravely, and has recently issued a monograph "*On the Origin and Development of the Bacillus Tuberculosis*" (the Clark and Longley Co., Chicago). It will be remembered—such things *always* are—that shortly after Koch's memorable discovery, Schmidt fell into the error of mistaking fat-crystals for the bacilli. This was hard luck, and a scientific *faux pas* at which many microscopists were inclined to scoff. From his recent researches Dr. Schmidt arrives at conclusions which run counter to our present ideas, and which will not be acceptable to the experts who have studied this question. He holds that the bacillus is a *bacterium*, which is, however, a minor matter, and that it develops in the nuclei of the cells; and suggests, as an explanation of its presence, that it may be formed from the protoplasm of animal cells, the vital activity of which is on the wane or is undergoing involution. In other words, he returns to the theory of heterogenesis, and thinks it possible that "the normal arrangements of the molecules of the protoplasm of the nucleus of an animal cell may, under certain conditions of the organism, be altered in such a manner as to correspond with that of the molecules of vegetable protoplasm." This seems rank heresy in these days of staining fluids and cultures.

What has become of the opponents of the germ theory? They seem to have been buried under the avalanche of bacterial literature which is pouring from the press. They are very quiet in England, even Dr. Bastian has not said anything since the debate at the International Congress in London; in Germany??; in France, Jaccoud and Peter occasionally enter protests, but Cornil and Lancereaux have carried the profession with them, and the younger generation of workers, to a man, have stained fingers. The truth is, that the current has been too strong and the majority find it easier to float with than swim against it. In this country there is a remnant, and Dr. Morris Longstreth has recently published a long article from the old standpoint entitled "Against the Germ Theory" (*Therapeutic Gazette*, Nov. 1886). He, like Schmidt, favors heterogenesis. It gives one rather a shock, but this may result from undue saturation with other views.

Antifebrin is a new remedy, introduced from Kussmaul's clinic at Strasburg, which seems to possess the virtue indicated by its name. It is the product of the action of acetic acid on aniline at a high temperature. The reports of its use are so

far favorable. We having been using it for the past three months and find the action tolerably constant. A dose of eight grains (in warm water or in spirits and water) will usually reduce the temperature from three to six degrees. There is sweating, often profuse, but not more than after thallin and antipyrin. In the twenty-five cases in which it has been given in my wards, it has failed three times, two cases of pneumonia and one of peritonitis. It does not disturb the stomach, has not once caused vomiting, and even where the temperature has fallen seven degrees in three hours there have not been symptoms of collapse. Cyanosis, noted by some, has not occurred. It is a cheap drug; Merck's, which we have used, is only 60c. an ounce, while thallin is 75c. and antipyrin \$1.50.

Strophanthus, the new heart toxic, introduced by Professor Fraser of Edinburgh, is at last in the market, and can be obtained in the form of tincture. A supply of the seeds has arrived from the African Lakes Company. Two London houses cornered the market and ran up the price of the seeds from 80s. to 160s. per lb. Burroughs & Wellcome's tincture can be obtained here at 75c. an ounce, and Parke, Davis & Co. will soon have an ample stock. Reports indicate that this is the most active heart tonic yet discovered, more powerful than digitalis, and more rapid in its action. Let us be contented if it turns out to be as good as the priceless foxglove. I have not yet been astonished by the promptness of its action, but we are using it tentatively, and may not have reached, with the tincture, the effective dose.

In the medical wards of the Philadelphia Hospital an odd sight may now be daily witnessed. The resident physician, with large rubber bag full of gas, approaches the bed of a phthisical patient, who at once assumes the lateral decubitus, exposes the anus, when from two to three quarts of the gas are slowly injected into the bowel. This is the new treatment of phthisis, introduced by Bergeon of Lyons, and already loudly vaunted. The principle is an old one, announced many years ago by Claude Bernard, who found that gases injected *per rectum* were absorbed and exhaled by the lungs. Bergeon has applied this to the treatment of pulmonary diseases, and finds that with the sulphuretted hydrogen—the best gas to use—many cases of phthisis are greatly relieved; the pulse is lowered, the temperature falls, the expectoration is lessened, and the night sweats are checked. Bergeon advises the use of carbonic acid passed through the natural sulphur waters or through a tube containing the sulphuret

of carbon. In the *British Medical Journal* of December 18th, Dr. J. Henry Bennett gives some interesting facts concerning this method, which in some cases seems to accomplish the results claimed by Bergeon.

In the last Johns-Hopkins University circular there is an interesting statement regarding the pathological department, which has been organized under Professor Welch. The laboratory as now equipped is the only equivalent in this country of a German pathological institute, and already seventeen physicians are enrolled as students. The hospital is nearly ready for occupation, and within a few years the medical school will be established, from which much may be expected for higher medical education.

Of recent books, Professor Strümpell's *Practice*, edited by Dr. George Shattuck of Boston, will give to English readers one of the best of German text-books by one of the rising clinicians of Europe. Dr. Strümpell was assistant to Wunderlich and to Wagner in Leipsic, and now holds the chair of medicine at Erlangen. On diseases of the nervous system the work is exceptionally good.

Dr. H. C. Wood's *Nervous Diseases and their Diagnosis* is a very successful attempt to deal systematically with "the phenonema produced by diseases of the nervous system, with especial reference to the recognition of their causes." It will prove a boon to the practitioner lost in the maze of the new science of neurology.

