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CANADA

MEDICAL & SURGICAL JOURNAL

Original Communications.

ULCERATION AND STRICTURE OF THE RECTUM,

WITH REPORT OF

TWO CASES IN WHICH COLOTOMY WAS PERFORMED.

BY GEO. E. FENWICK, M.D.,

PROFESSOR OF SURGERY, MCGILL UNIVERSITY.

Ulceration of the verge of the anus, or fissure of the anus, is a most distressing malady ; it is, however, very amenable to treatment and will yield to appropriate measures. Ulceration, extending above the internal sphincter, is by no means so frequently seen, at least I speak from my own experience in this matter, as I have met with fissure of the anus frequently, whereas cases of ulceration extending up the bowel have been comparatively rare. Ulceration of the mucous membrane of the rectum situated above the sphincter is a very serious malady. It is slow and insidious in its advance, capable of relief in its early stage, seldom, however, recognized as such until the local alteration of the parts, that takes place as the disease progresses, produces such a condition as to preclude all hope of relief, except by operative interference.

In the early stage of the disease, the treatment by local applications will occasionally be successful, but it is generally tedious and prolonged, and too often the patient will neglect to carry out instructions, or he will abandon all further attention

to his malady and allow it to take its course. The folly of neglect in these cases cannot be too seriously condemned. We must bear in mind that occasionally in the early stage of this malady, the suffering and uneasiness is not marked, not sufficient to attract the attention of the patient. He certainly suffers some discomfort, but he often neglects to consult his surgeon, or if he does so he may state, that he has an attack of piles, and ask for some remedy. This, however, fails to give relief, in due time he resorts to various nostrums which he sees freely advertised as infallible cures, such as pile ointment, or pile liniment, but these are equally ineffectual in curing his malady.

It is very important to success in the treatment of ulceration of the rectum that an early and correct diagnosis should be made. It is alone by careful inspection of the part that a correct knowledge of its condition can be ascertained. The symptoms at the outset are obscure. In some cases the bowels are irritable. The patient may believe that he is suffering from dysentery. As soon as he leaves his bed in the morning he experiences an urgent desire to go to stool, at the time he passes some wind, a small quantity of fluid fæces, mucus or pus, or the evacuation may resemble the white of egg, or it may be dark or grumous, and has been compared to coffee grounds. This latter colour is due to altered blood which has been poured out by the ulcerated surface, and has lain in the bowel over night. The discharge is attended with some tenesmus, and a sense of heat and burning about the lower part of the bowel. The relief after going to stool is but slight, there continues an uncomfortable fulness as though there remained behind something that the patient was unable to get rid of. The pain and discomfort soon subside, but a hot breakfast will bring on a further desire to go to stool, which will be more natural in consistence, and more abundant, still the patient does not pass a healthy-formed stool, but lumpy and sometimes smeared with blood, towards the end of defecation a little fluid fæces or mucus or pus will be discharged, and again will he suffer from tenesmus, which sometimes is very distressing. Cases of this kind are constantly treated as those of

ordinary diarrhœa, and very often an opiate or a dose of castor oil with opium will relieve the symptoms of distress, but if ulceration be present these remedies will not be curative.

If the disease progresses unchecked, after a time, the patient will suffer pain after each stool, this is usually of a dull, throbbing character, the straining and tenesmus is increased, a constant fulness in the rectum is experienced, and the discharges of pus or mucus mixed with blood become more abundant and more frequent. It will also be noticed by the patient that whereas he was formerly able to go about his usual avocations with comparative comfort, walking or standing will increase the distress. As the case advances other symptoms will become apparent. The bowels will be more irritable so that the patient may have frequent calls to evacuate their contents. Each time he goes to stool the evacuation will be unsatisfactory and will be followed by tenesmus. He becomes dyspeptic, cannot eat his food, from failure of the appetite, his sleep is not refreshing, his rest at night being disturbed by pain of a shooting character in the bowel or most intolerable itching about the anus, he also experiences reflex lumbar pains, and pains down the thighs and legs. As the disease advances the ulceration will extend up the bowel, sometimes reaching to the sigmoid flexure. Thickening of the submucous tissue and muscular coat occurs, and contraction of the lower portion of the gut ensues from partial healing or cicatrisation of the ulcers. The bowel loses its contractile power, and a state of stricture of the gut at the point of cicatrisation results. In this state fluid fæces will come away spontaneously, because the sphincter loses much of its power to retain the contents of the rectum. Solid masses remain in the rectum unless washed away by enemata, or until forced through by fresh accumulations from above.

In some instances the passage of the fæces over the ulcerated surface will occasion griping pain with a sensation of faintness or actual vomiting. When stricture is actually present the patient will experience an uncomfortable fulness about the bowels, this being the distension accompanying constipation, in a day or two he will have an attack of diarrhœa, and will pass

a large quantity of fæces, with much distress, and sometimes sickness at the stomach, with severe colic. To add to his misery abscesses will form in the perineum, or about the anus, and will terminate in the formation of fistulae.

Digital examination will reveal the condition of the part. The surface of the mucous membrane will be found uneven, and the edges of the ulcer can be felt distinctly raised. Considerable tenderness will be experienced, or actual pain with a feeling of faintness as the finger is passed over the ulcerated surface, and on withdrawal of the finger it will be found smeared with blood, or a certain quantity of blood and mucus may be expelled with the finger. The ulcerated surface in some cases, feels as though it was excavated and the edges will be raised and somewhat hard. The ulceration is somewhat circular, rarely solitary, and in advanced cases will pass up the bowel beyond the reach of the finger. The surgeon should not be content with a digital examination, but to render more certain his diagnosis he should examine with the speculum. This is sometimes a painful proceeding, necessitating the use of an anæsthetic. On passing up the instrument, even when the greatest care and gentleness are practiced, if an ulcerated surface is met with hæmorrhage will follow and the instrument will become filled with blood which soon coagulates. This must be removed before a satisfactory inspection of the mucous membrane can be obtained. The best method of removing the clot is by a continuous stream of cold water, which is preferable to the swab. If the surface of the ulcer is very vascular, and continues to bleed, a piece of ice introduced into the speculum will be sufficient to arrest it, and a fair view of the surface of the ulcer can readily be obtained. The mucous membrane around the ulcerated patch is usually healthy in appearance, but sometimes it is quite nodular, thickened and irregular, the ulcer itself feeling deep and excavated. This latter condition is alone seen in advanced cases. The speculum will reveal the ulcerated surface with distinctness, the edges sometimes raised, sometimes they appear undermined as though the connective tissue beneath was being destroyed by the ulcerative process. Some writers describe the mucous membrane

curling up or rolling up like a scroll and producing polypoid projections, while the process of cicatrization goes on beneath. The surface of the ulcer is sometimes highly vascular, bleeding when touched, or it presents a greyish base.

