DOMINION MEDICAL MONTHLY

AND ONTARIO MEDICAL JOURNAL

VOL. XIII. TORONTO, NOVEMBER, 1899. No. 5.

Original Articles

No paper published, or to be published elsewhere as original, will be accepted in this department.

DISEASES OF THE KIDNEY, AMENABLE TO SURGICAL TREATMENT.*

BY DR. CHRISTIAN FENGER, CHICAGO,
Professor of Clinical Surgery, Rush Medical College.

Before entering upon the consideration of the topic assigned, I desire to acknowledge my appreciation of the compliment paid me in inviting me to speak before this Association, and to express the pleasure that it gives to appear before you on this occasion.

ORIGIN AND GROWTH OF SURGERY OF THE KIDNEY.

The surgery of the kidney began thirty years ago, when on August 2nd, 1869, Gustav Simon, of Heidelberg, removed a kidney by the lumbar method for an irreparable ureteral fistula. This operation demonstrated that a man could live in perfect health, if not in perfect security, with only one kidney.

This new field of surgery developed rapidly, as may be seen from a review of the literature on this subject. If we take, for example, the Virchow-Hirsch Jahresbericht, and count the number of papers on surgery of the kidney therein noted, the count will not include all the papers written on this subject, but will give a relatively correct idea of the growth of the literature.

In the first decade, from 1869 to 1879, less than twenty articles

* Read before the Ontario Medical Association, June 14th, 1899.

appeared; in the next decade, from 1879 to 1889, about three hundred, or an average of thirty papers a year; while in the third decade, from 1889 to 1899, about eight hundred papers, or an average of eighty a year, appeared.

The latest field in surgery, that of surgery of the ureter, is, as might be expected, inseparably connected with the surgery of the kidney, and of the uro-genital organs.

The surgery of the ureter is represented in the literature during the last decade by ninety papers, eighty-seven of which appeared between 1894 and 1899. Thus the surgery of the ureter is only about five years old in its recent development.

STAGES OF DEVELOPMEMT OF SURGERY OF THE KIDNEY.

Period of Radicalism: Nephrectomy, or nephrotomy through diseased kidney tissue.—The first decade of kidney surgery might be termed the period of nephrectomy or radical surgery, during which the loss of one kidney was not considered so much as was the speedy cure of the patient. Nephrotomy and nephrectomy were performed, indiscriminately in suppurating kidneys with or without stone, nephrectomy in calculous kidneys without suppuration, and even for floating kidney with healthy secreting tissue, as done by Martin, of Berlin, in 1878.

Period of Conservatism: Operation through healthy kidney tissue (Morris). At the beginning of the second decade the first steps in the direction of conservatism were taken, and, instead of nephrectomy, less radical operations were made to remedy the disease without sacrifice of the "noble tissue of the kidney," as Tuffier calls it. In 1881 Hahn made nephropexy or nephrorrhaphy for floating kidney, thus saving the healthy organ which previously would have been removed. The most important step, however, and one whose consequences have been most far reaching, covering the entire field of kidney surgery, we owe to Henry Morris, of London, who, on February 11th, 1880, had the courage to operate through healthy kidney tissue, and remove an oxalate of lime stone from an undistended, healthy-looking kidney, by an incision through the renal parenchyma. No operator, prior to this time, had dared to encounter the hemorrhage which follows incision through healthy kidney substance. Thus stones had been removed only from suppurating and often distended kidneys, where the interstitial nephritis made the incision almost bloodless. From this important operation of Morris dates the possibility of the development of conservatism which is pressing forward, fighting its way toward the goal of renal surgery, which is the preservation for the patient of all kidney tissue available for secretion. Morris' operation has made it possible to save the kidney from the destructive influences of the stone, namely, suppuration and dilatation, which are finally bound

to occur. I consider Morris' operation on healthy kidney tissue, of far greater importance, however, because, in addition to allowing resection of the kidney, it paved the way for the exploratory incision which now, in less than twenty years, has grown to be an operation of far-reaching diagnostic, as well as therapeutic value. In the third decade the latest step toward conservatism was made; namely, the surgery of the ureter. This somewhat limited field of surgery has, with the exception of ureterectomy for tuberculosis and septic pyelitis, no other object than to save the secreting kidney tissue above from disturbances from below, due to retention or infection. In a review of this nature, the time at my disposal will permit me to indicate only a few points in urinalysis and the present status of treatment of surgical diseases of the kidney. Tuffier's experiments on dogs have demonstrated that the minimum amount of healthy kidney tissue necessary for life, is one to one and a half grams for each kilogram of body weight. An adult man should have three hundred grams of kidney tissue; if his weight is seventy-five kilograms, or one hundred and fifty pounds, he needs only seventy-five to one hundred and twelve grams of the three hundred grams of kidney tissue; that is, he can spare two-thirds or three-fourths of the normal amount of kidney tissue before crossing the danger line, and he may live in perfect or relative health for years during the destruction of the kidneys, until the last fourth is reached, when sudden uremia sets in. When the amount of kidney tissue approaches the lowest limit, the quantity of urea diminishes, although the amount of urine may still be normal. It is, therefore, a matter of vital necessity to examine the urine for urea before operating. Compensatory hypertrophy or regeneration of kidney tissue of a healthy kidney, when its fellow has been removed or destroyed by disease, has been studied experimentally by Tuffier. After extirpation of one kidney he removed, by successive partial operations, portions of the remaining kidney aggregating in all the weight of the kidney first removed. From this he concludes that as a quantity of kidney tissue equal to both kidneys was removed without disturbing the health of the animal, at least the necessary one-fourth of the kidney tissue must have been formed by regeneration or compensatory hypertrophy.

Examination of the Urine (bacteriological).—After thorough cleansing of the external genital organs and of the urethra, the bladder urine must be withdrawn by a sterile catheter lubricated with boiled olive oil, and collected in sterile test tubes. If there is doubt whether the pus or blood comes from a diseased bladder or from the kidneys the bladder should be washed out and the urine collected directly from the ureter by means of a catheter left in the bladder. An aspiratory puncture with a fine needle above the symphysis and removal of the urine through an aspirator syringe

as practised in Johns Hopkins Hospital, does away with the danger of infection by the catheter and protects against contamination of the bladder urine. Examination, of the collected urine must be made without delay, as the urine changes rapidly by decomposition. The reaction, whether acid, alkaline or neutral, should be noted. Microscopical examination after sedimentation by means of the centrifuge, may reveal red blood corpuscles, white corpuscles, pus cells, crystals, cylinders and epithelial cells from the urinary tract, or very rarely abnormal cells from tumors. Chemical examination should be made for albumin blood and sugar. If the filtrated purulent urine contains much albumen, disease of the kidney must be suspected, since the longer the pus cells remain in the urine the more of them will be dissolved.

Quantitative Examination for Urea.—After the patient has been on nitrogenous diet for some time, a sample from the twenty-four hour urine should be examined by Esbach's method, for example. The hypobromite solution should always be made fresh. As alkaline decomposition of urine diminishes the urea; the bladder should be washed out, so that acid urine may be voided and the examination should be made as soon as possible after the urine has been passed. If the quantity of urea is below normal as is found in tumor, stone and pyonephrosis, it may be concluded that the other kidney is not healthy, and, consequently, that operation is dangerous. As an aid in the differentiation between disease of the bladder and of the kidney and to ascertain from which kidney the blood or pus is excreted, resort is made to cystoscopy—direct cystoscopy through a tube, the light being thrown into the bladder previously distended with air from a head mirror, as practised by Kelly, is useful in women. Indirect cystoscopy is made by means of Nitze's cystoscope, in which an electric lamp in the bladder, previously filled with water, illuminates the bladder wall. To collect the urine separately from each ureter, we resort to catheterization of the ureter by means of a long, fine, flexible ureteral catheter inserted by the aid of the cystoscope. An instrument devised by Harris for this purpose may be tried. Direct examination of the kidney through an extra-peritoneal (lumbar) incision is the last step in a positive diagnosis. When the surface of the kidney has been laid bare we may palpate or aspirate, as in cystonephrosis and stone, or excise a piece of kidney tissue for microscopic examination, or we may bisect the organ longitudinally down into the pelvis in case of stones in the calices, stenosis, valve formation or abscess. Division of the healthy kidney tissue, even in the median line, causes considerable hemorrhage which may be controlled by compression of the renal vessels by the hand of an assistant or an intestinal compressor, or directly by packing with gauze.

MOVABLE KIDNEY.

An elastic abdominal supporter with a pad under the ribs, together with appropriate internal treatment should always first be tried, as many patients obtain a sufficient degree of relief therefrom. If this treatment fails, the operation of nephrorrhapy or nephropexy, which was first made by E. Hahn in 1881, should be performed. The operation is as follows: After lumbar incision and division of the capsule, the kidney is laid bare, pushed up into its normal location, and the fibrous capsule together with a layer of the cortical substance united with the fascia and outer periosteum of the twelfth rib by three or more sutures. To avoid relapse, however, it is advisable to follow the suggestion of Tuffier who, in addition to the sutures, dissects out a flap of the fibrous capsule two cms. broad and of the length of the kidney, and unites this flap with the borders of the divided muscles. Nephrorrhaphy has a mortality of about one to one and one-eighth per cent.; about sixty-five per cent. of permanent cures, in ten per cent. improvement takes place, and relapses occur in twenty-two per cent. of the cases.

CONTUSION OF THE KIDNEY.

Subcutaneous Rupture.—Absolute rest in bed for three weeks is essential to avoid the danger of secondary hemorrhage. Stimulants should be given during the period of shock and morphine for the pain. Local application of cold (icebag) is often employed and Tuffier recommends compression of the costo-iliac space by a pad of cotton held in place by a flannel bandage. The patient should be put on light liquid diet. Ergot, acetate of lead or other hemostatics may be employed. It is important to avoid the use of the catheter and absolutely essential to secure asepsis if the catheter must be used. Hemorrhage or infection may necessitate operative treatment. Hemorrhage from the larger vessels may be stopped by ligature or tampon, but if the whole kidney is found to be crushed it should be removed. Infection may require evacuation of pus by nephrotomy, followed by drainage or nephrectomy if the greater part of the kidney tissue is destroyed or if the kidney is the seat of multiple abscesses.

WOUNDS OF THE KIDNEY.

Gun-shot wounds should be sealed after thoroughly cleansing the skin, and the patient should be kept in bed for at least three weeks. If a large swelling and symptoms of anemia appear, the kidney should be laid bare and the hemorrhage stopped by ligature or tampon, or nephrectomy should be made if the renal vessels are injured. Incised wounds with external hemorrhage should be freely opened and the kidney examined. If the wound

is aseptic the kidney can be sutured; if infected, the hemorrhage should be stopped by packing and the wound united later on by secondary suture. If urine exudes, drainage is required. If infection of the accumulated blood and urine occurs, as indicated by onset of fever, pain and increased lumbar swelling after eight or ten days, free incision (nephrotomy) or eventually nephrectomy must be made. The hematuria almost always stops spontaneously, but if it persists despite rest and ergot, and if copious, the patient's life has been saved by nephrectomy (in five out of six cases—Tuffier). If the bladder is filled with coagula, causing vesical retention, catheterization is usually resorted to, but this is difficult, as the clots often occlude the eye of the catheter. It is, therefore, better to use Bigelow's litholapaxy evacuator. If this procedure is unsuccessful, suprapubic puncture and aspiration of the urine and liquid blood may be of assistance during the few days required for the crumbling of the coagula. If aspiration is tried in vain, the bladder must be opened either by perineal section, or, preferably perhaps, by epicystotomy.

NEPHROLITHIASIS.

Medical treatment should always be resorted to after operation for removal of stone, and when operation is deemed unnecessary or dangerous. In acid lithiasis with urate or oxalate stones, lithia water from a pint to a quart a day, and half a teaspoonful of bicarbonate of soda with the meals should be given for six weeks, to be repeated three or four times a year. The alkaline mineral waters, open air exercise, regulated diet, no abuse of alcoholics, will serve as an outline of the treatment. In alkaline or phosphatic lithiasis, the urine should be made acid by the use of boracic acid in doses of fifty cgm., or salol in one-third gram-doses three or four times a day. Three or four pints of cold boiled water should be taken daily by all patients.

Surgical Treatment.—The operations for nephrolithiasis are nephrolithotomy, pyelolithotomy, nephrotomy and nephrectomy. Nephrolithotomy, or removal of stones from a healthy, non-infected kidney, was first made by Morris in 1880. Through an oblique lumbar incision the kidney is isolated, brought out into the wound and palpated in order to feel stones in the pelvis. The stones in the calices are sought for by puncture with an aspirator needle, and, if found, are removed by an incision made with the needle as a guide. If retention exists, the pelvis is found by aspiration and the kidney opened on its convex surface on the needle as a guide. When the pelvis is opened, exploration is made with the finger or metal sound. The stones are extracted after division, if they are very large, but always with as little manipulation as possible. The hemorrhage from healthy kidney tissue is considerable and must

be controlled by compression of the vessels in the hilus or by local pressure with gauze sponges. The thermo-cautery may also be of use as a hemostatic in these cases. The ureter is then examined with a metal probe to determine its permeability and to detect stones. The stones extracted should be carefully examined to determine whether pieces have been broken off and left in the kidney. If asepsis is certain, the wound in the kidney should be united by catgut sutures by which hemostasis is assured. Primary union may take place.

Pyelolithotomy.—If the stone is located in the pelvis near the ureter, it may be removed through an incision in the posterior pelvic wall. This operation possesses the advantage that there is no hemorrhage, but has the disadvantage that stones are more easily overlooked and that the operation is said to be more frequently followed by fistula. (Rovsing.)

Nephrotomy, or Opening into a Suppurating Kidney to Evacuate Pus and Remove Stones if present.—The kidney is opened at its most prominent point over one of the thin-walled sacs. Exploration is then made with the finger and steel sound for stone. This must be done carefully, as stones were either not found, or as all stones were not removed, in sixteen per cent of one hundred and fourteen cases reported by Tuffier. The thin, atrophic kidney wall does not bleed. The wound in the kidney is united to the skin, and the cavity packed and drained in order to overcome the pyelitis by local treatment.

Nephrectomy, which was formerly much in vogue, has been almost entirely abandoned. It possesses the advantage that, if the patient survives, he is cured by a single operation; but the mortality is thirty-eight per cent., as against thirty-three per cent. mortality for nephrotomy. For this reason, many operators follow the advice of Guyon, first, to make nephrotomy and later on nephrectomy, if demanded. This secondary nephrectomy, after the lapse of months or years, is a relatively safe operation.