Upon Dr. Parvin's *Midwifery* I cannot offer an opinion, but it looks a practical text-book, and the embryological and physiological parts, of which I can judge, are well written.

Surgeons will welcome the exhaustive monograph *De l'Intervention Chirurgicale dans les Affections du Rein* (Paris, G. Masson, 1886) by your townsman, Dr. A. Brodeur of Laval University. It forms a complete history of the surgery of the kidney, and a study of the cases therein narrated will be of great service in the diagnosis of obscure renal conditions.

The second edition of Finlayson's *Clinical Manual* should be in the hands of every hospital student. It has been a long time appearing, but there are many additions and improvements, and it forms an admirable *vade mecum* for ward work.

A "guide of life" for the physician, corresponding to Herbert's *A Priest to the Temple*, has not yet been written, but an excellent equivalent is the *Religio Medici* of Sir Thomas Browne, which I mention to call attention to the fact that a cheap Edin-

burgh edition has recently been issued, with an essay on the author by that quaint old philosopher, Sir Kenelm Digby.

Medical Items.

—Prof. Beclard, the distinguished physiologist, and Dean of the Medical Faculty in Paris, is dead.

—Professor Grawitz has been appointed Ordinary Professor of Pathological Anatomy in the University of Greifswald.

—Professor Billroth, the distinguished Vienna surgeon, has been raised to the Austrian peerage.

—Prof. Roddick has been forced by ill-health to resort to a southern climate. He has been spending some weeks in Florida. He is expected home early in March, to return, we hope, with fully restored vigor.

—Dr. William Gardner, Professor of Gynæcology in McGill University, has been appointed a vice-president of the British Gynæcological Society. We congratulate our distinguished townsman on this evidence of the appreciation in which he is held abroad.

—Carl Schröder, the distinguished gynæcologist of Berlin, died on the 7th ult. after a short illness. Death was due to an old encapsuled abscess the size of a walnut, situated in the right fornix, bursting into the ventricle and setting up a fibrinous suppurative inflammation. In our next number we will present our readers with a sketch of the life-work of this great man.

A NEW COMBINED SPECIALTY.—The following advertisement is clipped from one of our daily papers :

DR. — (M.D., University of Rome, Italy, degree confirmed after examination by the Faculty of Medicine of the Province of Quebec) has the honor of offering his professional services to the public. After long experience in different climates, a very happy result is guaranteed in all chronic diseases, especially in Dyspepsia, Asthma and Bronchitis, etc. Specialty—Diphtheria, Accouchment, and Sicknesses of Women in general. Office, — street.

The association of *Diphtheria* and *Obstetrics* (!) as a combination-specialty certainly is original. The average medical mind will find it hard to believe that the operator is safe in “guaranteeing” a “very happy result”—except it be euthanasia!

—Scott & Bowne, manufacturing chemists of New York, make a specialty of producing an emulsion of cod liver oil with hypophosphites. Their great care in selecting the oil and in making the combination is amply proven by the high therapeutic value set upon the emulsion by the profession. It is no new remedy, but has been steadily growing in demand for a number

of years. It is certainly very useful in restoring wasting tissue, and in cases of scrofulosis is highly beneficial.

—Dr. Charles H. Chalkley, of Richmond, Va., writes to Battle & Co. of St. Louis describing two samples of “Bromidia” as follows: Sample No. 1 is reddish-brown in color, slightly opaque, and not very disagreeable to the taste. Doses of one or two drachms have a decided hypnotic effect. Sample No. 2 is of a light greenish-brown color, perfectly transparent, and intensely disagreeable to the taste, being bitter and acrid, and bearing evidence of containing no coloring matter whatever. The dose of one or two drachms does not have as decided and prompt an effect as in the case of No. 1. It appears that No. 1 is the correct thing, and is to be distinguished from spurious articles such as No. 2.

TRADE-MARK CASE.—Some time since an action was brought in Brussels against English dealers in extract of meat, to prevent them from using the title of “Baron Liebig’s Extract,” or from placing the photograph of the late Baron Justus von Liebig on their jars or in any way using the name or title of Baron Liebig. The action was brought by the Liebig’s Extract of Meat Company, and was successful. The English dealers thereupon took the case into the Court of Appeal. The judgment was given last week, confirming the decision of the Tribunal of Commerce and condemning the English dealers, who were defendants in the action, to pay damages and also restraining them from making any further use of the name of Liebig or Baron Liebig, or of the photograph, this right being declared to be the exclusive property of the Liebig’s Extract of Meat Company.—*Times*.

MR. JAMES STARTIN ON CASES OF SKIN ERUPTIONS AND SYPHILIS TREATED WITH HORSFORD’S ACID PHOSPHATE.—“It appears to me that the ‘Acid Phosphate’ originally prescribed by Prof. Horsford of Cambridge, U.S.A., is not so well-known in this country as its merits deserve. A glance at the formula will, however, readily convince one of its value in suitable cases. Each fluid drachm gives on analysis 5 1-2 grains of free phosphoric acid, and nearly 4 grains of phosphate of lime, magnesia, iron and potash. The following is a brief note of a case in which I prescribed it with complete success: Mr. G., aged 69, consulted me November, 1885, for eczema on the arms, legs, palms of the hands, and trunk. The patient complained of much debility and nervous exhaustion, and he was a man who had led a very busy business life, with much worry. In Dec., 1885, I prescribed Horsford’s acid tonic with much good effect, as in Feb., 1886, I heard that he was quite well.”—*Med. Press, London, Eng.*