Ulceration of the rectum is stated to be a result of obstinate constipation. This is not always so, as some persons, throughout life are habitually costive, without any ulceration following as a necessary consequence of that condition. The presence of foreign bodies, fish bones, and other extraneous matter, would be very likely to occasion abrasion of the epithelium and lead to ulceration of the mucous surface. Persons of a strumous habit are as liable to ulceration of this part as they are to the formation of abscess in other organs. Ulceration of the rectum is sometimes found in phthisical patients, and very many die from exhaustion with a very small amount of lung disease, not sufficient to account for the fatal issue.

A very common cause of ulceration of the rectum is constitutional syphilis. Syphilitic ulceration of the rectum has been observed to be more common in women than men, and is stated by some writers to be apparently due to extension of the disease from actual local infection. This may possibly be the case, but it is more likely to proceed from the softening of gummata in the submucous areolar tissue. Syphilis as a cause of ulceration and stricture of the rectum is questioned by some writers, notably, Dr. Erskine Mason,* of New York, who observes in the course of a valuable paper published by him in 1873: That so-called syphilitic strictures of the rectum are in no wise due to syphilis, and he suggests that they are occasioned by the cicatrization of chancroidal or non-infecting sores. We are not prepared to admit this as an absolute rule, nor do we believe that chancroid is a common cause of ulceration of the rectum. If such were the case, the termination of the disease would in all likelihood be speedily fatal. Our experience of chancroid in parts that are ever in use, is anything but encouraging, and in all likelihood death would result by perforation from rapid extension of the ulcerative

* American Journal of the Medical Sciences, January, 1873.

process. The arguments of Dr. Mason in favor of the theory he propounds are very plausible and fairly stated, but they do not convince us of the correctness of the views advanced. Syphilitic disease of the rectum has been sufficiently well authenticated. If syphilitic disease of the rectum occurs alone from actual contact, by the discharges of the vagina trickling over the anus and hence is alone seen in females, what becomes of the theory of the impossibility of inoculating syphilis in a syphilitic subject from matter taken from a primary sore already existing on that person. Syphilitic complaints in both sexes are sufficiently common, but it is not usually presumed that they proceed from the inoculation of syphilitic matter flowing from a syphilitic sore in some other part of the patient's body, and trickling over the part implicated. Syphilitic condylomata around the anus may lead to infection of the bowel, that it does so always, I think doubtful. But to assume that all cases of ulceration of the rectum and the consequent stricture from cicatrisation is due alone to non-infecting chancroid is, to my mind, equally erroneous. There can be little doubt that syphilis will affect the rectum as well as it will other organs of the body. Nor is there anything to be gained by advancing a theory respecting the non-syphilitic origin of stricture of the rectum. That all cases of stricture of the rectum are due to the cicatrisation of the syphilitic sores of that part we know is not the case, but it is equally illogical to affirm that all cases have for their starting point chancroidal or non-infecting sores. It would appear that the actual occurrence of syphilitic disease of the rectum in the male is doubted, but I can call to mind two cases in the male, both of whom were young men, and they both died of phthisis, apparently aggravated by the disease in the rectum. I have no doubt in my own mind that had colotomy been practised in those cases that they would have been very much benefited, and possibly their lives would have been prolonged.

In the two cases here reported the entire length of the rectum was ulcerated, the submucous tissue thickened, and the calibre of the gut diminished, defecation was excessively

painful, and entire relief an impossibility. The first case occurred in a female prostitute, an old syphilitic, who was admitted into the Montreal General Hospital in September 1873. There was a constant discharge of pus from the rectum, although the quantity was not very great, she suffered greatly from pain in defecation, the parts about the anus were sore and excoriated, but there were no condylomata. The stools passed were not formed. She complained of constant distressing diarrhoea, with griping pain in the lower part of the bowels and back. Sometimes the pain would extend down the thighs. There was no vomiting but she complained of flatulent distension of the bowels. On several occasions perfect stoppage had taken place, and this was relieved by enemata which gave her great distress. At no time for months had she experienced a feeling of perfect relief after defecation. There was also a sense of fulness, although the amount of nutriment taken in the day was very small. On examination of the rectum several ulcerated patches with raised indurated edges could be felt, the finger could with difficulty be introduced into the rectum, and then only when the patient was under chloroform. The narrowing of the gut commenced just above the internal sphincter, which latter had lost much of its resiliency, and fluid and gas would pass from the bowel unrestrained. She was put under constitutional treatment, and various local applications, in suppositories with cocoa butter, were made. Very slight if any relief followed, and the pain and misery which the poor creature suffered, induced me to consider the advisability of performing colotomy. This I proposed to the patient, and she at once assented, and in consultation with the medical staff of the Hospital it was decided to perform the operation.

October 5th, 1873. The operation was performed in the usual method, adopting the oblique incision of Mr. Bryant, four inches in length, extending from the last rib in the direction of the anterior superior spine of the ilium. The structures were divided to the full length of the first incision on a director, layer by layer. On coming down to the quadratus lumborum muscle, a layer of fat was observed, at this instant the patient,

who was under chloroform, retched and the bowel was forced up through the wound, it was at once seized, transfixed in the usual way with curved needles, opened and the edges attached to the skin, the rest of the wound closed by metallic sutures, and the patient removed to bed. The bowel appeared empty at first but before removal from the operating table she passed a full motion. This woman recovered from the operation without a bad symptom. At the end of two or three weeks the ulceration in the rectum had very greatly improved, but as cicatrisation advanced the calibre of the lower part of the gut was much diminished. That portion of the bowel was washed out daily with a weak solution of carbolic acid. This contributed much to her comfort, and aided the healing of the sores. There was one condition in this woman, and which I deem was due to the size of the artificial opening. The bowel became prolapsed to the extent of several inches, so that it resembled a large sausage. The girl by working the abdominal muscles was enabled to draw in every part of the intestine, and would do so with remarkable rapidity, and as she affirmed without much pain. I endeavoured to remedy this condition by lessening the size of the opening but without success. The edge of the opening in the bowel towards its upper or most posterior part were pared with a knife and then brought together with sutures. This diminished the size of the opening, but it did not prevent the prolapsus. A well-fitting pad was made, but the patient was so wilful that she could not be made to wear it.

The second case was very similar in history and progress, but occurred in a much older woman. I am indebted to the House Surgeon J. D. Cline, B.A., M.D., for the following report:

Colotomy in left Loin; fatal from Peritonitis; Autopsy; Mesocolon found. By DR. FENWICK. Reported by J. D. CLINE, B.A., M.D., Assistant House-Surgeon, M.G.H.

Louise Pichet, æt. 48, was admitted into hospital on the 16th March, 1876. She was a stout, fair-haired French-Canadian woman. One was immediately struck by the anxious, distressed

expression of countenance, indicative of suffering, which she presented. She had been a woman of loose character, and had contracted syphilis about nine years ago, for which she had been treated. She had had ulceration about the lower part of the rectum, and for the last twelve months had suffered from obstruction. On examination her condition was as follows: There were a number of sinuses opening around the anus, at a distance of from one to three inches from it. The index finger could be introduced into the rectum only as far as the first joint, when it was met by a stricture, which would not admit more than a No. 12 urethral bougie. The stricture was cartilaginous in hardness. There were also a number of hard nodules around the sides and back of the vulva. Her history, which was known, left no doubt as to the nature of the ulceration and stricture. She had frequent desire to go to stool, as often as every hour, and each time suffered agony from straining that availed nothing, except occasionally, when she passed small masses of fæces very much flattened.