Calculous Anuria.—When the only useful kidney is closed by stone, nephrotomy, as suggested by Thelen, in 1882, should be done during the period of tolerance. Hot baths, careful massage of the ureter, electricity, and chloroform narcosis may be tried for a day or two. If the patient is not operated upon, Tuffier and Legueu's statistics show that twenty-eight per cent. recover by spontaneous expulsion, and that seventy-two per cent. die, while operation has saved sixty per cent.

PYONEPHROSIS AND PYELONEPHRITIS.

Treat or Cure the Cystitis and Overcome the Causes of Retention (Stricture, Enlarged Prostate, Abdominal Tumors, etc.)—Primary hematogenous pyelonephritis in a patient who has free passage of

urine is amenable to internal treatment. The lines upon which the treatment is based are: rest in bed, increased diuresis by drinking large quantities of water or milk and biborate of soda up to thirty grams daily (Tuffier). Salol in doses as high as three grams a day has been recommended, but is apt to cause poisoning (hemoglobinuria). Boric acid and the alkaline waters are safe agents to employ. When the disease is unilateral or the sepsis acute, operative treatment is indicated. Nephrotomy is the operation of choice; lumbar incision, evacuation of the perinephritic abscess, incision of the kidney, evacuation of pus and stones, division of the partition walls in a multilocular cavity, irrigation, packing with sterile gauze and drainage after suturing the kidney wound to the skin. If the suppuration persists, secondary nephrectomy may be required. If a fistula remains and the kidney is worth saving, a secondary operation to re-establish the passage through the ureter is required. Primary nephrectomy should be made only when the kidney tissue is filled with multiple abscesses and acute sepsis demands the removal of the organ. Weir, in an article on "The Surgical Treatment of Surgical Kidney," reports seventy-one cases of acute surgical kidney, ascending infection, twelve of which, or sixteen per cent., were unilateral. Thus, if the condition of the patient permits, exploratory lumbar incision may be made on one or both sides, and the kidney removed if needed. He reports a case of gonorrheal cystitis in a man of twenty-five. During convalescence, acute septic infection of the right kidney occurred. On the eleventh day after the initial chill, the patient had right renal pain. He was taken to the hospital where a diagnosis of ileotyphus was made, and icebags applied for the pain. A swelling appeared in the region of the right kidney. On lumbar incision it was seen that the kidney was twice its normal size. No pus was evacuated on puncture. An incision one inch in depth revealed multiple miliary abscesses and ecchymoses. The kidney was therefore removed, and the patient recovered. Nephrectomy should also be made in all cases where no active kidney tissue remains. As it is, however, usually impossible during an operation to determine the secretory value of a kidney, nephrotomy should always be first resorted to. In operations for nephritis, as in all operations on the kidney, it is not permissible to employ poisonous antiseptics. Sterile water should be used and sterile gauze, not iodoform gauze, as has been so often recommended.

TUBERCULOSIS OF THE KIDNEY.

Internal Treatment has Symptomatic Value only.—Operation may effect a cure which will last for years. Nephrectomy, total or partial—the latter being rarely applicable—is the operation of choice. It is applicable when the other kidney is healthy, and when the

patient's condition as regards tuberculosis in other organs permits. It has, however, been seen that tuberculosis in the bladder has improved after nephrectomy. The tuberculous ureter may be excised with the kidney if the patient's condition permits. Subcapsular nephrectomy with curetting of the adipose capsule has the advantage of being easy of execution, but has the disadvantage of not removing all the tuberculous foci. Nephrotomy for evacuation, curetting and local treatment is recommended by as high an authority as Guyon, to be followed by secondary nephrectomy when the patient's health is improved. Guyon gives the excellent advice on technique of the operation, to suture the divided adipose capsule to the skin before opening into the tuberculous kidney, in order to avoid infection of the wound. Nephrotomy as a curative operation, is being abandoned, as not one of the ninety cases reported by Vigneron and Facklam was cured, and as the operative mortality was twelve or thirteen per cent., making the mortality from the disease thirty-three to thirty-eight per cent. On the other hand, of eighty-eight primary nephrectomies reported by Facklam, 28.4 per cent. died, and 40.9 per cent. resulted in perfect cure, in fourteen cases the patient lived from two to eight years after the operation. No operation should be made when the urea is diminished below one-third of the normal.

MALIGNANT TUMORS OF THE KIDNEY.

Nephrectomy should be made by lumbar incision in case of the smaller tumors, but the transperitoneal operation will be required if the tumors are too large to be removed through a lumbar wound. The tumor is operable if it is limited to the kidney, and if there are no metastases in the lymphatic glands. In many cases this cannot be determined before exploratory incision renders palpation of the organ possible. If it is found that enucleation cannot be completed in perfect healthy tissue, the operation should be abandoned. The prognosis of the operation is grave; the operative mortality before 1890 was over sixty per cent., but has decreased in the last five years to twenty-five per cent. (Wagner). Radical cure is rare, but the instances are increasing in which a permanent good result is obtained. Israel reports three patients out of eleven operated upon who were in good health after three years; I have one case in which the patient is still in good health, eight years after operation. Local relapses may come on later, after three years or more. Therefore Tuffier gives six years as the time which must elapse before the patient may be said to be permanently cured.

BENIGNANT TUMORS OF THE KIDNEY.

Lipomata, adenomata, fibromata, angiomata, myomata and combinations of these have been found in the kidney. In most

cases the tumors are small, give rise to no symptoms, and are discovered accidentally on the *post-mortem* table. Benignant tumors have been removed by nephrectomy in about ten cases only; two of these were adenomata and eight fibromata (Rovsing). Serous cysts about the size of a walnut, either solitary or multiple, should be recognized during operation, and removed by resection. Echinococcus cysts are found most commonly in men between the ages of twenty and forty; ordinarily in one kidney only, and most often in the left. There is usually only one mother cyst which begins in the cortical substance, causes expansion and atrophy of the kidney tissue, and, when large, may extend to the abdominal cavity, becoming adherent to the colon, liver, spleen, etc. Finally, after one or two years the cyst ruptures, fortunately most often into the pelvis of the kidney, and evacuates part of its contents through the ureter. The symptoms are at first vague; the tumor is globular, and often movable. Rupture is marked by a sudden pain, followed by renal colic as the daughter cysts pass down the ureter, and vesical tenesmus when they pass out into the urethra. The cysts are usually crushed during their passage from the kidney, and we find in the urine transparent gelatinous masses (the sac walls), and a little blood. Microscopic examination reveals the characteristic hooklets and lamellated membranes of the sac. Later on infection occurs, which is attended by fever and emaciation, terminating fatally in most cases (twenty-three out of twenty-nine cases, (Boeckel), spontaneous recovery being the exception.

Treatment.—The cysts should be opened by lumbar or transperitoneal incision, the contents evacuated, and drainage maintained until the cavity is closed. The opening in the cyst wall must be united to the skin. Lumbar incision, if practicable, is to be preferred. If the transperitoneal route is chosen, the operation in two stages is preferable. Le Dentu treated nine cases, and Wagner twenty-eight cases in this manner, and all the patients recovered; while out of ten cases in which nephrectomy was performed, Wagner reports three deaths, and of eleven cases of puncture alone, or puncture with injection of tincture of iodine, three were cured, three remained unimproved, and five died.

ANEURISM OF THE RENAL ARTERY.

Rovsing reports that only nine well-described cases of aneurism of the renal artery are to be found in the literature. The diagnosis was made in none of these cases until an exploratory operation or autopsy revealed the true character of the disease. If the aneurism is located on one of the large intra-renal branches, the swelling is central, and causes distension of the kidney. If it is an aneurism of the trunk of the renal artery, the tumor is located outside of the kidney in the hilus, and pushes the kidney aside without making

any change in the shape of the organ. The symptoms are a rapidly increasing, tense or elastic tumor, with a feeling of heaviness and pain, which may radiate down to the testicle of the same side. Pulsation has not been noted in any of the cases. Diagnosis is practically impossible before an exploratory incision has been made. The possibility of aneurism should be considered when, subsequent to an injury in the region of the kidney, a tumor of considerable size develops rapidly with no hematuria, especially in patients having arterio-sclerosis or syphilis. The treatment is nephrectomy, after ligature of the renal vessels as close to their origin as possible. Two patients have been saved in this manner. (Hochenegg, Hahn).

Cystonephrosis (*Hydronephrosis*, *Pyonephrosis*). — Dilatation of the urinary passages occurs above an obstruction to the free flow of urine. It begins immediately above the point of stenosis and extends gradually backward toward the kidney. Thus, a stricture of the bulbous portion of the urethra causes, first, dilatation of the membranous urethra, next of the bladder, then of both ureters, and finally of the pelvis and calices. If the obstruction is in or below the bladder, the dilatation extends to both kidneys; while if the obstruction is located in the ureter or above it, the dilatation will be limited to the kidney of the affected side. If only one of the two branches of the ureter is occluded, a partial dilatation of the kidney takes place, which is limited to the corresponding half of the organ. Dilatation of the pelvis and calices above the ureter may be termed cystonephrosis. When no infection of the retained urine has taken place it contains a watery fluid and is termed hydronephrosis. When infection has transformed the fluid into pus, we speak of pyonephrosis.

1. *Remittent Cystonephrosis.*—The most formidable enemies to kidney tissue are retention and infection, and it is difficult to state which of the two is the more formidable. Retention, if incomplete, that is, remittent, may, I believe, be tolerated for a long time; if complete, it is rapidly destructive. In movable kidney with paroxysms of pain, we find upon microscopic examination of apparently healthy kidney tissue, a glomerulo-nephritis or interstitial nephritis. I do not know whether or not this is caused by retention or venous congestion from torsion of the vessels in the hilus. Whatever the cause may be, the development of the nephritis and slow destruction of the glomeruli, and consequently of the secretory value of the kidney, furnishes a probable argument for operations for replacement of the kidney, for nephropexy, irrespective of and in addition to the symptomatic relief obtained by it. Remittent or beginning retention (and all retention is, in its early stages, as a rule, remittent), is a condition in which we should always consider the possibility of saving kidney tissue by re-estab-

lishment of the free passage of the urine. The obstruction may be located in the calices, in a branch of the ureter, in the bottom of the pelvis or origin of the ureter, or in the ureter. Obstruction in the first two locations causes a local or partial cystonephrosis and demands, for the relief of the condition, bisection of the kidney from its convex surface, and division of the partition walls. Stenosis at the exit of the ureter (valve-formation, oblique implantation from unilateral dilatation), requires operations which vary in accordance with the absence or presence of stricture at the upper end of the ureter. If there is no stricture at the upper end of the ureter, the valve-formation may be overcome by a trans-pelvic operation (Fenger, Mynter, Trendelenberg, Küster). If there is a stricture of the ureter at its exit from the pelvis, as may be expected in infected cases, we may resort to extra-pelvic operation: Plastic operation (Fenger); or, resection (Küster). I have twice made the extra-pelvic plastic operation, which has also been done by Morris, Kelly, Maurice Richardson, and others. The operation consists in division of the stricture up into the pelvis and down into the ureter and transverse union of the longitudinal wound. Resection of the strictured end of the ureter, and implantation of its upper end into the pelvis, has been done by Küster. If the stenosis or obstruction is located in the ureter, it must be dealt with according to the laws laid down for surgery of the ureter. There is one drawback or difficulty in the way of the development of surgical treatment of renal retention when the obstruction is located in the kidney and pelvis (to a less extent in the ureter), namely, that the subject cannot be well studied by experiments on animals. We can produce a stricture of the ureter, but we cannot artificially produce valve-formation and oblique implantation of the ureter in the pelvis, nor can we cause obstruction in a branch of the ureter or in the calices. Thus the best methods of operation and development of technique have to be studied and perfected by operation on the relatively rare cases met with in the human subject. Are the results of these, so to speak, tentative, conservative operations permanent, or does relapse eventually occur? In four of my cases no relapse occurred: (1) Woman.—Valve-formation, intra- or transpelvic operation. No relapse six years later. (2) Man.—Stricture upper end of ureter, extrapelvic operation. No relapse six years later. (3) Man.—Valve-formation of lower branch of the ureter; extrapelvic operation; bisection of kidney; division of partition walls. No relapse after three years. (4) Woman.—Excision of valve in ureter by my plastic operation. No relapse after three years. In three cases relapse occurred: (1) Woman.—Intrapelvic operation on valve-formation without stricture. Relapse of stenosis, occlusion of pelvic orifice; nephrectomy one year later. (2) Man.—Operated on by another

surgeon; later on by me; operation was incomplete, failed, and nephrectomy was finally necessary. (3) Man.—Stone in upper end of ureter removed by me; one year later, plastic operation on ureter by another surgeon; six months later I found complete occlusion of the ureter at the site of second operation and made another attempt at a plastic operation; patient still under treatment.

Beginning cases of open, intermittent, non-infected, cystonephrosis, when due to bending of the ureter in a floating kidney, may be treated by nephropexy, provided the bend is found to straighten out when the kidney is replaced. If no bend exists, the sac should be opened and the obstruction sought for by exploring the ureter from its pelvic origin down to the bladder. A valve or stricture may be remedied by a plastic operation, or a stone may be removed from the ureter. If it is thus possible to remove the cause, the kidney can be saved and should be saved if secreting kidney tissue still remains.

Infected, remittent Cystonephrosis (Pyonephrosis), must necessarily be opened for drainage and examined as regards the removal of the obstruction; but here the question of removal of the kidney comes up, and if suppurative nephritis, with multiple abscesses in the kidney tissue is found, nephrectomy should be done, but this is extremely rare.