Dr. Fenwick decided that the only thing to be done was to perform colotomy, by way of alleviating her sufferings and ameliorating her condition, which conclusion was approved of by the rest of the medical staff. On March 25th the operation was performed under chloroform. The operation was Collisin's in the left loin, an oblique incision from the last rib to the crest of the ilium being used. The incision was about four inches long. The patient was very fat and the muscles well developed, so that the incision was about two inches deep. There was great difficulty in finding the gut, even after the intestines were distended with air by means of an enema syringe introduced into the rectum. An elastic œsophageal bougie was introduced also, but could not be felt through the wound. Several curved needles were introduced through what was imagined to be the gut till air began to escape, when an incision was made in the length of the gut between the needles, and the edges were attached to the edges of the external incision. The operation occupied a considerable time. At eight the same evening her temperature was 103°, and pulse 120 and weak. There was a good deal of tenderness in neighborhood of

the wound. Morphia gr. $\frac{1}{4}$ was given hypodermically. At midnight she was restless, perspiring very much, and her breathing was labored. The morphia was repeated. At four o'clock her distress had increased. The tenderness was general and distension of abdomen great, and breathing very heavy.

March 26th.—Temperature this morning 104° , pulse 124 hard and wiry, tongue dry and brown. The morphia gr. $\frac{1}{4}$ was repeated hypodermically every three hours, and milk, brandy and ice given freely. She had no vomiting. At 1 p.m. Dr. Fenwick ordered salicylic acid grs. v. every three hours. Temperature now 103° . At 4.30, temperature $101\ 3\text{-}5^{\circ}$, and pulse 136. At 6.45 p.m., temperature $100\ 2\text{-}5^{\circ}$. At 8.15, temperature $99\ 4\text{-}5^{\circ}$, and pulse 144. She died at 11 p.m., 32 hours after the operation.

AUTOPSY TWELVE HOURS AFTER DEATH.

The body was opened down the linea alba, and a transverse cut made through the abdominal walls down to the wound. The peritoneum presented no signs of inflammation except in the immediate neighbourhood of the wound and in the back part of the pelvis. In these two situations there was some pus, most in the pelvis, which had probably got there by gravitation to the lowest part. In this latter situation, however, there was a good deal of injection, which was not understood till later. An incision about $1\frac{1}{2}$ inches long was found in the peritoneum in front of the gut. There were several adhesions between the omentum and the edges of the wound, which were evidently recent and easily torn. The incision into the colon was in the upper side of it, that is, directly opposite to its attachment. There was found also to be a mesocolon about $1\frac{1}{2}$ inches long. After removing the gut from the anus up to the seat of operation, it was slit up. The constriction was formed by thickening and contraction of the walls, evidently by the cicatrization and contraction of old ulcers. Superficial ulceration extended up the rectum about four inches above the stricture. Six or seven internal openings of the sinuses were found, some above and some below the stricture. About eight inches above the stricture was found a perforation in the posterior wall of the gut,

just where it takes its first turn to the left. This had undoubtedly been made by the œsophageal bougie which had been introduced during the operation, and explained the signs of peritonitis in this situation.

There are several points of interest in this case which demand a passing reference. The operation was the same as that performed in the first case described, and the cause of the difficulty in finding the bowel was sufficiently apparent, viz, the presence of a long mesocolon. After the preliminary incisions and division of the transversalis fascia, a quantity of fat came into view. As the woman was well supplied with adipose tissue, this was to be expected. The lower edge of the kidney was felt distinctly; it was not, however, in the way, but, on grasping the mass of fat, nothing like the bowel was to be found. Under these circumstances the dissection was continued cautiously, but it was not until after the bowel had been distended with air that I found it necessary to open the peritoneum. I cannot say that I made out the presence of a mesocolon at the time of the operation. I was certainly under the impression that the dissection had been carried too far in front, as the edge of the quadratus muscle was not divided, as advised by Mr. Allingham, although its border was fully exposed. I do not think that division of the fibres of the quadratus lumborum muscle would have in any way facilitated the operation in this instance, because the bowel lay wholly in the sac of the peritoneum. The amount of the peritoneal inflammation at this point was not very considerable, not sufficient, I should say, to cause the unfortunate issue.

The perforation of the bowel which evidently occurred with the minimum of force used, took place at a point where the ulceration had extended deeply into the substance of the gut. The point of the bougie, which was a small elastic instrument, about the size of a number 10 catheter, had been arrested by the border of an ulcerated surface, which was somewhat raised and hard, and had evidently passed through at this point, very little force being used. Practically this teaches a lesson of caution, and illustrates how necessary it is for a surgeon in undertaking

an operation, to count the risks of each step in the proceeding, but further, it shows the serious risk incurred in trying to introduce a bougie high up into a bowel already in a diseased condition, the course of which, naturally tortuous, is rendered doubly so by the cicatrizations of old ulcers.

Another point connected with this case, one which struck me at the time of the autopsy, although it is not recorded by the gentleman reporting the case, was the flaccidity of the parts as a post mortem result. The stricture which in life was very tight, almost cartilaginous in feeling, was relaxed after death, and would have permitted the passage of the index finger with facility. This appearance is noticed by writers on the subject, who state that the condition after death in these cases has led to the supposition of error in diagnosis during life. Altogether this case is one of great interest, and the result, although disastrous, is no argument against the operation, indeed there can be no question of doubt about the relief obtained in these cases, but not only in organic stricture of the rectum with extending ulceration should colotomy be considered, but in malignant disease of the rectum, it is a positive duty. The agony and suffering of persons afflicted with cancer of the rectum is inconceivable, and the relief and comfort given to the patient must, at least, be gratifying to the surgeon.

Mr. Bryant, in his excellent treatise on the Practice of Surgery, in reference to this operation, remarks:—"I have in no single case ever regretted performing this operation, although I have in a large number wished that I had had an opportunity of performing it earlier, for in no instance in which I have undertaken it have I failed to give relief." This opinion I can fully endorse; in all the instances which have come under my own observation, relief has been marked. In cases of stricture of the rectum, or advanced cases of ulceration in malignant disease, or in obstruction of the lower bowel from the presence of tumours, the operation of colotomy is not only a relief to the patient, but, to my mind, it becomes a duty on the part of the surgeon which he should not neglect. Let any man peruse the cases reported by Allingham, Bryant and others, and he cannot but be convinced of the benefits of colotomy.

Reviews and Notices of Books.

A Treatise on the Theory and Practice of Medicine.—By JOHN SYER BRISTOWE, M.D., F.R.C.P., Physician to St. Thomas' Hospital, Joint Lecturer in the School and Examiner in Medicine to the Royal College of Surgeons, &c., &c. Edited with notes by James C. Hutchinson, M.D., Physician to the Pennsylvania Hospital, &c. Svo. pp. 1089. Philadelphia: Henry C. Lea, 1876.

In considering the wide range of medicine, it does seem a difficult task to condense all that is essential to the student and junior practitioner into the limits of a single volume. Such, however, appears to have been done successfully by Dr. Bristowe in the work before us. He has discussed the various articles in this work without burthening them with details which may be essential to the scientific investigator, but which are more matters of interest than of practical utility. For information of this kind the student will have to turn to the ponderous tomes of an encyclopædia, as it is quite beyond the capacity of a text book. But while stating that the work is not burthened with unnecessary detail, we should regret to leave the impression that it is in any way deficient in the essentials. The author remarks in his preface, "in discussing each disease my aim has been to give in a readable form as much information as I could include within a limited space." This, we think, he has done, and done well.

The work will be found to be particularly full in pathological description, and also in giving an account of the clinical phenomena of disease. Special prominence has been accorded to these and wherever clinical phenomena appear to be the direct consequence of some local lesion, the pathological description is placed before the clinical, so that cause and effect may be associated in the mind of the student. Differential diagnosis is not specially a feature of this work, and the author remarks on this head that it may possibly seem an omission, but one that he does not regret," for the distinguishing of one disease from

another disease should depend, not on the simple recognition of a few leading characteristics, which, however carefully selected are apt not unfrequently to fail us, but on a *bonâ fide* and thorough acquaintance with the collective phenomena of diseases," and he very correctly adds, "The more a student is taught to rely on one or two criteria, the less likely is he to investigate diseases intelligently, and the more apt is he to be content with hasty and inaccurate diagnoses."

In regard to that portion of the work devoted to treatment of disease, the author does not indulge in minute directions concerning the combination of drugs or their appropriate dose, he believes "that works upon the *materia medica* are the proper source from which to learn the doses in which medicines may be administered, and the best modes of combining medicines," nevertheless, he points out the specific virtues of certain drugs and their adaptability to certain diseases, and he argues that a medical man is far more likely to be a successful practitioner, if he adapts his drugs and methods of treatment to the exigencies of each case rather than become a servile follower of some predecessor. With a view to economizing space the author has omitted the report of cases in illustration of the subjects under discussion. This he regrets, as without doubt it gives a vigor and impressiveness to the subject and robs it of dry detail. It is this very quotation of cases in illustration which adds to the instructiveness and prominent interest found in the works of Watson, Trousseau and others. The well-told history of a case which has come under the notice of a writer must in every way be instructive and interesting.

The work is divided into two parts; in the first is considered general pathology. There is given the definition of disease, its ætiology, the physiological processes in health and in disease, and the treatment of disease, hygienic prophylactic and therapeutic; this is condensed into 130 pages. In the second part there is considered nearly all the diseases which properly belong to medicine, and some which might, we think, with propriety, have been omitted, as for instance diseases of the skin. There are certain affections of the derma which properly belong to the department of the surgeon. It may be a difficult matter to

separate the true surgical affections from the medical in a systematic book devoted to these diseases, but we think in a work on medicine, professing to be a text-book it is occupying space which might be filled more advantageously with other material. The work is designed as a text-book for students and junior practitioners, and it certainly fulfils its mission. On reference it will be found to contain a most faithful record of the present condition of medicine, both as regards diagnosis and treatment of disease. To all we can commend this work as being replete with valuable practical information, concise without being meagre in detail. The publisher has done his work well, and in the usual style of excellence.

Lectures on Orthopædic Surgery and Diseases of the Joints.—

Delivered at Bellevue Hospital Medical College, during the winter Session of 1874-75. By LOUIS A. SAYRE, M.D., Professor of Orthopædic Surgery, and Clinical Surgery in the Bellevue Hospital Medical College, &c., &c., illustrated by 274 engravings. 8 vo. pp. 476.—New York, D. Appleton & Co., 549 & 551, Broadway. 1876.

Dr. Lewis A. Sayre of New York, has for years past devoted his time and attention to diseases of joints, and has acquired a world-wide reputation in the treatment of those affections. It is not surprising, therefore, that a work setting forth his peculiar views, both of the pathology and treatment of joint diseases, should have been looked forward to with interest by surgeons generally. Nor do we think that disappointment has in any way attended its appearance. Some of the author's views may be at variance with those enunciated by other authorities, but it must be admitted on all sides, that his theories are plausible if not convincing, his resources unlimited, and his successes in treatment more than remarkable. The work before us may possess some defects and peculiarities of style, we must state, however, that the text is taken from a short-hand report of Lectures delivered by the author *extempore* at the clinique of Bellevue Hospital. Many of these lectures were given without previous preparation,

being observations on clinical cases presented to him for the first time. The author remarks: "Upon its perusal in the proof I find many expressions which I would like to change, but as these lectures were delivered extemporaneously, and without preparation, I find it difficult to alter the text without destroying its originality." The author explains in his preface that although urged by medical gentlemen of the highest standing at home and abroad to publish his peculiar views in book-form, he hesitated to do so, as many of his opinions were directly at variance with those of standard authorities; therefore he delayed, until a larger experience confirmed his observations or proved them to be erroneous.

These lectures being clinical, there are laid before us the cases which were seen by the class, and which form the basis of the course. but besides we have repeated here other cases in addition, taken from the author's note book, and from hospital records, and used to illustrate some principle under discussion. Some of the cases here alluded to have already been published by the author in medical journals, or have been read by him before different medical societies, and they are fittingly repeated as being typical of some principle laid down.

The work consists of twenty-nine lectures. In the first lecture he gives a sketch of the history of orthopædic surgery, the reasons why a student should make this a subject of special study, and he terminates by giving a general plan of instruction which the purposes to follow throughout the course. From lectures two to six, inclusive, he dwells on deformities of the feet, devoting three lectures to the subject of treatment. This the author divides into operative measures, division of tendons, mechanical appliances, and manipulation. This latter he maintains is of paramount importance to success, and he remarks without "manipulation, giving the foot a variety of active movements, the result obtained by the operation, and fixing the foot in some immovable apparatus, is exactly what may be seen everywhere around us," and he points out that when manipulation is neglected failure must follow. Mechanical appliances

are necessary, but these should be frequently removed, and free manipulation practised. The stimulus of motion is quite as essential to success, as is tenotomy and mechanical restraint.