2. *Stable, Permanent, Non-infected Cystonephrosis, (Hydronephrosis)* has been treated by puncture, incision and extirpation (nephrectomy). Rovsing has collected from the literature ninety-two operations for hydronephrosis, with the following results:

Operation.	Recovery.	Unimproved.	Died.	Total Number of Cases.
Puncture with Drainage	1	2	9	12
Nephrotomy	..	15	13	28
Transperitoneal Primary Nephrectomy	16	..	3	19
Transperitoneal Secondary Nephrectomy	7	..	3	10
Lumbar Primary Nephrectomy	18	..	2	20
Lumbar Secondary Nephrectomy	3	..	..	3

It will be seen from this table that puncture, even with drainage, is insufficient, dangerous and should be abandoned. Nephrectomy or total extirpation of the hydronephrotic sac has given the best results, and is the operation which should be employed in the majority of cases. Transperitoneal nephrectomy was most often performed in cases in which a large sac filled the abdomen and a correct diagnosis was not made before the operation. If it is known that a hydronephrosis is present, the lumbar operation should probably always be done. If the hydronephrotic sac con-

tains no secreting kidney tissue, as is the case in most of the very large hydronephroses, nephrectomy is indicated. A large sac which is practically valueless as to secretion, and is clad with mucous membrane, is very apt to become infected after nephrotomy and drainage. It is almost impossible in such cases to prevent infection, and Rovsing's statistics show that out of twenty-eight cases of nephrotomy, thirteen patients died. In most cases of large, stable hydronephrosis, we find the other kidney sufficient for the urinary secretion. This is demonstrated by the fact that out of fifty-two cases of nephrectomy only eight patients died. In small recent stable hydronephroses, however, when kidney tissue can be recognized in the walls of the sac, and when remittent evacuation, found at first, has recently ceased, we may expect to find secreting kidney tissue that is worth saving. Here nephrotomy should be tried and the obstruction sought for. If the sac is too large to permit of finding the ureter, we may wait for a few months until it has retracted. During this time we must examine the quantity and quality of urine excreted daily from the lumbar opening. If the quantity is considerable, the obstruction can be sought for and remedied by a secondary operation. If no urine is secreted, secondary nephrectomy should be done.

Exploratory Incision with Excision of Piece of Kidney Tissue for Microscopic Examination.—Exploratory incision, which is probably the most important consequence of Morris' operation on healthy kidney tissue, has been developed gradually by mistakes in diagnosis. Kidneys which presented symptoms of pain and even attacks of simulated renal colic or hematuria, or both of these conditions combined, were laid open under the diagnosis of stone or tumor, and none of these conditions were found. The kidney was explored more or less thoroughly by inspection, needle puncture, division of capsule, division of cortical substance and even by bisection, laying open the pelvis and calices. As it was gradually recognized, according to Albarran, that this operation was without danger and as almost all authors agreed in this regard, it was natural that it should be resorted to without hesitation. It was still more commonly practised because it was found that in many cases in which neither stone nor tumor was found and in which no definable disease of the kidney could be made out without microscopic examination, which at this time was not made, the operation relieved the pain and hematuria, and effected a symptomatic and often a permanent cure. In the course of time, as exploratory incisions for pain and hematuria became more frequent, and as the kidneys were more closely observed, some slight pathological conditions were often found to account for the symptoms as well as for the cure of certain of these cases by exploratory incision. Thus, Tiffany found a cicatrix in the upper lobe of the kidney;

Barker, oxalate of lime crystals; Abbe, gravel in a calyx; and Lauenstein, dilatation of pelvis and, consequently, retention. In cases of the so-called hemophilia of the kidney, for which, since the celebrated case of Senator, the kidney has five times been extirpated, Albarran believes that a careful microscopic examination would often demonstrate the presence of nephritis. In chronic nephritis we may have unilateral hematuria, as in the infectious nephritis following la grippe. To relieve the tension caused by pressure in some forms of albuminuria, probably due to non-surgical nephritis, Reginald Harrison advised, in 1896, exploratory operation with puncture or division of the albugineous capsule. With the same object in view, Le Dentu, as early as 1881, and Lambret in 1897, found relief of symptoms due to division of the capsule along the convex border of the kidney by the knife or Paquelin cautery. To make exploratory incision complete as to its diagnostic value, which may go hand in hand with, and be as important as, its therapeutic value, it is essential to excise a small piece of kidney tissue for microscopic examination. This has been my custom for years. It is often impossible, when we have the divided kidney in our hands, to make a correct diagnosis of the apparently healthy kidney tissue with the naked eye. This has been well demonstrated by a series of seven cases operated upon by Oscar Bloch, four of which I will briefly mention.

CASE I.—Diagnosis before operation: Stone slight, pyelitis movable kidney or neoplasm. Diagnosis during or after operation: Beginning diffuse sarcoma (malignant tumor). Diagnosis after microscopical examination of excised renal tissue: Slight nephritis, with microbes.

CASE II.— Right renal pains for eight years at intervals—first of one month, later of a few days only. Diagnosis before operation: Doubtful whether renal disease exists or not. Diagnosis after nephrotomy and digital exploration of pelvis and calices: Chronic, adhesive perinephritis; uncertain renal disease. Diagnosis after microscopical examination: Parenchymatous and interstitial nephritis. One year later the patient was suffering no pain and was in perfect health.

CASE IV.—Diagnosis before operation: Deep peritoneal or retroperitoneal abscess on right side. Diagnosis after lumbar incision and vacuation of 1.400 cc. of pus: Uncertain as to location and nature of abscess. Diagnosis after microscopical examination of piece of wall of sac: Pyonephrosis, (uriniferous canals and tubules found in wall of sac).

CASE V.—Diagnosis before operation, but after puncture which vacuated old pus: Pyonephrosis of long standing with closed ureter. Diagnosis after operation: Chronic nephritis (yellowish cortical substance; indistinct border line between cortex and

pyramids). Diagnosis after microscopical examination: Normal kidney. The tumor in this case was a cyst of the spleen.

Albarran reports a case of a man of fifty-one who had had nephritic colic for a year, after which hematuria appeared. Upon cystoscopic examination blood was found to issue from the right kidney. Diagnosis: Stone or neoplasm (not tuberculosis).

Operation.—Exploratory nephrotomy, kidney slightly enlarged, pelvis and calices somewhat dilated and flaccid. Opening through kidney into the pelvis; digital exploration found no stone, "but the finger brings out some fragments resembling false membrane." A bougie introduced through the kidney passed down freely into the ureter. Wound and kidney closed by catgut sutures and healed by first intention.

Microscopical Examination.—The false membrane showed carcinoma. The kidney was removed thirty-one days later and the patient recovered.

As regards the technique of exploratory incision, it may be said that the kidney should be exposed by a lumbar incision, the condition of the adipose and fibrous capsules noted; the kidney liberated in the usual manner for palpation and inspection; needle puncture, if stone is suspected; the fibrous capsule divided longitudinally along the free border of the kidney as far as is deemed necessary by the operator.

Hemorrhage is controlled by digital compression of the hilus by an assistant or by a clamp. The cortical substance is divided by the knife or cautery, the knife being preferable as it gives a natural view of the cut surface; if it is considered necessary, the division may be prolonged through the pyramids into the pelvis, which is then examined by digital exploration. If it is deemed necessary to expose the pelvis to ocular inspection, incision is prolonged through both poles so that finally the kidney is completely bisected (Sektionschnitt of the Germans).

The hemorrhage which usually recurs as soon as compression of the hilus vessels is released, is best stopped by reuniting the bisected kidney by deep and superficial sutures. In an aseptic kidney this can always be done; but when there is suppuration in the pelvis and calices and the kidney is consequently infected, it is wiser to stop the hemorrhage by packing with sterile gauze after only partial union of the bisected kidney.

There is no question that exploratory incision and bisection of the kidney and microscopic examination of a piece of its tissue is the court of ultimate appeal in diagnosis. The question naturally arises whether there is any danger following division of a healthy or only slightly diseased kidney. The danger of infection from without seems to be minimal with our present operative technique, and, in fact, so high an authority as Albarran does not hesitate to

-aver that the operation is devoid of danger (*ne présente aucun* -danger).

While I believe that the danger is minimal, still there are two cases on record, and these are, as far as I know, the only ones of the large number of exploratory incisions made which have presented a peculiarly dangerous consequence; namely, gangrene of the kidney tissue.

CASE I.—*Nephrolithotomy—Stone in Pelvis—Primary Suture of Kidney—Hemorrhage, Eighth Day—Local Gangrene of Kidney—Nephrectomy—Death.*—A. B., male, aged 44, was admitted to the hospital in my service on May 25th, 1893. Family history negative. Patient's general health was fair until the present trouble began three years ago. In August, 1890, after prolonged driving over rough roads, he was seized with severe pain in the right testicle, accompanied by vomiting. The pain gradually disappeared, and was entirely gone in about two days. Toward the close of the attack he felt slight pain in the region of the kidney. During the next two years he had several attacks, usually occurring after severe or prolonged exercise. Since April, 1892, he has had almost constant pain, localized in the region of the right kidney, the pain extending at times down the right leg as far as the foot. No apparent hematuria; under the microscope the urine was found to contain some blood corpuscles and pus cells, but no albumen. The patient has lost about twenty-five pounds in weight during the last year.

Examination.—The patient looked reasonably healthy and well nourished; the color of his face is neither rosy nor extremely pale; no tumor can be felt; slight tenderness upon pressure in the lumbar region; no tenderness on rectal examination of the ureter.

Operation.—Under ether narcosis an incision was made from three-quarters of an inch below, and parallel to, the twelfth rib through the skin, latissimus dorsi and abdominal muscles. After dividing the tendon of the transversalis, a mass of paraperitoneal adipose tissue, the size of a goose egg, bulged out into the wound. After pressing this aside by piercing it with dissecting forceps I reached the retroperitoneal thin fascia, covering the adipose capsule of the kidney. At first I could not feel the kidney, and as the operating space was small I divided the quadratus lumborum transversely back to the extensor dorsi, and finally reached the lower end of the kidney. The adipose capsule was thick and so adherent in places that it was necessary to prolong the incision so as to insert the entire left hand. The kidney was then brought down into the wound, but nothing abnormal could be seen or felt on its surface, nor could any stones be felt in the pelvis. Exploration from the convex surface of the kidney by a needle inserted upward, inward and downward, was negative as to stone, cavity or

urine. A piece of the cortex was excised for microscopic examination. I next made an incision two inches long on the convex surface of the kidney; the incision was followed by considerable hemorrhage. It was so difficult to find the cavity of the pelvis that I lifted up the kidney and there saw the ureter on the posterior surface, not dilated, and with no stones in its upper portion. I then succeeded in reaching the pelvis from the convex surface of the kidney. Examination of the pelvis with a steel urethral sound disclosed no stone, nor could any stone be found on digital examination, but I could feel grating after a flexible lead catheter had been passed in various directions in the lower end of the kidney. I then extracted the stone, which was oval, flat, with a roughened crystallized surface, and was one and a half cm. in diameter, and one-half cm. thick. No more stones could be found on exploration. A flexible bougie was next introduced into the ureter and passed down into the bladder without obstruction. I now proceeded to close the wound in the kidney. The hemorrhage was so profuse that it was necessary to continuously compress the lips of the kidney wound, as every time the compression was removed the blood welled up. I then attempted, without success, to compress the vessels in the hilus. The hemorrhage was finally checked by the insertion of four deep sutures, and the closure of the kidney wound was completed by inserting two surface sutures. The adipose capsule was then drawn over the kidney and drains inserted down to the kidney surface. The divided muscles were next united in inverse order, and the skin sutured down to the point of insertion of the drainage tube, and the usual dressings applied. The patient did well for six days, when hematuria and rise in temperature appeared. After this condition had increased for three days, I reopened the lumbar wound and the wound in the kidney, and packed the latter down to the pelvis. This checked the hemorrhage, but the temperature continued to rise, and in two or three days reached one hundred and four degrees. As a last resort I made nephrectomy. The operation occupied only a few minutes, but the patient died ten minutes later. In the removed kidney was found a cuneiform, gangrenous infarction; about one cubic inch of the kidney tissue was gangrenous, and was beginning to separate, thus giving rise to the secondary hemorrhage. In the second case, the whole kidney was gangrenous, and the patient survived.

CASE VII.—*Blotch.*—Diagnosis before operation; acute, suppurative pyelonephritis of two months' standing, renal tumor, pyuria, fever, probably stone in kidney. Operation: nephrotomy; incision in kidney two and a half inches long. No stone found on digital exploration of pelvis. Hemorrhage profuse; stopped by packing, but returned when packing was removed. A pack of

gauze was therefore left in the kidney wound. Microscopic examination of the excised tissue revealed infiltration of leucocytes, interstitial nephritis and parenchymatous degeneration of the epithelium. Two days after the operation the tampon was removed, and serious hemorrhage followed, necessitating reopening of the outer wound. Ten days later gangrene of the whole kidney, which came away in shreds during the following two weeks, and the patient recovered. In my case of gangrene, the supposedly healthy kidney tissue was sutured closely. I attributed the gangrene to the deep sutures, and intended in future cases to abandon deep suturing, and subsitute packing. Now, however, as shown in Bloch's case, as gangrene may set in after packing or suturing of slightly diseased kidney tissue, and as greatly diseased kidney tissue, as in pyonephrosis of all degrees, may be divided without gangrene, we may conclude that the cause of gangrene is unknown. These rare cases surely do not contraindicate exploratory operations on the kidney in general.

Narcosis.—The position of the patient who is placed on the left side with a pad under the costo-iliac space, causes some embarrassment of the respiratory movements of the thorax, and some difficulty to the anesthetizer, because the face rests with one side on the table, thus making it difficult. to watch the pupils, and to manage the tongue. As regards the choice of anesthetics as between ether and chloroform, after the use of both of which albuminuria and cylinders, or cylindroids, have sometimes been found in the urine, the investigations of Wood and others seem to favor the use of ether. Albuminuria followed the use of chloroform in 11.5 per cent. of the cases, and of ether in 6.9 per cent. Cylinders were found after the use of chloroform in 34.8 per cent., and after ether in 24.6 per cent. of the cases. Repeated narcosis at intervals of a few days should be avoided. An examination in narcosis for diagnostic purposes should not be made, therefore, a few days before operation.

TREATMENT OF THE OPERATION WOUND.

Solutions of sublimate and carbolic acid should never be used in these cases, as they have a destructive effect on the kidney tissue, causing albuminuria and hemoglobinuria respectively. When irrigation is required, sterilized water or boric acid, or physiological salts solution should be used. The avoidance of the use of iodoform, either for dusting over the wound, or iodoform gauze for packing or dressing is equally important. The experiments of Stubenrauch have proved that even small quantities of iodoform applied locally to kidney tissue cause extensive fatty and parenchymatous degeneration of the renal epithelial cells. In general iodoform intoxication, similar extensive degeneration is found in

both kidneys and liver. Fatal iodoform poisoning following nephrectomy has been reported by Israel and others. In these cases the wound cavity had been packed with iodoform gauze, and the autopsy showed fatty degeneration of the remaining kidney.

NOTES ON THE DIAGNOSIS OF DISEASES OF THE STOMACH.*

BY GRAHAM CHAMBERS, B.A., M.B., TORONTO.
Dermatologist, St. Michael's Hospital; Assistant Physician, Toronto General Hospital.

According to the writer's experience, the diagnosis of gastric affections is sometimes very easy, while at other times very difficult. Even with the greatest amount of care it is nearly impossible in some cases to make a definite diagnosis. The previous history of the patient, the subjective symptoms, the physical and functional signs, as well as the success of a particular line of treatment, are all important factors in classifying the disease. In the great majority of cases, the physical and functional signs must be considered; still, in every case, close attention should be directed to the evolution of the disease and subjective symptoms, when it will be found frequently possible to make a diagnosis without further examination. I have been frequently started in the correct track by one item alone in the clinical history of the case, before the subjective symptoms were considered.

I shall relate the following notes of a case, which illustrate the principle:—A patient, female, aged 34, consulted me last spring on account of indigestion. She stated that she had suffered since shortly after her last pregnancy, about six months previous. She complained of flatulency, belching, distress after eating, pain, vomiting. She was anemic and very weak, and unable to do any work. She stated that she was able to digest her food best when lying down. Bowels were constipated. I suspected gastroptosis, and on physical examination my diagnosis was confirmed. It received further confirmation by the success of the treatment, which consisted of ordering an abdominal bandage, a diet suitable for an atonic stomach, a mixture of bismuth subgallate and condurango before meals, and regulation of the bowels. I relate this history merely for the purpose of drawing attention to the importance of paying close attention to the clinical history of patients with gastric

---

* Read before the Toronto Medical Society.

disease. The fact that th · disease dated from pregnancy drew my attention to the possibility of gastroptosis. Unfortunately, the majority of cases of this disease cannot be traced to the same cause.

After the previous history of the case, the subjective symptoms should be considered. I generally commence this part of the examination by asking the patient to relate his or her diet and symptoms complained of during a day.

Of all the subjective symptoms, the presence or absence of pain is the most useful for diagnostic purposes. Continuous pain is very characteristic of carcinoma; but carcinoma may occur with very little, if any, pain. The pain of carcinoma of the stomach may be due to the tumor itself, or to the accompanying indigestion. The latter may be relieved by treatment, but the former cannot be effected by such means. Pain appearing immediately, or in a few minutes, after partaking of food, points to ulcer or hyperesthesia. In hyperesthesia, it is alike for all foods, and occurs immediately. The pain of ulcer frequently does not occur immediately after taking food, and is as a rule more localized in its character. It always increases at the height of digestion, and disappears when the stomach is empty. Very hot and very cold drinks, spirits, spices, etc., increase it.

In nervous gastralgia the attacks of pain are intermittent, and bear no constant relation to digestion. They sometimes occur in the morning hours when the stomach is empty. Between the attacks digestion may be normal. The pain, which is frequently preceded by a feeling of distension, quickly becomes so severe as to be almost unbearable. Pain appearing at the height of digestion, one or two hours after food, and relieved by taking a teaspoonful of soda, or albuminous food, is most likely due to hyperchlorhydria. The pain is caused by the excessive quantity of free HCl irritating the hyperesthetic mucous membrane. When the above symptom-group is present and the signs of ulcer are absent, I usually treat the case for hyperchlorhydria, and a cure, or marked amelioration of the symptoms, confirms my diagnosis.

The following are notes of such a case:—Recently treated Miss R., age about 25, music teacher. Consulted, on 8th of January of this year, for pain in the region of the stomach, after eating. She was well nourished, although she stated that she had suffered for six months. The pain would usually appear one to two hours after eating, and was relieved by drinking milk. She had not tried the effects of baking soda. Meats and coarse vegetables made the pain worse, while a milk diet caused her very little distress. When she did not eat she was free from pain. She also complained of heartburn and sour eructations, but never vomited. Bowels were constipated, and appetite was good.

I took this case as one of hyperchlorhydria, and gave her the treatment which I use for such cases, with the result that she was completely relieved in four days. The treatment consisted of a large dose of bismuth subnitrate every morning. Takadiastase and extract of belladonna before each meal, and a teaspoonful of baking soda an hour after each meal. She was ordered a diet of milk, bread, toast, butter, soft parts of oysters, chicken, mashed peas, and to avoid eating salt, coarse vegetables, fruits, acids, spices, beef teas, coarse meats.

In dilatation and gastroptosis, the pain frequently appears from one to three hours after food, but in the majority of these cases it is not relieved by soda or by taking food. Soda is not always effectual, even when those diseases are complicated by hyperacidity.

Primary chronic gastritis is not as a rule a painful disease, although pain may be severe in the acute catarrh of the organ and in atrophic gastritis.

Appetite.—The state of the appetite is of use for the purpose of diagnosis when associated with other symptoms pointing to any particular disease. In general, the appetite of patients suffering from gastric neuroses is variable, while it is increased with diseases associated with hyperchlorhydria, and diminished in cases where subacidity is a constant functional sign. Thus the appetite is usually good in hyperchlorhydria, hypersecretion, acid catarrh, and ulcer, while it is poor in carcinoma, chronic gastritis and achylia. However, there are many exceptions to the above generalizations, as, for example, in subacidity depending on a neurosis, in which frequently the appetite is normal. When attempting to make a diagnosis on the symptoms alone, I have been several times led astray by the state of the appetite. The following are notes of one of these cases:—R. M., school teacher, aged 30, complained of the following symptoms: Fulness and heaviness after eating, belching, but no pain; appetite variable, sometimes very poor, while at other times morbidly good boulimia; says he sometimes feels as if he had a bucket of stones in his belly. He was pessimistic and very anxious about himself. Before I made an examination of the functional signs, I thought this case was one of neurasthenia, with slight atony of the stomach. However, on examination of the gastric contents after a test breakfast, I found a large increase of mucus and absence of free HCl. Total acidity, 35; absence of lactic acid. This showed the case to be one of chronic gastritis, and he was treated accordingly, with success.

Flatulency and Belching.—Gases accumulate in the stomach from swallowing, from decomposition of carbonates, and from fermentation. A normal stomach does not allow gases to remain,

but either regurgitates them or forces them into the intestine. It is quite different in cases of atony, in which the stomach is easily distended, and gives rise to flatulency. Again, in atony and in dilatation, more or less stagnation of food takes place and leads to fermentation, which is the most important source of the gases found in the stomach. Nature's chief preventative against fermentation, is to empty the stomach at least three times a day. If the muscles of the stomach are atonic, or the pylorus obstructed, then food stagnates, and the stomach is never free from a nutrient medium for germs, and fermentation takes place. I do not believe that bacterial fermentation can take place if the stomach is freed from food three times a day.

A sensation of fulness is frequently noticed in hysterical patients and is a symptom which frequently precedes the pain of nervous gastralgia. But in these cases the symptoms do not always follow the ingestion of food. The symptoms of belching alone is of no importance for the purpose of diagnosis, as it is frequently present when there is no abnormal quantity of gas present in the stomach.

Vomiting.—This is a very common symptom of many diseases, as well as of gastric affections. Patients suffering from chronic alcholic gastritis, and pregnant women frequently vomit in the morning. Intermittent vomiting of very acid contents with intervals of normal digestion, is characteristic of paroxysmal gastrosuccorrhea. Vomiting immediately after taking food without pain is probably of nervous origin. Vomiting of food taken the previous night is, of course, a sure sign of gastric retention.

Physical Signs.—In a large number of cases of diseases of the stomach inspection does not give any aid in forming a diagnosis. Emaciation is frequently a sign of atonic dilatation, nervous vomiting, nervous anorexia, etc.; but when emaciation is associated with a sallow complexion, in a person above the age of thirty, one always thinks of the possible presence of carcinoma and looks for other signs of that disease. Inspection of the mouth is invariably performed, but, unfortunately, it does not afford many data for classifying diseases of the stomach. The condition of the tongue is of no use for differential diagnosis. The presence of decayed teeth should be remembered as a probable etiological factor.

A visual examination of the abdomen frequently brings better returns. Peristaltic and anti-peristaltic waves of the stomach may be noticed. These phenomena are generally due to pyloric obstruction, but they may be of neurotic origin. When visible peristalsis is absent in pyloric obstruction, it may frequently be excited by the patient drinking a glass of cold water.

Inspection of the inflated stomach is one of the best methods of detecting gastrectasis and gastroptosis. In gastroptosis both the lesser and greater curvature can be made out. Above the lesser

curvature the epigastrium is depressed. In dilatation the greater curvature is usually not higher than the level of the umbilicus. However, one should remember that it is possible for the stomach to dilate upwards and laterally without descent of the greater curvature. When the patient is unaccustomed to the use of the stomach tube, I always use soda and tartaric acid for inflation. For the first inflation I never use more than two-thirds of a teaspoonful of each. The patient drinks the acid dissolved in a glass of water, and then immediately takes the soda dissolved in another glass of water.

Tumors of the stomach are sometimes visible, but, as a rule, they are more readily diagnosed by palpation.

Inspection also determines the presence or absence of deformities such as the corset waist, which is frequently associated with a vertical stomach.

Palpation is a very valuable method of diagnosis. Tumors which are not too small and not situated at the cardia or posterior surface of the stomach can usually be made out. When pyloric obstruction is present, water and air can be frequently felt bubbling through the constricted channel. A movable kidney, which is generally on the right, may be palpated. This would lead us to look for gastroptosis and other signs of enteroptosis.

By percussion we are able to make out the borders of the inflated stomach. For the last few months I have been using the combined method of auscultation and percussion, and have found it superior for fixing the right and left borders. When the inflated stomach is percussed, the auscultation sound has a metallic quality which readily distinguishes it from the sound heard over the colon and small intestines.

The presence or absence of intragastric splashing sound is an important item in diagnosis. It may be used to fix the right and lower borders of the stomach. In the case of a patient who does not take any fluid between meals splashing in the morning indicates atony of the third degree; whereas if it cannot be produced in the morning, but can before the second and third meal of the day, it is a sign of atony of the second degree. If a splashing sound can be produced at any hour during digestion it is always an asthenic sign; nevertheless it should be remembered that an occasional splash may frequently be produced in a normal stomach during digestion.

Functional Signs.—In the majority of cases of diseases of the stomach the secretory and motor functions of the organ must be considered before we can make a definite diagnosis. Subjective symptoms and physical signs are frequently misleading. Thus if we find by physical examination that a stomach is moderately dilated, we are not quite sure that it is atonic. Again, a stomach may

be atonic and not dilated sufficiently to be recognized by physical examination. Moreover, the secretory function must be considered as well as the motility of the organ. I usually commence this part of the investigation by ordering the patient to take on an empty stomach the test breakfast of Ewald and Boas. If retention of food is suspected the stomach should be washed out in the evening, and the test meal given on the following morning. The test breakfast, which I invariably have, consists of about two and a half ounces of bread and twelve ounces of weak tea without sugar. The quantity should always be known, as it determines to a considerable degree the volume of gastric contents which can be taken from the stomach. Exactly one hour after the meal the residue of food and drink should be expressed and subjected to analysis.

Quantity of Gastric Contents.—After the ingestion of the foregoing meal the quantity of expressed contents usually measures from one to two ounces. It depends upon the motility of the stomach, and secretion, as well as upon the condition of the pylorus It is increased in hypersecretion, in dilatation, and in all asthenic conditions of the gastric muscles. It is decreased in hypermotility of the stomach, in uncomplicated chronic gastritis, and in pyloric insufficiency. If the quantity measures more than five ounces, then atony of the gastric muscles, with or without dilatation, hypersecretion or pyloric spasm is present. In cases of pyloric insufficiency and hypermotility the quantity of the gastric contents is greatly diminished, and in some cases absent. The following notes of a patient under Dr. McMahon's care at St. Michael's Hospital will illustrate such a case :

A. M., aged 55, admitted October 24th, complained of burning pain in the epigastrium about two hours after meals. He stated that he could always relieve the pain by taking some baking soda mixed with cream. Dr. Wrinch, the house surgeon, gave him a test breakfast, but was unable to express any contents. He repeated the test, and was only able to obtain about a drachm, which, on analysis, gave a marked reaction for free HCl. The stomach was readily inflated with air, which showed that insufficiency of the pylorus was not the cause of the rapid evacuation of the chyme. Dr. McMahon diagnosed the case as one of hyperchlorhydria with hypermotility, and the almost immediate relief on treatment confirmed the diagnosis. However, we should remember that hyperacidity is also frequently associated with pyloric spasm, and then the volume of gastric contents would be increased.

Inspection.—Visual examination of the gastric contents with the naked eye sometimes gives important information. The appearance of the particles of food and the presence or absence of much fibres after a test dinner should be noticed. Again, if the stomach had not been washed out previous to taking the test

breakfast, the gastric contents may contain food taken the previous day. This is a sure sign of retention.

Microscopical Examination of the Sediment.—Of the different members of the gastric flora there are only three kinds of germs: Sarcina, yeast plant, and the Oppler-Boas bacillus, whose presence in large quantities indicates disease of the stomach. The Oppler-Boas bacillus is invariably found when the filtrate of the gastric contents gives a marked reaction to Uffelman's test for lactic acid. This is the condition found in carcinoma of the stomach. Hence the presence of this bacillus is considered almost a pathognomic sign of this disease. Both sarcina and yeast plant are frequently found in large quantities in retention of food; but the former germ does not appear to grow well in cases of carcinoma. Therefore, when it is present in large quantities, the patient is probably suffering from benign retention.

Test for Mucus.—Mucus is a normal secretion of the stomach. In the healthy organ it is easily digested or passed on into the intestine. Therefore the gastric contents, after a test meal, has only a slight amount of viscosity. However, in all forms of gastritis, whether primary or secondary to carcinoma, except in some cases of atrophic catarrh, there is always more or less increase in the quantity of mucus, and, as a result, the viscosity of the contents is correspondingly greater. There is also considerable increase of mucus in certain cases of hyperchlorhydria. To this form of the disease the German writers apply the name "Sauer Catarrh," while some English and American writers designate it Hypersthenic Gastritis. As a rule, it is unnecessary to apply chemical tests for mucus, as a pathological increase always gives a tenacious character to the gastric contents, which is quite evident on inspection, on filtration and on agitating it with a stirring rod. If one adopts the routine practice of dipping up the sediment with a glass rod or platinum wire, a good opinion can be formed as to the quantity of mucus. Again, if the stomach is washed out before breakfast, mucus of gastric origin appears in shreads, which quickly settle in the washings. On microscopical examination, these masses will be found to contain cylindrical cells and particles of starch granules. Mucus originating in bronchial tubes, pharynx, etc., may be swallowed, and appear in the gastric washings, but this form is frequently pigmented, never contains cylinder cells, and rarely is mixed with particles of food.