The ensuing five lectures are devoted to the subject of the different varieties of talipes, and their treatment. In lecture xii we have some excellent remarks on the importance of giving attention and care, with a view to their relief, of some minor deformities, such as corns, bunions, ingrowing toe-nail, &c., and he very properly remarks that "our business as surgeons, is to relieve human suffering if possible, no matter whether it comes from a corn or a cancer." In the next ten lectures, the diseases of joints are described, the author confining his remarks to the affection of the joints of the inferior extremity. In lecture twenty-four the author considers those diseases which simulate hip-disease, such as sacro-iliac disease, caries of the ilium, caries of ischium, periostitis of parts about the joints, psoas abscess, inguinal abscess, congenital malformation of the pelvis, paralysis of the lower extremity and injuries, including diastasis of the head of the femur, fractures and dislocations. Diseases of the spine occupy the next two lectures, and the concluding chapters are on ankylosis, and on some deformities, not described in previous lectures: such as torticollis disease of the wrist joint, wrist-drop, &c.

In regard to the origin of joint affections the author holds, that direct injury is the *origo mali*, he does not admit the constitutional origin, or scrofulous origin as it has been termed, but maintains that without injury from direct violence, let it be ever so slight, no joint disease would occur. In this we believe him to be correct; but he is far from ignoring the influence, that a weak or scrofulous diathesis will have in favouring the progress of joint affections, though it may not be the direct cause of their development.

In speaking of injury to the ankle-joint the author remarks that in a severe injury: "for example, in fracture involving the joint, or dislocation, or even a severe sprain—surgical aid is indispensable, and is immediately called for, and generally a cure results after a reasonable time. When, however, a person receives what

is termed a slight sprain of the ankle, the amount of mischief from neglect in recognizing what structures are involved, and instituting a proper method of treatment, is often extreme, and may terminate in a sacrifice of the limb." It is in these very cases that too often the surgeon calls to his aid, to account for the extensive mischief met with, the existence of a scrofulous diathesis, which, however correct, as a promoter of diseased action, cannot in justice be regarded as the chief factor. Dr. Sayre's treatment of joint affections is based on fixed principles, and may be summed up in a few words. It consists in rest, position of the limb, relief of spastic contraction of muscles, attention to the general health, and in due time passive motion.

The author is not an advocate for excision of the ankle or wrist joints, and even in the case of the knee, if the disease is limited, he declares "you may remove all the dead bone by drilling and gouging; pass seatons of oakum or perforated rubber tubing through the joint, * * and conduct the treatment upon the general plan recommended." So far as our experience goes we cannot agree with him in the success of this method as applied to the knee joint. We have on several occasions adopted this practice and invariably with disaster, and though willing to admit the serious and even dangerous character of the operation of excision, it has, in our hands, been remarkably successful. The hip joint is treated of most fully; it is specially in this joint that the author practices exsection of the head of the bone and his success has been very remarkable. Space will not permit of further notice of this valuable treatise. Its teaching is sound, and the originality throughout very pleasing, in a word no man should attempt the treatment of deformities of joint affections, without being familiar with the views contained in these lectures:

A Directory for the Dissection of the Human Body.—By JOHN CLELAND, M.D., F.R.S., Professor of Anatomy and Physiology in Queen's College, Galway. 8 vo. pp. 182; Philadelphia: Henry C. Lea, 1877.

This little work is intended as a guide to students of anatomy,

to be used in the dissecting room. It gives specific directions on the use of instruments, the order of work to be done, and then proceeds to the consideration of the dissection of the various regions of the body, beginning with the dissection of the back and upper extremity, dissection of the lower extremity, of the head and neck, of the thorax, abdomen and pelvis.

We cannot commend this work; there is nothing in it that can to our mind aid the student of anatomy—in fact it would be far more liable to mislead him, and get him into a loose way of studying up the subject.

A Practical Treatise on the Diseases of Children.—By J. FORSYTH MEIGS, M.D., Physician to the Pennsylvania Hospital, &c., &c.; and WILLIAM PEPPER, A.M., M.D., Professor of Clinical Medicine in the University of Pennsylvania, &c. Sixth edition. Revised and enlarged. 8 vo. pp. 1012: Philadelphia, Lindsay & Blakiston, 1877.

Two years ago we noticed the fifth edition of this excellent work, and now we are called upon to express an opinion on the sixth. The rapid exhaustion of the fifth edition and demand for a new one speaks more of the practical teaching of this work, and of the favourable estimation in which it is held by the profession generally than anything that we could say on the subject.

The present edition does not differ very materially from the preceding. The authors have given more attention to the careful revision of the text than to the addition of new articles, indeed very little new matter was demanded, except on one or two subjects; thus the subject, of Night Terrors in Children is discussed under a separate heading, and we have also a chapter on Epidemic Cerebro-spinal Meningitis. Several other articles have received attention and have been rewritten. The present edition may be regarded as enunciating the views of the authors on the subjects treated of at the time of publication, and they state "that wherever these views have undergone modification or change since the last edition, it has been carefully noted,

and the attempt has been made to incorporate whatever is most important and trustworthy among the recent additions to our knowledge of Children's Diseases." In this we must admit the authors have succeeded, and we heartily commend this work for its practical teaching to our readers.

Extracts from British and Foreign Journals.

Unless otherwise stated the translations are made specially for this Journal.

Ovariectomy.—(Three hundred additional cases ; with remarks on drainage of the peritoneal cavity.—By T. Spencer Wells, F.R.C.S.)—The author had arranged in a table, similar in form to those in which he had brought five hundred cases of ovariectomy before the Society between 1859 and 1872, three hundred additional cases, representing the whole of his practice, from the five hundredth to the eighth hundredth case ; distinguishing the cases performed in the Samaritan Hospital from those in private houses and in nursing institutions. The mortality in the sixth series of one hundred cases was twenty-eight, in the seventh and eighth twenty-four. This very nearly corresponded with the general mortality in the five hundred cases previously reported. But the author believed that the latter series comprised many more operations, in proportion, performed under very unfavorable or almost hopeless conditions. In many cases, where formerly he thought it right to put so very unfavourable a prognosis before a patient and her advisers that they probably did not desire or approve of operation, he had latterly been encouraged by recoveries in some cases apparently almost hopeless to express a more hopeful opinion ; and, although in some cases very unexpected recoveries had been recorded, the result had often been what was feared, and the influence upon the number of deaths in proportion to the recoveries was quite appreciable. The author then discussed the influence of drainage of the peritoneal cavity—the most important of recent modifications of operative procedure—upon the results. He

traced the history of the practice from the early days of ovariectomy, when drainage by the ligature securing the pedicle, and the intraperitoneal method by ligature, or cautery were very generally adopted. He considered the occasional use of puncture and drainage, with or without simple or antiseptic injections, when called for after operation, to be no foundation for recent recommendations to prepare at the time of operation for drainage or injection in every case. Of the three hundred cases now brought before the Society, he had only made provision for drainage at the time of the operation in eight; and in only eleven other cases did fluid afterwards escape by opening of some portion of the wound, or by vaginal puncture. In some few of the fatal cases, he thought either primary or secondary drainage might have been useful; but he believed drainage should not be a general practice in ovariectomy, but should be reserved for the exceptional cases where collections of blood or serum might be expected to follow the operation. Mr. Wells then described the different modes of draining, and of using simple or antiseptic injections, reserving for another communication the important question of the more complete adoption of antiseptic precautions before, during, and after ovariectomy.

Mr. Bryant had used drainage in five cases; in four the result was good, and in three of them he had no doubt that it was due to the use of the drainage-tube. There were in the three cases extensive adhesions, the removal of which was followed by much redness of the peritoneum and considerable oozing of blood. He had used a glass tube in three of the cases, and a hardened India-rubber tube in the other.—Mr. Barwell asked how it was known, when a tube was introduced into Douglass' space, that it had actually entered.—Mr. Thomas Smith said that he could ask Mr. Wells a number of questions, but would confine himself to a few. It was possible that certain statistical results might be obtained at the expense of the sacrifice of those affected; and such statistics as those of Mr. Wells might lead more timid operators to refuse bad cases, and attempt to obtain favourable tables of statistics—an endeavour which he deprecated. On the other hand, the earlier ovariectomy statistics of the

Samaritan Hospital had been compared with those of the large hospitals, to show that, while in the former the mortality had been 21 per cent., in the latter it was 76 per cent. But the success in the general hospitals was not so great then as now; and, further, there were two ways of estimating the fatal results of ovariectomy. In the general hospitals all the deaths were put down as fatal cases of ovariectomy—there being included under this head three classes, 1, completed ovariectomy, 2, cases where the operation was proceeded with to a certain extent, but not complete; 3, cases where only an exploratory incision was made. The statistics of the Samaritan Hospital included only cases of completed ovariectomy. He thought that the rate of mortality would be much increased by taking into account the contemplated operations and exploratory incisions. Again, the experience of one most skilled in the operation was compared with that of various men, some well qualified to perform it, and others as disqualified. There were some things which the general hospitals could do, and some which they could not. They could, no doubt, obtain as good sanitary conditions as at the Samaritan Hospital; but they could not obtain such good nursing and medical supervision. The success at the Samaritan Hospital was a personal success; it depended on experience, on a sound and quick exercise of judgment, on the possession of resources to meet emergencies and of courage to face dangers; and with these there was a modesty which did not seek to make success in ovariectomy an occasion of public display. To these qualities Mr. Wells owed his success; and he had probably done more to diminish suffering than any other man. He would ask whether Mr. Wells introduced the drainage-tube because much fluid was present or because much was expected; and how he would deal with a cyst behind the broad ligament.—Sir Joseph Fayrer would like to hear Mr. Well's opinion on the use of antiseptics in the operation.—Mr. Hulke said that some years ago, several cases of ovariectomy were performed in the Middlesex Hospital, the patients being placed in the general wards; and, all he believed were fatal. Since the patients operated on had been placed in a special ward, the mortality had been much less: he

had had four recoveries out of six operations.—Dr. Graily Hewitt congratulated Mr. Wells on the success which he had obtained. He had himself done about twenty-five completed operations; but his results, though satisfactory, were less so than those of Mr. Wells. He thought that Mr. Wells was correct in attributing the comparatively high mortality in his last three hundred cases to the large proportion of bad cases sent to him. With regard to the management of the pedicle he was in favour of bringing it outside the wound. Any room that might exist for improvement of the operation lay in the treatment of the pedicle.—Sir James Paget said it was most gratifying to him that on the last occasion of his presiding at an ordinary meeting of the Society, such a paper as that of Mr. Wells should have been read. He regarded ovariectomy as practised by Mr. Wells, as one of the greatest achievements of modern surgery; it must be measured not only by Mr. Wells' own success, but by the greatly increased success of all other surgeons. The improvement in ovariectomy had made surgeons much wiser than they previously were on all matters relating to peritoneal surgery; and not only so, but the influence for good had been extended to surgery in general. Mr. Spencer Wells, in reply, said it did not follow that because a great deal of fluid escaped when a tube was used, as much fluid would collect if a tube had not been used. It was quite possible that the presence of a tube might lead to the secretion of the fluid which escaped, or at least increase secretion. He should not use a tube simply because ascites had been present, or ovarian fluid had been free in the peritoneal cavity. He should restrict its use to cases where the peritoneal cavity could not be completely cleansed, or where some bleeding might be feared after closure of the abdominal wall. If fluid collected some days after the operation, and formed a swelling between the uterus and the rectum it could easily be removed by a trocar introduced through the vaginal wall. In cases of mesenteric cysts, or cysts of the broad ligament, the treatment by enucleation or by drainage must be decided by the peculiarities of each case. The publication of medical details, in the annual reports of hospitals circulated to the public, was open to very grave objection, and Mr. Wells had opposed the use of such

details in the reports of the Samaritan Hospital; but he did believe that they had been of great use in stimulating the surgeons of general hospitals to a generous rivalry; and in proving that, if they did not wish to be outdone by smaller institutions, they must pay equal attention to the sanitary condition of the wards, to the nursing of the patients, and to all the details of management that could influence results. The success in the Samaritan Hospital could not be now as it might have been before—perhaps, what Mr. Smith called a “personal success”; for, out of the fifty-five operations performed in 1876, his colleagues, Mr. Thornton and Dr. Bantock, had contributed fourteen recoveries and only one death; whereas, of his own forty cases in the year, four had died. The practice of grouping together cases of completed ovariectomy with cases of incompleting operations, or of mere exploratory incisions could not be justified. It would be absurd to say that a patient who recovered for a time after an incision in the abdominal wall, and the escape of some fluid from the peritoneum, was a successful case of ovariectomy—no ovarian tumour having been removed, or perhaps existed. And, whether the result in statistical tables was favorable or the reverse, an incomplete operation should be recorded in a separate list, and should not be allowed to lead to false estimates of the mortality of ovariectomy when completed. The important question of antiseptics in this operation must be left for further observation. Mr. Wells on completing his eight hundredth operation, had almost decided to try one hundred cases in succession with every antiseptic precaution; and if he had done so, and had attained the same result as he had done without any alteration in his former practice, the conclusion would have been quite startling; for he had done twenty-seven cases since the eighth hundredth, and so far not one had died. If this happened under antiseptics, it would have been almost impossible to resist the conclusion that it was something more than a coincidence. Mr. Wells thanked the Society for the manner in which his paper had been received, and especially thanked Sir James Paget for his very kind remarks, which would more than repay any surgeon for years of hard work.—(*Royal Med. and Chir. Society, Feb. 27th.*)—*Brit. Medical Journal, March 3rd.*

Piles.—Immediate cure by Igni-puncture.—Mr. H. A. REEVES, of the London Hospital, has been trying igni-puncture, and found it invariably to rapidly cure piles. He draws down the piles and then punctures to their bases with conical pointed ends made to fit on to the gas cautery. A dull, red heat is required, and two or three punctures suffice for a pile the size of half a walnut. Hard ones to be pierced to their soft attachment. Ulcers and fissures in connection can be touched with the cautery. The bowels are kept confined by a morphine suppository for two or three days. The first motion is painful, but not so bad as before operation, and in a week the patients are discharged cured—a most favourable result, which Mr. Reeves contrasts with those obtained by clamps or ligatures. He does not seem to have seen the plan of injecting with carbolic acid lately mentioned in *The Doctor*. He sums up in the *Lancet* of the 17th ult., the advantages of his plan as follows:—

1st. The operation is quickly done.