Tests for Free HCl.—(*a*) The test solution is a one-half per cent. alcoholic solution of dimethyl-amido azobenzol. This gives a reddish color with free HCl., but does not react with the strengths of solutions of combined HCl., organic acids and acid salts, which are usually found in the gastric contents. It reacts for free HCl. when it is diluted to the extent of 1 in 20,000. Test paper made

by dipping filter paper in the above solution is very convenient for general use.

(*b*) Phloroglucin-vanillin test.

(*c*) Congo red test. This coloring matter is turned blue by free acids of any form.

Tests for Lactic Acid.—If free HCl. is present, lactic acid is usually absent, unless it has been introduced with the food. The test breakfast of Ewald and Boas always contains a small quantity of the acid. Hence, if a special test is to be made, as in cases of suspected carcinoma, the oatmeal meal of Boas should be used.

Tests: (*a*) The absence of volatile acids and presence of free acids indicates lactic acid.

(*b*) Uffelman's test. Although Uffelman's test is not a very delicate one, it is the most practicable for lactic acid. As a rule, it should be applied to the residue resulting from the evaporation of the ethereal extract of the filtered gastric contents.

Tests for Organic Acids in Absence of Free HCl.—(*a*) Congo red test. This is turned a violet blue color by acetic, butyric and lactic acids.

(*b*) Boil part of the filtrate of the gastric contents and test vapors with litmus and with Congo red papers. An acid reaction indicates acetic or butyric acids.

(*c*) Odor of gastric contents is frequently sufficient to detect both butyric and acetic acids.

(*d*) The filtrate from gastric contents may be distilled and the distillate tested for acetic and butyric acids.

Quantitative Estimation of Total Acidity, Free HCl., Combined HCl., Acid Salts, and Organic Acids.—For this purpose we make use of $\frac{N}{10}$ alkali and indicators. The indicators required are the following: ½ per cent. alcoholic solution of dimethyl-amido azobenzol; 1 per cent. alcoholic solution of phenolphthalein; 1 per cent. aqueous solution of alzarin; 1 per cent. aqueous solution of Congo red. The total acidity, as well as the acidity due to each of the four constituents, may be estimated by means of two titrations.

First Titration.—To 10 c.c. of filtered gastric contents add a drop of solution of dimethyl-amido azobenzol. The mixture becomes red if free HCl. is present. Now add $\frac{N}{10}$ alkali until the red color becomes yellow. The number of c.c. of alkali used indicates the free HCl. A little of the solution should now be taken out on a loop of platinum wire and tested for organic acids by Congo red solution. If these are present, add alkali from burette until the Congo red reaction disappears. The additional number of c.c. of $\frac{N}{10}$ alkali indicates the organic acids. Now add a drop of phenol-phthalin solution and titrate the mixture until a dark red color appears. The total number of c.c. used from the beginning of the experiment indicates the total acidity.

Second Titration.—To 10 c.c. of filtered gastric contents add two or three drops of the alizarin indicator and titrate the solution until a marked violet color appears. This gives the acidity due to free HCl., combined HCl., and organic acids. The difference between the number of c.c. of alkali used for this experiment and the number of c.c. of alkali used for total acidity indicates the combined HCl. Thus the free HCl., combined HCl., and organic acids having been determined, the acidity due to acid salts can be readily calculated. The above method of analysis only gives approximate results, but still sufficiently accurate for clinical diagnosis.

Tests for Pepsin and Products of its Digestion.—Albumens are changed by pepsin in presence of dil. HCl. into syntonin, albumoses and peptone. Hence, if peptones or albumoses are not introduced with the food, their presence indicates that pepsin is also present.

Test for Albumoses and Peptones.—Precipitate the syntonin by neutralization. Filter and test filtrate for albumoses and peptones by the Biuret reaction.

Test for Pepsin.—I invariably use the method recommended by Sidney Martin for this purpose. The test is a qualitative one, but one accustomed to its use can usually form a good idea of the quantity of pepsin and pepsinogen present. A knowledge of the potency of the enzyme is an important factor in giving a prognosis in cases of chronic gastritis. For even if there is only a small amount of combined HCl. present, the presence of a fair quantity of pepsinogen is a good sign as far as the prognosis is concerned. The following notes of a patient of Dr. M. Wallace is a good illustration of such a case: R. K., aged 56, stated that he had suffered more or less for twenty or thirty years. During the last two years the symptoms had become more severe, and as a result he was very weak and emaciated. He complained of loss of appetite fulness after eating, belching, vomiting pain, water brash, etc. The epigastrium was hypersensitive on pressure. An examination and analysis of the gastric contents after a test breakfast gave the following results: quantity, two and a half ounces; mucus, increased in quantity; test for free HCl., negative; test for free acids, negative; total acidity, 13 degrees; combined HCl., 11 degrees; test for sugar, Fehling's solution gave a marked reaction; test for dextrins, Lugol's solution gave a slight reddish color; test for pepsinogen, fair quantity present; microscopical examination of sediment for Oppler-Boas bacillus, negative.

From the subjective symptoms and functional signs, the case was diagnosed as one of chronic gastritis. Dr. Wallace informs me the patient has rapidly improved under treatment.

Tests for the Activity of Salivary Digestion on Starch.—When food is masticated in the mouth the ptyalin of the saliva converts

starch into soluble starch, erythrodextrin, achrodextrin, maltose. This takes place not only in the mouth but also for a time in the stomach until, in fact, free HCl. is present, which is generally about forty-five minutes after an ordinary meal. In cases of hyperchlorhydria, free HCl. appears earlier than normal and hence starch digestion is interfered with. With subacidity, on the other hand, starch digestion is more complete than normal. The two reagents which I use for testing the products of digestion of starch are Lugol's solution and Fehling's solution. Lugol's solution added to the filtrate of the contents of a normal stomach usually gives a reddish color—due to erythrodextrin. It gives a violet red hue when the digestion of starch is deficient as in hyperchlorhydria. It gives a very slight or no indication of a reddish color when the digestion of starch is more complete than normal as in some cases of subacidity. Fehling's test for sugar is positive in normal gastric contents, but the reaction is not nearly so marked as in many cases of subacidity. In cases of hyperacidity, Fehling's test is frequently negative.

Test for Rennin.—This is effected by the power of the enzyme to curdle milk. The gastric contents should always be neutralized. In cases of an acidity a little calcium chloride should be added to decompose the mother ferment.

Test of the Motor Functions of the Gastric Muscles.—Atony is a very common affection of the gastric muscles. The movements of the stomach are very complex. The food has not only to be churned, but also propelled into the intestine. The determination of the evacuating power is the most important in clinical diagnosis and in treatment. Normally, the stomach should be empty before each meal; but, even then, atony of the muscles may be present. For, although the stomach is generally empty before meals, the evacuation of the gastric contents is sluggish in character. This condition is generally described as atony of the first degree. Atony of the second degree exists when the stomach is only empty in the morning before breakfast. Whereas, if the stomach is never free from food, retention or atony of the third degree is used to describe the condition.

Of the methods which are described to test the motor power of the stomach, I look upon the following as the most practicable:

(*a*) If the splashing sound can be produced before meals, there is no doubt that atony is present, provided no fluid is imbibed between the meals. Regular splashing during digestion is also probably always due to atony of some form. An occasional splash can frequently be elicited in normal stomachs during digestion.

(*b*) If a stomach is washed out seven hours after a meal of a plate of soup, two pieces of bread, and a beafsteak, and very little residue of food is obtained, then atony of the second degree does not exist.

(*c*) *Water Test.*—Two glasses of water are prescribed on an empty stomach and contents expressed an hour and a half afterwards. If no water is obtained, then the gastric muscles are not atonic. If food stagnates, but water does not, then pyloric obstruction may be present.

Clinical Significance of the Results of Analysis.—For the purpose of applying the results of analysis to clinical diagnosis, I shall classify the diseases of the stomach into the following groups. It will be noticed that frequently a disease appears in more than one group:

GROUP I.—Cases with excess of mucus.
GROUP II.—Cases with hyperchlorhydria.
GROUP III.—Cases with subacidity.
GROUP IV.—Cases with excessive quantity of gastric contents.
GROUP V.—Cases with diminished quantity of gastric contents.
GROUP VI.—Cases with normal functional signs.

GROUP I.—*Diseases Characterized by a Notable Excess of Mucus in the Gastric Contents.*—This may be sign of: (*a*) Acute gastritis. (*b*) Chronic gastritis. (*c*) Carcinoma with chronic gastritis. (*d*) Hypersthenic gastritis or acid catarrh.

Acute gastritis is, as a rule, readily made out by the sudden onset, subjective symptoms, etc.

Hypersthenic gastritis is characterized by normal or hyperacidity, as well as excess of mucus. This symptom group is very characteristic of this disease. Hyper-secretion may also be present.

Carcinoma is generally complicated by chronic gastritis; hence the increase of mucus. The history of the case, the presence of pain, of a new growth, of excess of lactic acid, of the Oppler-Boas bacillus, etc., would, as a rule, make out the diagnosis.

Chronic gastritis is generally diagnosed by exclusion, the subacidity, excess of mucus, loss of appetite, heaviness after eating, etc. Pain may be a marked symptom of atrophic gastritis. The quantity of mucus is not materially increased in the latter disease. The notable diminution in quantity of HCl. (both free and combined), small quantity or absence of ferments, absence of lactic acid, etc., would suggest atrophy of glandular tissue of the stomach.

GROUP II. *Cases with Hyperchlorhydria.*—After the test breakfast of Ewald and Boas, the total acidity of the contents of a normal stomach is 50 to 60 degrees. Of this number, 10 to 15 is free HCl. Free HCl appears in the stomach 20 to 40 minutes after the meal is ingested, and, as a rule, reaches its maximum percentage at the end of an hour, when the contents of the stomach are expressed. If the total acidity is above 60, and free HCl is above 20, then hyperchlorhydria is present. This may be a functional sign of—

(*a*) Ulcer. (*b*) Carcinomatous ulcer. (*c*) The neurosis hyperchlorhydria. (*d*) Hypersthenic gastritis. (*e*) Hypersecretion. (*f*) Atony and gastroptosis. (*g*) Neurasthenia.

Ulcer of the stomach may be generally diagnosed by the history of hematemesis, localized pain, which appears immediately or a short time after eating, the pain being more severe after hot and cold foods, spices, etc. Analyses of contents of stomachs afflicted with ulcers are rarely made, as the use of the stomach tube is contra-indicated. However, the vomit may be analyzed with similar results. Again, the time of appearance of free HCl. after the ingestion of food may be used to detect hyperchlorhydria. If free HCl. appears before 20 minutes after a test breakfast, hyperchlorhydria is usually present. It should be remembered that some cases of ulcer occur with subacidity.

Carcinomatous ulcer, or carcinoma following simple ulcer. This history of simple ulcer, the presence of a tumor, continuous pain, etc., might leave one to suspect carcinoma.

Hyperchlorhydria and hypersthenic gastritis are practically the same disease. The normal or excess of free HCl. with a notable increase of mucus, distinguishes the latter disease. Hypersthenic gastritis is frequently complicated by atony, gastroptosis, and hypersecretion.

Chronic Hypersecretion.—The gastric contents measure more than five ounces and are of a low specific gravity, below 1010. The total acidity may be normal or above 60.

Atony and Gastroptosis are made out by physical signs and tests for mobility.

Neurasthenia.—The total acidity is very variable—at one time slight hyperacidity, at another time subacidity. However, hyperacidity is not common. The subjective symptoms are, as a rule, highly characteristic.

GROUP III. *Gastric Diseases with Subacidity.*—Subacidity exists when free HCl. is absent, and may be a functional sign of the following gastric affections: (*a*) Acute gastritis. (*b*) Chronic gastritis. (*c*) Carcinoma. (*d*) Neurotic subacidity.

When subacidity is present in acute gastritis, the history of the case, excess of mucus, subjective symptoms are sufficient to make a diagnosis.

Chronic gastritis is generally characterized by loss of secretory function, subacidity and diminished quantity of ferments; but mucus is in excess. Lactic acid is, as a rule, absent, or present in only small quantities. The patient complains of nausea, vomiting, heaviness after meals. Severe pain is generally absent except in the atrophic form of the disease.

The neurosis subacidity is a rare disease. It sometimes exists without subjective symptoms, and when they are present they are

never marked as in cases of carcinoma. Subacidity is present in the great majority of cases. This is principally due to the accompanying gastritis. The presence of notable quantities of lactic acid, of the Oppler-Boas bacillus, etc., are usually sufficient to make a diagnosis.

GROUP IV. *Diseases Characterized by an Excessive Quantity of Gastric Contents after a Test Meal:*

(*a*) Atony and dilatation. (*b*) Hypersecretion. (*c*) Pyloric spasm. (*d*) Pyloric obstruction. (*e*) Gastroptosis.

Atony and dilatation can usually be diagnosed by the signs of deficient motility. The greater curvature of the inflated stomach is frequently on a level or below the umbilicus.

Hypersecretion is generally associated with some other disease such as atony, ulcer, acid catarrh. The specific gravity of the gastric contents is generally lower than normal. Hyperchlorhydria is frequently present. No signs of dilatation or loss of motility are present in uncomplicated cases.

In pyloric spasm the retention of food is intermittent. Severe pain in the epigastrium, relieved by vomiting or by a soothing diet, is also an important sign.

Pyloric obstruction is generally associated with dilatation. The retention of solid foods, fermentation, three layer vomit, the presence in some cases of a new growth, and the bubbling sounds of escaping gas and liquid through the pylorus, are usually sufficient to make a diagnosis.

Gastroptosis.—In this disease stagnation and retention of food usually results from a kink in the duodenum. The history of the case, the presence or absence of a movable kidney, prominent lower part of abdomen with a depressed epigastrium, sinking of both the lesser and greater curvatures, the lower position of Tranbe's curve, are the important signs.

GROUP V. *Diseases Characterized by a Notable Diminution in the Quantity of Gastric Contents:* (*a*) Hypermotility. (*b*) Pyloric insufficiency.