2nd. The cure is much more speedy, as by the ligature or clamp and cautery, three weeks is considered quick time for convalescence.

3rd. There is no fear of secondary hæmorrhage, as there is no ligature to separate, and no wounded surface to cauterise.

4th. Nothing is removed. To the patient this is very often a strong recommendation; to the surgeon at first, and without experience of this method, it may seem a drawback, but sufficient trial will convince him to the contrary.

5th. There is no apprehension of secondary abscesses and fistulæ so far as my experience has gone.

6th. There cannot possibly be a stricture as a result of the operation. That this has occurred several times after the old methods no one can gainsay, and I may quote a case sent me by Dr. Heywood Smith, on which I operated by the clamp and cautery, and only removed the piles and not a particle of other rectal tissue, and in seven weeks had to commence the use of bougie for an annular stricture near the orifice. Nothing of the kind pre-existed.

7th. There are no relapses. Two of the cases I operated on

had been elsewhere treated by ligature, and the other with clamp and cautery. Of course, if all the diseased part be not punctured at the time of operation, the portion left untouched may be the source of future trouble, necessitating an operation, and it may be that this was the explanation of the relapses in the two cases just mentioned. On the other hand it is fair to state that other veins already weak at the time of operation, but not sufficiently so to attract attention, subsequently enlarged and required meddling with.

8th. In patients who can bear a little pain no anaesthetics are necessary, as the operation is a quick one.

It is obvious that this plan can be applied to other varicose veins and to naevi.

Successful Gastrotomy.—A 17 year-old school-boy, in February 1876, drank some potash solution, in consequence of which an almost impassable stricture of the oesophagus developed, $1\frac{3}{4}$ inches below the cricoid cartilage. After repeated and ineffectual attempts at dilatation, gastrotomy was performed on July 26th, to relieve the symptoms of starvation. An incision was made passing obliquely downwards and outwards, parallel to the 8th costal cartilage, and 2 cm. from it. After opening the peritoneum, the stomach was drawn into the wound with the forceps, and then fixed by means of two acupuncture needles. Before opening the stomach the walls were carefully stitched round the external wound, and finally an orifice, 1 cm. long made, in which a piece of an elastic catheter was placed and fastened. Through this the nourishment was given. The case progressed without an unfavorable symptom, and the patient recovered strength so quickly that in two months he had gained 8 kilogr. (16 lbs.) in weight. The author will not attempt to restore the passage in the oesophagus.

Up to this time there have been twenty cases in which the establishment of a permanent gastric fistula has been attempted, but all have ended fatally. This is the only one which has recovered. (M. Verneuil, Bull. de l'Acad. de Med. Quoted in Ctb. f. d. Med. Wiss. No. 3, 1876.)

Distal Ligature in Aortic Aneurism.—

The history of the application of the distal ligature for the treatment of aortic aneurism is briefly this. There were certain cases on record of a ligature having been put on the left carotid for what was assumed to be carotid aneurism low down; and in some of them, notably those recorded by Tilanus and Rigen of Amsterdam, the patients recovered from the operation, living many months afterwards, and then died from some other disease, the aneurism being cured. In both these cases, it was proved after death that the diagnosis had been incorrect, and that the aneurisms had been aortic, and had been cured by being filled with clot. In 1829, a surgeon named Montgomery tied the left carotid for an aneurism which proved to be aortic, and it was nearly cured when the patient died some months afterwards. Mr. Samuel Lane tied the left carotid for an aneurism, partly carotid and partly aortic, in 1852; and Pirogoff appears to have had two similar cases.

These facts were known, but no special conclusions were drawn from them for the cure of aortic aneurism by surgical interference of this kind till Dr. Cockle wrote a paper in the *Lancet*, in 1869, where he recommended the application of a ligature to the left carotid as a means of treating aneurism of the arch of the aorta.

I have for some years taken considerable interest in the treatment of aneurisms of the root of the neck. I had a patient at the Westminster Hospital, in 1865, on whom I performed the operation of simultaneous ligature of the carotid and subclavian arteries for a supposed innominate aneurism; and, although the patient was under very unfavourable circumstances, she lived four years after the operation, and at her death the disease proved to be an aortic aneurism.

In 1872, with Dr. Cockle's concurrence, I tied the left carotid in a case of aortic aneurism, and the patient derived very great benefit, the aneurism subsiding immediately, and all urgent symptoms passing off until he renewed hard manual labour, when the sac again enlarged and killed him in September, 1876. The preparation, which is in the College of Surgeons, shows a

large sac arising from the first or ascending portion of the arch of the aorta. In 1874, I again placed a ligature on the left carotid in a case of aortic aneurism which had baffled treatment, but the patient died a few hours after from want of blood-supply to the brain. In 1875, Mr. Holmes successfully tied the left carotid in a young woman believed to have an aortic aneurism, and she is still alive and well. During this session, a man was under my care on whom I wished to operate, but he declined, and six weeks afterwards returned in great distress and died in a few hours. The specimen shows that this would have been a very favorable case of ligature of the left carotid.

The last case was in the woman on whom I had proposed to operate on Wednesday last. This woman had an aortic aneurism; and it was evident that, if something were not done, her life must shortly cease. She was forty-three years of age, and was admitted under Dr. Wilson Fox on January 10th. She was submitted to treatment by rest, by appropriate medicines, rigid diet, and so on, and particularly by the administration of iodide of potassium; and it is well to say that some physicians lay great stress upon the effect which iodide of potassium has in producing clot. She was fairly put under the influence of it, but experienced no benefit. The aneurism varied a good deal, but, on the whole, was increasing in size; and she was transferred to me, with the view of having the carotid tied. I had no doubt myself that the left was the proper one to tie, because it is essential that we should be beyond the disease; and, by tying the left, I made pretty certain that we should be beyond the aneurism. The death of the patient was due to the fact that we were obliged to lay her down; and, the trachea being already very much compressed by the aneurism, it became practically occluded. You will remember that I did laryngotomy; and, as the anterior jugular vein was very large, it was unavoidably divided during the operation; but still blood did not reach the lungs, and, except for the flattening of the trachea, the patient would no doubt have had sufficient air and have lived for the operation to be performed. Had I known that there was so much flattening of the trachea, I should not

have operated on the patient lying down; I should have had her sitting up in a chair and without an anæsthetic. But, in these cases of dyspnœa, we find chloroform gives so much relief, that we determined to administer it. If there ever was a favourable case for ligature of the left carotid, this was the one. The aneurism just involves, and no more, the orifice of the innominate, and springs from the upper part of the transverse portion of the arch of the aorta between the innominate and left carotid. If I were asked what case I should by preference choose for the operation, it would have been this very case. I think, in all probability, we should have had a good cure; for, even under very unfavourable circumstances, she had already a small clot in the aneurism; and, much as the untoward result is to be regretted, it must be remembered that she laboured under a disease necessarily and rapidly fatal if untreated.—*Clinical Lecture by C. Heath, F.R.C.S., in British Medical Journal.*

The Muscular Arterioles.—MR. PRESIDENT AND GENTLEMEN,—In this course of Lumleian Lectures, which, by the favour of yourself, Sir, and the Censors I am to have the honour to deliver, I propose to discuss certain questions relating to the structure of the minute blood-vessels and the forces concerned in carrying on and regulating the circulation of the blood. Upon this subject modern researches have thrown an entirely new light; and I shall endeavour to show that the increased knowledge of the physiology of the circulation which has been acquired within the last quarter of a century has rendered necessary a revision and correction of some pathological doctrines which had gained more or less general acceptance.