Hypermotility is occasionally a sign of hyperchlorhydria and hypersthenic, but it also occurs as functional neurosis. The stomach may be readily dilated by gas. Sedative medication and a soothing diet relieve the symptoms.

Pyloric insufficiency may be due to ulcer, carcinoma or chronic induration of the pylorus; it may also occur as a pure neurosis. The organic affections are made out by their usual signs, together with the great difficulty of inflating the stomach.

GROUP VI. *Diseases of the Stomach Characterized by Normal Functional Signs.*—This group includes the majority of the neuroses of the stomach, such as neurasthenia gastrica, anorexia neurosa, nervous vomiting, and hyperesthesia.

26 Gerrard St. E.

Reports of Societies

TORONTO CLINICAL SOCIETY.

ST. GEORGE'S HALL, Nov. 1st, 1899.

At the second meeting of the year the following Fellows were present: The President, Dr. George A. Bingham occupying the chair; J. Algernon Temple, J. O. Orr, George A. Peters, E. E. King, H. J. Hamilton, Allen Baines, A. A. Macdonald, A. A. Small, H. A. Bruce, K. McIlwraith, Lehman, Meyers, Grasett, Badgerow, McCollum, Rudolf, Davison, O'Reilly, Oldright, Primrose, Fenton, Garrett, Geo. Elliott.

Dr. D. J. Gibb Wishart and Dr. Winnett were present by invitation.

A resolution of sympathy was instructed to be sent to Mrs. J. E. Graham.

PRESIDENT'S ADDRESS.

In delivering the president's address Dr. George A. Bingham returned his thanks for the honor conferred on him. He made a kindly reference to the late Dr. J. E. Graham, and stated that the Society would feel his loss keenly. The main part of the address was taken up with the relation of the results of operative treatment in eight cases of spina fida, seven being in children and one in a male adult. All the cases were operated on more than a year ago. Seven were meningoceles and one a meningo-myelocele. He gave concise particulars of each case and stated that the morality was 25 per cent. which compared very favorably with the mortality of the London Clinical Society. In no case which came under his notice did he refuse to operate.

Dr. OLDRIGHT moved a vote of thanks to the president which was seconded by Dr. Bruce and acknowledged by Dr. Bingham.

PATHOLOGICAL SPECIMEN—APPENDIX VERMIFORMIS.

Dr. F. LEM. GRASETT gave the notes of this case upon which he had operated at the instance of Dr. Fred. Winnett who was present by invitativn at the meeting. The specimen occurred in a lady of middle life who gave the history of one or two prior attacks; and on her return home from Toronto she was to have been operated on by her family physician. Dr. Grasett stated that the case had an element of interest from the fact that it was the earliest operation he had ever performed after the initial pain—probably not

more than thirty-two hours after. Dr. Winnett's diagnosis had been confirmed by Drs. Grasett and J. L. Davison in consultation, and an operation advised immediately. There was no difficulty in locating the organ, which was found surrounded by an inflammatory mass, and this mass enclosing the appendix was extracted leaving behind a cavity lined with lymph as large as a man's fist. The patient showed an uninterrupted recovery. Dr. Winnett described the patient's symptoms. There was no pus and no foreign body whatever found in the lumen of the organ.

Dr. A. A. MACDONALD asked *re* the remote results of these operations for the removal of the appendix and the bearing upon the examinations for life assurance, *i.e.*, as to the ultimate effect. Should people with their appendices removed be accepted as first-class risks by the insurance companies. He thought the appendix was placed there for some purpose.

Dr. OLDRIGHT thought that a vote of the Fellows might be taken on the subject. Some thought the candidate should not be accepted for two years after he had recovered from the operation. He, himself, would accept them as soon as they had recovered from the operation.

Dr. DAVISON said that some insurance companies refused these candidates. He always accepts them and considers them better risks than they were before.

Dr. PRIMROSE said that the appendix was gradually disappearing (Dr. Oldright facetiously, "By the hand and the knife of the surgeon").

Dr. BINGHAM agreed with what Dr. Primrose had said and stated that while it is a useful organ, it is not useful to the possessor but useful to the faculty.

Dr. MACDONALD stated that his question was not being answered; he wanted to know the remote results of these operations.

Dr. ALLEN BAINES thought that this was a very important question, and stated that this subject was exciting a great deal of interest amongst insurance men, because conditions arose that sometimes called for a secondary operation.

Dr. GEORGE A PETERS thought it was an imporrant question and spoke of the difference between an operation for appendicitis and an appendectomy. In the latter, the operation does not create the adhesions that Dr. Baines had alluded to. He thought we could not consider this question without considering the whole question of appendicitis in regard to insurance, and you must also consider the possibility of hernia after operation.

Dr. OLDRIGHT mentioned an applicant for insurance who has had recurrent appendicitis for the last two or three years and he told him that he would not pass him until he had been operated on.

MUCO-FIBROUS POLYPUS.

Dr. D. J. GIBB WISHART and Dr. G. BOYD presented this patient and Dr. Wishart described the condition and the operation. The patient was a boy about eight years of age who came to the Victoria Hospital for Sick Children suffering from nasal polypus. There was a history of successive attempts to remove the polypus from the nose. The boy states he was operated on once a week for a considerable period and he came to the hospital in an exceedingly nervous condition. On examining his nose a mucous polypus was quite apparent in the left nasal chamber and Dr. Wishart made one or two attempts to seize the tumor but found it impossible. He was then placed under chloroform and the naso-pharynx examined. A large tumor was found projecting into the pharynx. It was snared out through the nares and turned out to be a muco-fibrous polypus about three and one-half inches in length. There was only one growth. The boy recovered for about ten days, when he was then found to be suffering from a little elevation of temperature and pain in the left ear, that is, on the same side on which the growth was attached. The drum membrane was punctured and pus exuded. Temperature at once rose to 104 degrees. Later on—about twenty-six hours afterwards, he developed marked tenderness and swelling in the glands of that side of the neck along the edge of the sterno mastoid; that was followed by the same condition on the right side. Temperature fell, but again rose to 104 degrees, and there was tenderness in left lobe of the ear. From that time onward he made an uninterrupted recovery. Dr. Wishart stated these cases are comparatively and especially rare in children under fifteen years of age. The polypus seemed to be attached to the middle turbinated bone about the usual situation. He was at a loss to account for the occurrence of this polypus. There is the possibility of the boy being the subject of hereditary syphilis, though it was not a marked condition. You cannot find much in the literature pointing to such an origin for muco-fibrous polypus. It is stated by Bosworth that the muco-fibrous polypus never causes facial deformity. There is a lack in the ethmoid bone and a distinct sinking in the region of the frontal sinus. He has a highly arched palate and a peculiar formation of the upper jaw. He also presents a double dislocation of the lens.

HYDRO-NEPHROSIS.

This specimen was presented by Dr. Bingham, occurred in a woman of thirty years, and it was peculiar from the fact that the cause of the condition was obscure.

TREPHINING IN JACKSONIAN EPILEPSY.

Dr. D. C. MEYERS read the report of this case. The patient himself he presented to the Society in person last January. The

aura was confined to the fore-arm, and at that meeting the patient gave an exhibition of bringing on an attack and suspending it. He was a young man about twenty-five, who at five years of age had been struck on the head with a club falling out of a tree, but had sustained no fracture of the skull. Dr. Grasett did the operation, assisted by Dr. Peters. About two and one-half years ago his attacks began to be more severe, he having as many as fifty in a day, when he consulted Dr. Meyers. Ordinary remedies were first tried, and then an operation was advised. The operation was performed on January 20th, 1899. As the seizures were in the fore-arm, the trephine was placed over the cerebral centre for that region, as nearly as could be judged externally, and when the button of bone was removed, two veins were seen crossing the field in the dura mater, and the centre was struck just in front of a fissure of Rolando, at a point two inches below the longitudinal fissure. The dura was healthy in appearance, and there was no bulging. Electricity was applied, with very satisfactory results. A probe 3/8th-inch in diameter was inserted one and one-half inches into the brain substance, and it was interesting to note that there were no ill-effects. As a result of the operation there were paralysis of the muscles of the fore-arm and hand, which was temporary. Thirteen days after the operation power returned in the long flexors of the fore-arm. The hand was the last part to regain power, and it had not all returned when last seen. Immediately after the excision of the centre and the completion of the operation, on the same day, he had several attacks, and on the following day. The spasms were entirely confined to the paralyzed muscles, and the attacks varied in number from two to eight. He only remained under Dr. Meyer's care five weeks after the operation, and the attacks were considerably less frequent and decidedly less severe than before the operation. Dr. Meyers saw the patient last on September 7th, that is, eight months after the operation. He says after his return home the fits were more frequent for six weeks. He never loses consciousness. Six weeks ago the fits entirely ceased, and he now uses the left arm for all purposes. There is still some difficulty in the use of the fingers. He has gained about twenty pounds in weight, can attend to his duties on the farm, and he feels perfectly well in all particulars.

Drs. Grasett, Peters and Primrose entered into a discussion of the case.

GEORGE ELLIOTT,
Recording Secretary.

Special Selections.

COLLECTIVE REPORTS ON GLYCERINIZED VACCINE LYMPH.

By Albert C. Barnes, M.D., Philadelphia.

The recent widespread epidemic of smallpox in the United States has necessitated general vaccination, which has afforded excellent opportunities to determine the exact actual and comparative value of glycerinized vaccine.

For the past ten months I have been collecting reports from various infected districts in an effort to ascertain not only the actual value of glycerinized vaccine as a protective against smallpox but its relative value compared with vaccine points, quills, crusts, and the older methods of producing vaccination.

Other objects to be determined were (1) the value of glycerinized vaccine as a preventive of smallpox; (2) the proportion of successful "takes" in both primary and secondary vaccinations; (3) the relative frequency of complications, such as diffuse inflammation of the vaccinated area—cellulitis, lymphangeitis, lymphadenitis, ulcerations, abscesses, etc., which so often follow the use of vaccine points.

The methods of inquiry adopted in this investigation, were by circular-letter and personal inquiry, by large numbers of physicians throughout the country.

In a certain number of cases where wholesale vaccination was practised, as for instance by health authorities, exact figures could not, for various reasons, be obtained. However, in such instances, the reports were conservative and were none the less illustrative and convincing.

In Baltimore, where for several months there has been a number of cases of smallpox, there were employed by the health authorities and physicians in private practice considerable over 100,000 tubes of glycerinized vaccine. Those vaccinated were periodically observed until the success or failure of the vaccination was determined. In not a single instance did smallpox occur in a person vaccinated with glycerinized lymph. Conservative estimate places the number of successful takes as 95 per cent. in primary cases. The vesicles in most instances were typical and uncomplicated with staphylococcic and streptococcic infection. The number of excessively sore arms did not exceed one per cent. of the total number vaccinated.

In Minneapolis, in one series of 3,045 vaccinations with glycerinized lymph there were twenty-nine failures, all of which were in secondary cases, *i.e.*, those who had been previously vaccinated. In the same city a second series of 3,875 vaccinations resulted in four failures in primary cases and in fifty-one failures in secondary cases. All the data collected from Minneapolis show a proportion of 95 per cent. successful "takes" in primary cases and 75 per cent. in secondary cases.

Cleveland records show that widespread vaccination was practised. Both glycerinized vaccine and points were employed at the beginning until results proved the vast superiority of the glycerinized lymph, when points were almost entirely abandoned.

In one series of 20,000 cases vaccinated with the glycerinized product, there was an average of over 90 per cent. successful takes. Septic complications were almost entirely absent.

In Richmond, Norfolk and Portsmouth, Va., no accurate records were kept of results obtained, but in these three cities there were employed about 120,000 tubes of glycerinized lymph. Extensive inquiry concerning results obtained places the successful takes over 90 per cent. In these cities the superiority of the glycerinized lymph over the points, in producing successful vaccinations and avoiding septic complications, was everywhere noted. The experience of the health authorities and physicians in private practice in Norfolk, is particularly valuable. At the beginning of the smallpox outbreak vaccine points of a standard make were employed extensively. In a large number of cases, smallpox in a virulent form occurred among patients who had been vaccinated with points. This shows that the inflammatory reaction which took place at the site of vaccination, was due to staphylococcic infection and was not true vaccination.

From Philadelphia Indianapolis, Chicago, Gloucester Co., Va., Pittsburg, Allegheny, Standwood, Ia., Lisbon, Ia., and over forty small towns throughout the country, responses to inquiry show that while no accurate records were kept the glycerinized vaccine, in comparison with points, had proved so superior in producing successful vaccinations (averages from 90 to 95 per cent.) and in affording freedom from septic complications, that points had been largely abandoned in those places in which comparative tests had been made.

In Porto Rico, under the supervision of Dr. George G. Groff, Major and Brigade-Surgeon U. S. A., extensive vaccination was practised. Vaccine points in this climate failed entirely while glycerinized vaccine yielded about 90 per cent. of successful vaccinations.

Dr. R. T. Hammond, Jessup, Md., had vaccinated 236 patients with glycerinized lymph and had but one failure; no excessively sore arms resulted.

A series of seventy vaccinations in private practice in Indianapolis, with glycerinized lymph, showed successful takes in all but one case. No septic complications.

Dr. F. V. Ely, Pittsburg, secured thirty-six successful takes in a series of forty vaccinations with glycerinized lymph. This is remarkable, inasmuch as at least one-third of these cases were secondaries.

Dr. F. A. Crosby, Beach Ridge, N.Y., reports 100 per cent. successful vaccinations with glycerinized lymph in a series of sixty cases. Sore arms were not noted.

Dr. G. G. Rusk, Baltimore, vaccinated 360 persons with glycerinized lymph and obtained a successful "take" in every instance.

Dr. C. T. Mattefeldt, Catonville, Md., employed glycerinized vaccine in a series of 157 cases, 20 per cent. of which were secondaries; 155 successful vaccinations resulted.

Dr. D. W. Dodson, Nanticoke, Pa., reports that in a series of 250 cases he secured 100 per cent. successful vaccinations with glycerinized lymph.

Dr. J. R. Faust, Mann's Choice, Pa., vaccinated 130 school children and teachers, every one of which was successful.

Dr. A. J. Taylor, member of Board of Health, Caribou, Maine, reports 200 primary vaccinations with thirty failures; of the latter twenty-seven were vaccinated with fourteen successful takes. This experience shows the value of revaccination in those cases in which successful result did not follow first vaccination. The average in this series of cases was over 90 per cent. successful takes.

Dr. W. F. Beyer, Punxsutawney, Pa., vaccinated 300 cases, primary and secondary, and secured 98 per cent. of successful takes—in other words there were but six failures.

A large number of other private reports show that glycerinized lymph yielded from 90 to 100 per cent. of successful takes in primary cases and from 60 to 75 per cent. in secondaries.

Conclusions: This investigation proves conclusively that the recommendation of the United States Marine Hospital Service that "glycerinized vaccine only should be employed" ("Public Health Reports," January 9, 1899) is well substantiated by experience, because:

1. Properly prepared glycerinized vaccine is pure and free from staphylococci, streptococci, and other pathogenic organisms which are invariably found (Copeman, Crookshank, Pfeiffer, Reed, U. S. A.) on vaccine points.

2. Glycerinized vaccine affords absolute protection against smallpox; vaccine points are uncertain in this regard.

3. Vaccination with the glycerinized products does not cause excessive inflammation of the vaccinated area. Cellulitis and

inflammation of the lymph vessels and glands amounting at times to abscess formation is a not infrequent sequence of the use of vaccine points.

4. Vaccine points are apt to lead to a false sense of security, inasmuch as they induce a local staphylococcic or streptococcic infection which is entirely distinct from true vaccination. Such a result is not protective against smallpox.

5. A high estimate of successful takes from vaccine points, is by these and numerous other reports shown to be not over 60 per cent. in primary cases and a much lower percentage in secondary cases.

6. Glycerinized vaccine has been officially adopted by the governments and health authorities of United States, Great Britain, Germany, France, Russia and Belgium. It should be universally adopted in private practice.—*American Gynecological and Obstetrical Journal.*

IMPORTANT TIPS.

1. The value of small doses of tincture of aconite frequently repeated in the treatment of amygdalitis and in the initial stage of febrile diseases.

2. The value of painting the chest and back with liquor iodi fortis—diluted, if necessary, with an equal quantity of the tincture—in all cases attended with cough.

3. The value of a pill of exsiccated ferrous sulphate in conjunction with the adminstration of purgatives in the treatment of anemia.

4. The value of grain doses of grey powder with an equal quantity of Dover's powder from three to six times a day in the treatment of syphilis.

5. The value of large doses of the iodides in the treatment of tertiary syphilis.

6. The value of large doses of bromide of potassium in the treatment of the "heats and flushes" and other symptoms from which women suffer about the time of the menopause.

7. The value of large doses of quinine in the treatment of supra-orbital neuralgia, and in the periodical febrile disturbances from which old malarial patients suffer.

8. The value of five grains of butyl-chloral-hydrate with one two-hundredth of a grain of gelsemin in neuralgia of the fifth nerve.

9. The value of small doses of a saturated solution of camphor in alcohol in the treatment of autumnal or choleraic diarrhea.

10. The value of small doses of perchloride of mercury in the treatment of infantile diarrhea when the stools are green, slimy, and offensive.

11. The value of sulphide of calcium in doses of a tenth of a grain in the treatment of boils, carbuncles and abscesses.

12. The value of nitroglycerin and nitrate of amyl in the treatment of angina pectoris and allied conditions.

13. The value of alcohol in the treatment of fevers.

14. The value of flying blisters in typhoidal conditions.—*William Murrell, Med. Rec.*

THE MENOPAUSE AND HEART DISEASE.—Hosskiewitz, (*La Gynécologie*, after five years' observation, finds that a functional cardio-vascular neurosis appears at the menopause in certain women. This neurosis is very dangerous when organic disease of the heart already exists, being one of the most frequent causes of asystolism. Patients with arterio-sclerosis without valvular lesions resist best the unfavourable influence of the menopause, when aortic insufficiency is aggravated. The same ill-effect is seen in mitral disease. Dilatation of the chambers or of the aorta, tachycardia, and irregular pulse, have been noted in these patients, but not in any direct proportion to the degree of arterial sclerosis present. The cardiac neurosis of the menopause comes in fits between the periods, and is usually improved by the appearance of show. They are, like all the other phenomena of the monopause, aggravated by overwork, violent emotion, and all debilitating influences.—*B. M. J.*

INTERNAL REMEDIES IN SURGERY.—Manley calls attention to the importance of recognizing the value of internal remedies as making it possible in some cases to avoid surgical operations. As a striking example of this, he notices juvenile tuberculosis affecting the joints, and shows that of late years not one operation is performed, where formerly ten were, for this condition. The use of the bitter tonics, cod liver oil, preparations or combinations of mercury, iodine, phosphorus, creosote, salol, etc., have made this possible. While malignant disease still defies us, and surgery is in most cases a palliative, yet much can be done with local remedies. Many cancers have been thoroughly removed by escharotics. Venereal disease, in nearly all its forms, yields often to internal remedies, and, in many cases when the diagnosis is uncertain, those latter both clear it and bring about a cure. Surgery cannot progress much farther, but there remains a wide chasm to be filled up in the domain of internal medicine.—*Jour. Amer. Med. Asso.*

MONTHLY REPORT.

Issued Oct. 26, 1899,
P. H. BRYCE, Secretary.

Issued by the Provincial Board of Health of Ontario for September, 1899. Showing the deaths from all causes and from Contagious Diseases in the province, as reported to the Registrar-General by the Division Registrars throughout the Province.

YEAR.	MONTH.	Total population of province 2,283,182	Total municipalities of province, 777.	Total deaths reported from all causes.	Rate per 1,000 per annum from all causes.	Scarlatina.	Rate per 1,000 per annum.	Diphtheria.	Rate per 1,000 per annum.	Measles.	Rate per 1,000 per annum.	Whooping cough.	Rate per 1,000 per annum.	Typhoid.	Rate per 1,000 per annum.	Tuberculosis (Consumption).	Rate per 1,000 per annum.
1899....	Sept.	Total population reporting: 2,265,308 99.2%	Total municipalities reporting 738 95%	*1,067	10.3	10	0.05	21	0.1	0	0.00	8	0.04	55	0.3	190	1.0
1899....	August	2,225,326 98%	730 94%	*2,088	11.4	8	0.04	25	0.1	5	0.03	16	0.09	55	0.3	172	0.9
1899....	July	2,168,115 95%	670 86%	*1,643	9.5	7	0.04	20	0.1	4	0.02	6	0.03	15	0.08	178	1.0

YEAR.	MONTH.	Total population reporting.	Total municipalities reporting.	Total deaths reported.	Rate per 1,000 per annum from all causes.	Scarlatina.	Rate per 1,000 per annum.	Diphtheria.	Rate per 1,000 per annum.	Measles.	Rate per 1,000 per annum.	Whooping cough.	Rate per 1,000 per annum.	Typhoid.	Rate per 1,000 per annum.	Tuberculosis.	Rate per 1,000 per annum.
1898....	Sept.	2,163,131 95%	677 90%	250	....	11	0.06	33	0.1	2	0.01	13	0.07	44	0.2	147	0.8
1898....	August	2,183,168 97%	694 90%	230	....	10	0.05	16	0.09	6	0.03	12	0.06	34	0.2	152	0.8
1898....	July	2,157,337 95%	688 88%	224	....	15	0.09	16	0.09	18	0.1	12	0.08	20	0.1	143	0.8

* The months of July, August, and September, 1899, include deaths from all causes, but the other months from contagious diseases only.

DOMINION
MEDICAL MONTHLY

AND ONTARIO MEDICAL JOURNAL

EDITOR:
BEATTIE NESBITT, B.A., M.D., F.C.S.

TERRITORIAL EDITORS:

DR. J. DUNCAN, Chatham.
DR. M. F. LUCAS, Ingersoll.
DR. W. J. WEEKES, London.
DR. J. CAMPBELL, Seaforth.
DR. GILLIES, Teeswater.
DR. H. R. FRANK, Brantford.
DR. A. R. HARVIE, Orillia.
DR. H. J. HAMILTON, Toronto.
DR. A. J. CREASOR, Toronto.
DR. J. S. SPRAGUE, Stirling.
DR. C. J. CHIPMAN, Ottawa.

Address all communications to the Publishers, DOMINION MEDICAL MONTHLY, 71 Grosvenor Street, Toronto, Canada.

VOL. XIII. TORONTO, NOVEMBER, 1899. No. 5.

HOSPITAL ABUSE IN TORONTO.

We are exceedingly gratified to learn that the Local Board of Health has given instructions to Dr. Sheard to inquire into and report on the abuse of medical charity in the general hospitals of this city. So far as the Medical Health Officer is concerned, it is sufficient to say that his report will be straight, and to the point; he never does things by halves. It is a notorious fact that the hospitals have been more or less a sort of dumping-ground for charity patients who had no claims whatever on the city's bounty. In past years, and even in the matter of patients who pay the ordinary *per diem* rate, there has been too much laxity extended to non-residents also. Why a farmer owning and cultivating a good hundred-acre farm in the Province, or any one else for that matter, should be allowed to come to the city and enter one of our hospitals at the nominal charge of 40 cents per day, and then receive treatment gratis at the hands of the resident and visiting staff, cheating at the same time his family physician at home, and getting off scot free in the matter of medical fees, is beyond our comprehension. Cases have been known even where men perfectly able to pay their physician at home, have come to the city for an ulterior purpose, and have hoped to entrap unwary surgeons into

a condemnation of former treatment, with the idea that they will go home and at once institute an action for damages for some fancied malpractice. More than once physicians have been almost caught by such scoundrels; and any one cannot be too guarded in commenting on such cases that come to the city for operative procedures. Hospital reform and hospital abuse is a question that should be immediately and at once rapidly revised, and put upon an equitable basis both in respect to the physician and the patient, as also the hospital itself. When the physician on the visiting staff does so much good for the sake of humanity and for the cause of charity, he should be entitled to some consideration: but there has seized hold of certain sections of the community the idea that the doctor's daily diet is wind pudding served up with imagination sauce, and if he gets that he should be content, and do the balance for sweet charity's sake. There is altogether too much charity in the profession. The press will advise you that it is a very good thing for a doctor to be giving his time and his talents in this way; that the experience he obtains is more than sufficient to compensate him for his trouble. Still we do not see that many of our daily, or, for that matter, weekly papers, ever give a year's subscription to some poor individual who is too poor to pay for it. Oh, no! all he needs is a free doctor in time of sickness, and if he does not get it our friends of the fourth estate see that we get "hail columbia" for not supplying it. We shall watch eagerly for the report of Dr. Sheard, and will probably have something further to say on the subject when that report reaches us. One important step, however, has been taken in the last two years in the direction of the much-needed hospital reform, and that is, that any one seeking medical advice or attention at the out-door department of the Toronto General Hospital has to present a certificate from his doctor or clergyman that he is unable to pay for medical treatment. Time and again when we were students at these clinics we have seen Jews drive up with their horse and buggy, get their prescriptions and medicine, and drive away, contentedly, grinning at the bargain they had made with the hospital; and these were charity patients. Even now it is a well-known fact that these prescriptions, when obtained, are carried home and handed around among their friends, so we have been credibly informed by druggists (no doubt obtaining their information from the owners of the prescriptions), until as many as fifty persons have been using and taking that prescription. This is another abuse, and should be remedied by not handing out any prescriptions at all but keeping them on file in the hospital dispensary. Some say the clergymen will sign anything, and that whether the person be deserving or not, the clergyman will sign the certificate and thus contribute to the abuse of the present system. However

that may be, the thin end of the wedge is probably now being inserted for the first time, and we hope to see several good blows struck thereon in the immediate future that will redound to the advantage of the whole profession in this city.

THE PRESENT STATUS OF LODGE PRACTICE.

Some things had better been written in nitric acid than in ink —and this is one of them. No words can be found sufficiently caustic to fittingly describe this disgraceful and dishonorable practice, even so acknowledged by those who have been besmuged by the smut and the grime of intimate and long-continued contact. We have often wondered who were the men, in inaugurating these practices, that dared to associate themselves with the degradation of the profession of their choice, and to so shamelessly traffic in that profession's dignity and honor. How truly pitiable it is now to see the galled jade wince; to see the subjugated practitioner prone on his marrow bones, spitted on the staves of their despotic lodge masters. We blush for the honor and manhood of our profession, when any measure for the redress of these wrongs under which we are suffering, is to come and has to be solicited through the medium of the lodge secretary. Woe betide us as a profession when the potency of internecine jealousy and distrust predominates wise counsels and sober judgment within our own ranks. Surely there is *esprit de corps* enough in the medical profession—surely there is a single spark of manhood smoldering somewhere in the physical corporosity of the almighty-dollar-per-annum practitioner which can be fanned into a feeble flame to fire the heather for professional emancipation. 'Tis a sad and sorrowful sight to see a member of an intelligent and educated body denouncing and decrying lodge contract practice with one hand, whilst the other tightly grasps the strings on two or three lodges. Faugh! Out upon such criticism! We want no such bastard loyalty. Is the thief who steals and condemns thievery in the same breath, a man whose opinion on robbery is valuable? How is this question to be settled? Who is to take the initiative? Where will it begin? The profession appeals to the Medical Council. The Council refers them to the Medical Associations. All have admitted there is a great wrong—a powerful grievance. "It ought to be among the crimes that the Discipline Committee is called upon to try; we cannot put it there," says one of the Council legislators. "It is painfully near unprofessional conduct," opines another; and "we all denounce and hate it," simultaneously and in chorus. "We have done our duty; we can do nothing more." May God add

his blessing. Great reformers fighting for the wrongs of an oppressed and subjugated people, would never have been able to accomplish any reform if such pusillanimity as this had been the force to urge them onward. It may be, however, that this black cloud has a silver lining, and the rising generation of young practitioners who are keeping their professional and, indeed, their common honor and manhood clean and untarnished, who will not touch the pitch which defileth, may be the means of rescuing their chosen profession from the slough and the mire into which it has been plunged by the professional pursuer of filthy lucre.

A MEDICAL DEFENCE UNION.

Not so very long ago a number of the profession in the City of Toronto were solicited in such a way that, if it became necessary in defending a certain action or if damages were to be paid, each were to guarantee a payment in order to assist the professional brethren so mulcted. Suits for malpractice are every little while cropping up, and if the unfortunate one who finds himself a defender in a suit for damages in these cases, whether resting upon sufficient evidence or merely trumped-up charges, be a young practitioner who has not as yet reached that delightful stage where he is going forward instead of going behind in his annual receipts, it would indeed be a very comforting thought to him to know that he had at his back, come what may, an association that would defend his action and pay the damages if assessed against him. We are not aware that any such society has existence in this country, but we have no doubt that it could be made workable and meet with popular favor. Possibly a defence association could be organized in connection with any of our local or national medical associations, and, if need be, members, if they saw fit, could enroll themselves on the membership of both local and national associations of this character. Then the Medical Council might take this matter into their serious consideration and devise a scheme by which licentiates of that body would be protected from these very annoying charges, often putting a practitioner to no end of worry, trouble, and expense for exceedingly slight causes. There is no doubt that an insurance bureau of this character could be carried on by the Medical Council and prove of incalculable benefit to the profession at large. The annual cost to each individual who chose to take advantage of such an undertaking, would probably not be large, and we think some steps ought to be immediately taken to institute such an association.

OUTLINE OF THE PROPOSED PLAN FOR THE ECONOMIC TREATMENT OF PAUPER INEBRIATES, WITH SUGGESTIONS WITH REGARD TO SOME OF THE DETAILS.

1. The appointment of an inspector by the Government, who might be called "Hospital Inspector."

2. The inspector, under the authority of the Provincial Secretary, will organize cottage hospitals where practicable, and will confer with the hospital authorities with a view of organizing an inebriate department in the general hospitals of Ontario.

3. In organizing either inebriate department in general hospitals, or cottage hospitals, he will visit the locality and make all the arrangements necessary, including (*a*) making arrangements with hospital trustees and hospital staff for the reception and treatment of patients; (*b*) conferring with the mayor and city authorities, firstly, with regard to an extra per diem rate for inebriate patients, for patients from the city; secondly, with regard to giving employment on public works to men subsequent to treatment; and, thirdly, with regard to making a grant to help pay a local agent. He will also confer with local philanthropic societies with regard to the appointment of a local agent who, it may be suggested, be either a truancy officer, an agent of the Children's Aid Society, or an officer of the Y.M.C.A. The duty of the local agent will be, firstly, to induce inebriates to undergo treatment; secondly, to visit and encourage them while under treatment; thirdly, to make provision for their employment, and, fourthly, to endeavor to change their environment and to place them on a higher plane of life and living.

4. The Government should make a grant to cover the following expenses: (*a*) salary of inspector; (*b*) office expenses of inspector; (*c*) travelling expenses of inspector; (*d*) grant for aiding discharged inebriate patients. This grant should be disbursed either by the inspector or by the Prisoners' Aid Association, and the amount for each hospital should be determined by the amount contributed locally for the same purpose, and the Government grant should in no case exceed the amount contributed by the former.

5. The Government should formulate the terms upon which aid may be granted to hospitals to promote the treatment of inebriate patients. This grant should be given only when all the conditions are complied with. One might suggest the following, namely, for the first ten days, 20 cents a day extra; for the second ten days

10 cents a day extra ; subsequent to this, the ordinary hospital *per capita* grant.

6. The conditions upon which the extra *per capita* grant should be made to hospitals are suggested as follows : (*a*) The hospital to provide a reception ward, altogether apart from the other patients, for inebriate patients, and where they should be detained a few days before being admitted to the hospital wards proper ; (*b*) the medical treatment to be arranged between the inspector and the medical superintendent ; (*c*) all cases should be reported to the inspector on reception, and the report shall be according to a special form designed for this purpose ; (*d*) the hospital authorities shall co-operate in every possible way in the work of reformation of inebriates, both during, and subsequent to, treatment in the hospital.

7. It may become necessary to extend the provisions of the Inebriate Act of Ontario so as to include general hospitals, so that patients may be compulsorily detained when necessary.

8. In dealing with police cases it might be as well in many cases, instead of sending the inebriate to the hospital direct, to have the man remanded by the magistrate for a week, and in the meantime to afford him an opportunity, in the county jail, of recovering from his last debauch. At the end of the week the magistrate could give the man the option of going to jail for a month at hard labor, or of entering the hospital for two or three weeks' treatment. In the latter case the sympathy and co-operation of both the police magistrate and the jail surgeon should be secured, if possible, in behalf of this reformatory effort.

9. According to a careful estimate, fully 30 per cent of inebriates receiving medical treatment, and having a helping hand extended subsequent to treatment (as above outlined), may be restored to society. If not more than one-half of this number can be reformed, the effort will surely not have been in vain.

10. It is also suggested that it be made a criminal offence to offer intoxicating liquors to a person who is known to have received treatment for inebriety at public expense.

Approved by the Toronto Medical Society.

(Signed) D. GILBERT GORDON.
President.

October 24th, 1899.

News Items.

THERE has been aroused in Prince Edward Island a strong feeling of dissatisfaction with the Government's management of the Insane Asylum at Falconwood. It is stated on good authority that the class of food furnished the inmates is not up to the standard, and that the heating facilities of the institution were disgraceful. Then the annual reports of the visiting superintendent, Dr. Blanchard, were often mutilated by some one in the interest of the Farquharson Government, whole pages being cut out and destroyed. It is altogether likely that a resident superintendent and a staff of trained nurses will be appointed to the Asylum as a result of the Government's Commission of Inquiry.

KAMLOOPS, B.C., has a small-sized hospital scandal on its hands. When the annual drug contract was to be allotted last week, it came out, through the medium of Drs. Lambert and Proctor, that the class of chloroform furnished by the drug firm was not the proper D. & F. "white label" for anesthetic purposes, but the "blue label," used in the preparation of liniments, etc. This immediately raised a good sized row and the principal of the drug house was hauled over the coals pretty lively. Ultimately, however, the contract was awarded the same firm; but it is altogether likely that the proper brand will be supplied in the future.

THE students of Trinity Medical College held a very enjoyable evening on the 7th inst. Dr. J. T. Fotheringham read notes on a case of hysteria, and Mr. Treblecock read an interesting paper on his summer's experience at the Gravenhurst Sanitorium. Afterwards an adjournment was taken to the Final Room, where a capital oyster supper was enjoyed. A number of the Junior members of the faculty contributed short speeches as well as the members of the Annual Banquet Committee. Songs, music, recitations and clogs contributed to one of the best evenings old Trinity has ever seen.

THE tremendous infant mortality in the city of Montreal during the summer months has induced many philanthropic ladies in that city to organize an association for the prevention of disease and death amongst them. Dr. Laberge, the city Medical Health Officer, is lending himself to the scheme, and thinks it will be a good thing for the city. Medical men and nurses will be appointed on the staff of the Association, whose duty it will be to pay regular visits to those classes of the community who will require these services.

THE Montreal Medico-Chirurgical Society held their 29th annual meeting on the evening of the 6th ult., with the retiring president, Dr. J. George Adami, in the chair. The Treasurer's report was submitted, and showed that the receipts for the past year were $674.45, and expenditures $408.08, leaving a balance to the good for the year of $266.37. The total assets of the Society are $905.00 and all debts paid. Dr. Adami was re-elected president.

THE annual report of the Ottawa Maternity Hospital has recently been issued. It shows a deficit of $231.77. During the past year there have been 85 patients, the largest in a single year since the opening of the institution. A new wing will be erected in the near future; and, as the Countess of Minto has been taking a lively interest in the workings of the Maternity, the addition will be named the "Minto" ward in her honor.

THE profession in Montreal are holding, this present month, a special pathological and instrumental exhibit in the McGill Museum, embracing a series of preparations exhibiting Polydactylism and Syndactlism together with a large collection of X-Ray photos of these conditions. There is also a collection of old medical instruments.

THE Medical Council of Prince Edward Island at its last meeting adopted an important "Minute" disapproving of medical advertising through the medium of the lay press. This is the result of newspaper reports of brilliant and wonderful operations which found their way into the press with the surgeon's name attached.

DR. CHARLES A. WILSON, Montreal, accompanies the Canadian Contingent to the Transvaal as surgeon-major; and Lieutenants Osborne (Hamilon), and Fiset (Montreal), are his assistants. Dr. Annie Lawyer, Ottawa, is associated with the nursing corps, as is also Miss Russell, daughter of Dr. Russell of the Hamilton Asylum.

BOTH Trinity and Toronto Medical Schools have representatives in the Canadian Contingent: Mr. Archie Anderson, a brother of Professor Anderson, and Mr. J. Jordan, a Senior student of the latter institution. Both were the recipients of handsome presents at the hands of their friends in the colleges as tokens of esteem.

DR. JAMES B. CAMPBELL, London, Ont., died on the 12th ultimo. He obtained his license to practise from the Ontario Medical Council, and located at Belmont, Ont., where he practised successfully until 1887, when he removed to London, in which place he was enjoying a large practice at the time of his death.

DR. SHEARD, Medical Health Officer, Toronto, classifies the firemen of the city according to medical examination as follows: Out of a total of 175, 154 were examined, and of these 89 are first-class men; 35 are in the second class, who are unfit for prolonged labor, and the balance who are not suitable for firemen at all.

ON Friday evening, Oct. 20th, the Toronto General Hospital Training School for Nurses held their graduating exercises, at which certificates and medals were presented to a graduating class of seventeen. This is the first class that has completed its three-year course since that was inaugurated in 1896.

DR. GEIKIE, Dean, Trinity Medical College, is receiving subscriptions for the purpose of erecting a monument, in Mount Pleasant cemetery, over the remains of Dr. Rolph, the father of medical education in the Province of Ontario.

DR. RODDICK, M.P., Montreal, was in the city, the 8th inst., conferring with Drs. Williams and Thorburn in regard to the Bill which he will introduce into Parliament at the coming session, in connection with Dominion Registration.

DR. ASHTON, late house surgeon Victoria Hospital for Sick Children, has assumed charge of the Gravenhurst Sanitorium, while Dr. Elliott will pursue special study in sanitorium work one year in Great Britain and the Continent.

OWING to the recent change in the medical law of the State of Michigan, before the date of limitation on October 4th, a number of practitioners in the city and province took out their papers to practice in that State.

DR. H. G. BARRIE, Trinity, '99, College Secretary of the Y.M.C.A. has been appointed by the Dominion Government as Association Representative accompanying the Canadian Contingent to the Transvaal.

THE Medical Health Officer of the city gives it as his opinion that some thirteen cases of typhoid fever were in families using milk in bottles supplied by one dairyman in the northern portion of the city.

DR. W. H. PEPLER accompanied the Canadian contingent (Toronto portion) to Quebec, where he completed a score of examinations for the Ontario Mutual Life Association.

DR. WRINCH, Trinity, '99, has been appointed house surgeon to St. Michael's Hospital, in the place of Dr. Wells, deceased.

ON Nov. 29th, Dr. J. George Adami, Montreal, will deliver the annual lecture before a joint meeting of the Chicago Society of Internal Medicine and the Chicago Medical Society.

DR. HODGETTS, College St., has been despatched to Windsor and vicinity, by the Provincial Board of Health, to look after the outbreak of smallpox reported from that district.

DR. JOHN HYNDMAN, of Exeter, Ont., died on the 5th Oct. Licensed under the old board of Upper Canada, in 1851, he practised at the above place for over forty years.

DR. WILLIAM COMFORT, North Pelham, Ont., one of the oldest practitioners in the Niagara Peninsula, died on Oct. 23rd, at the age of seventy-eight years.

DRS. GEORGE ELLIOTT and T. B. RICHARDSON have been appointed on the staff of Trinity Medical College as demonstrators of Anatomy.

DR. J. M. McCallum has been appointed on the Senate of Toronto University in the place of Dr. James Elliott Graham, deceased.

THE death is recorded of Dr. Marquis, for some years a well-known practitioner of Brantford, Ont.

DR. R. J. WILSON, Bloor St., has been appointed Coroner for the city of Toronto and county of York.

DR. BEVERLY Z. MILNER is spending a few weeks at Baltimore.

Physicians' Library.

The Nervous System and its Constituent Neurones. Designed for the use of practitioners of medicine and of students of medicine and psychology. By LEWELLYS F. BARKER, M.B., Tor., Associate Professor of Anatomy in the Johns Hopkins University, and Assistant Resident Pathologist to the Johns Hopkins Hospital. With two colored plates and 676 illustrations in the text. Sold by subscription. Cloth, $6.00. D. Appleton, New York; G. Morang & Co., Toronto.

This work represents the results of long and careful study and scientific research in the anatomy and physiology of the nervous system in man. The subject is one which, more than any other since the beginning of scientific records, has occupied the minds of thoughtful physicians in all countries of the world.

The results of study in this domain have led, within the pas decade, to a complete revolution in our ideas concerning the elements of the nervous organs and their architectural relations, and have furnished a number of new methods of investigation. Entirely new avenues of research have been opened up, and problems hitherto considered almost beyond the limits of scientific inquiry now seem within human possibility.

It is in the light of these advances that the author has carried on his investigations which, with the results obtained by other investigators, are here recorded, and constitute the most scientific and advanced work on the subject ever published. The work is divided into six sections, as follows:

Section I. The History of the Development of the Neurone Concept; Section II. The External Morphology of Neurones; Section III. The Internal Morphology of Neurones; Section IV. The Histogenetic relations of the Neurones; Section V. The Neurone as the Unit in Physiological and Pathological Processes; Section VI. On the Grouping and Chaining together of Neurones n a complex nervous system like that of Man and Mammals.

The fact that Dr. Barker is a Canadian, educated in Toronto, makes this work one of unusual interest. It has been long looked for and fulfils every expectation founded on the known brilliancy of its author.

Reprints Received

"Gastroptosis: Report of a Case in which a new Operation was Undertaken and the Patient Greatly Improved." By ALFRED STENGEL, M.D., and HENRY D. BEYEA, M.D.

"Acute Gastro-Intestinal Affections in Children." By GEORGE M. WELLS, M.D., Professor Diseases of Children, Medical Department, University of Oregon.

"Spencer's Disease: Dermatitis Multiformis Exfoliation." By WALTER SPENCER, M.D., Honorary Physician to the Sydney Rescue Work Society.

"Abrupt Onset in Typhoid Fever." By WILLIAM PEPPER, M.D., LL.D., and ALFRED STENGEL, M.D., of Philadelphia.

"Symposium on the Pathology of the Diseases of the Cardio-Vascular System." By ALFRED STENGEL, M.D.

Report on Formaldehyde Disinfection in a Vacuum Chamber." By P. A. Surg. E. K. SPRAGUE, U.S.M.H.S.

"The Medical Treatment of Movable Kidney." By ALFRED STENGEL, M.D., Philadelphia.