The chief anatomical discovery relating to the organs of circulation made during the period to which I refer was Henle's demonstration of the muscular elements in the middle coat of the arteries. John Hunter and others, it is true, had on theoretical grounds assumed that the middle coat of the arteries

contains muscular tissue ; but it was Henle (*Wochenschrift für die gesammte Heilkunde*, 1840, No. 21, p. 329) who first described the fusiform muscular elements encircling the arterial tube between the outer and the inner coats, and who showed that these have the same characters as the unstriped muscular tissue of organic life.

There are obvious structural differences, corresponding with important diversities of physical function, between the large and the small arteries. The chief anatomical distinction between the large and the small arteries is to be found in their middle coat. The middle coat of the largest arteries is composed almost entirely of elastic tissue, with a very slight admixture of muscular fibres. As the arteries diminish in size, the proportion of muscular tissue increases, until, in the smallest arteries the middle coat is composed entirely of muscular tissue. These smallest arteries are commonly designated "muscular arterioles," to distinguish them from the large elastic arteries. The muscular arterioles, vary in diameter from the one-hundredth to the one-three-thousandth of an inch, have their middle coat composed of muscular fibre-cells, without the slightest admixture of connective or elastic tissue. The muscular fibre-cells, which, when separated, are seen to be elongated and spindle-shaped, with an oblong nucleus in the centre, are arranged in a circular manner round the arteries, forming contractile muscular lamellæ. The circular muscular coat in arteries between about the one-hundredth and the one-three-hundredth of an inch in diameter possesses two or three layers of muscular fibres. In the smaller arteries, the muscular coat consists of only a single layer of fibres, whose elements become shorter and shorter until, in the smallest arteries approaching the capillaries, the muscular elements separate from each other and at length completely disappear.

The muscular coat has on its inner surface the tunica intima, and on its outer the tunica adventitia. The tunica intima consists of two layers: an inner epithelial layer, and a shining membrane which Kölliker calls the *elastic inner coat*. The tunica adventitia consists of connective tissue and fine elastic

fibres with elongated nuclei, having their long diameter parallel with the axis of the vessel. The tunica adventitia is generally as thick as, and often thicker than, the muscular coat; and it is readily made to swell up under the influence of certain reagents. My colleague Dr. Beale and other microscopic observers have demonstrated the presence of minute nervous ganglia and extremely delicate nervous fibres ramifying upon the minute arteries and the capillaries.

During the last quarter of a century, the physiology of the vaso-motor system and the relation between the nervous and the vascular apparatus has been the subject of laborious research by numerous and very able investigators; and the result has been a very large addition to our positive knowledge of the forces which are concerned in regulating the movement of the blood through the minutest subdivisions of the vascular system. M. Vulpian, in his two recently published volumes (*Leçons sur l'Appareil Vaso-Moteur*, Paris, 1875), has given a very lucid and complete history of these investigations. An able summary of the physiology of the vaso-motor system appeared in the *British and Foreign Medico-Chirurgical Review* for October 1876; and the whole subject of the vascular mechanism has been treated with great ability by Dr. Michael Foster in his recently published *Handbook of Physiology*.

We have already seen that in the year 1840 Henle had demonstrated the muscular tissue of the middle arterial coat. About the same time, Stilling (*Recherches Pathologiques et Medico-Pratiques sur l'Irritation Spinale*, Leipzig, 1840) was led to the conclusion that there are certain nerves which influence the movements of the blood-vessels. For these nerves he invented the term *vaso-motor*, and he looked upon them as analogous to the *musculo-motor* nerves. But the starting-point of our present positive knowledge of the vaso-motor nerves was the year 1851, when M. Claude Bernard published his first conclusive experiments (*Comptes Rendus de la Société de Biologie*, 1851, p. 163). In his first memoir, Bernard showed that after division of the cervical sympathetic, but more especially after removal of the superior cervical ganglion, in

the horse, the dog, or the rabbit, there is an increased afflux of blood to the ear and the whole of that side of the face, and with this an elevation of temperature and an increased sensibility. In a second communication, made this time to l'Académie des Sciences (*Comptes Rendus de l'Acad. des Sciences*, Mars 29, 1852), he described in more detail the facts recorded in his first paper. It was not until towards the end of the year 1852 that Bernard published his explanation of the phenomena which he had discovered. Meanwhile, public attention having been directed to these researches, in the interval between the publication of Bernard's second and third memoirs, Dr. Brown, Séquard had published in America (*Philadelphia Medical Examiner*, August 1852) the interesting results at which he had arrived. This able experimenter confirmed Bernard's observation of the dilatation of the blood-vessels and the elevation of temperature resulting from division of the cervical sympathetic. He then went on to show that the galvanic stimulus applied to the cut end of the peripheral portion of the nerve caused a constriction of the blood-vessels and a lowering of the temperature. He thus proved that the elevation of temperature resulting from division of the sympathetic is directly due to the increased afflux of blood consequent on paralysis of the arterioles. In Bernard's third memoir, published in November 1852 (*Comptes rendus de la Société de Biologie*, Nov. 1852, p. 168) he also records the observation that the increased blood-supply, which results from the paralysing influence of dividing the sympathetic is at once arrested by galvanising the divided end of the nerve, when the parts which were previously red and congested become pale and comparatively bloodless.

Since this great field of research was opened up by Claude Bernard and Brown-Séquard, numerous experimenters have entered upon it, and the result has been the accumulation of many interesting facts and the construction of a tolerably consistent though not as yet an entirely complete theory of the vaso-motor system.

Time would not permit me now, even if it were necessary or desirable, to enter into the minute details of this extensive

subject. I need only refer to such ascertained facts and principles as have relation to some pathological phenomena which we shall presently have to discuss. The vaso-motor nerves may be said, in a general way, to belong to the great sympathetic; but, by means of communicating branches, they are also connected with the spinal nerves and with the spinal cord. In fact, there is reason to believe that all the vaso-motor fibres are derived from the cerebro-spinal axis, from which they pass out chiefly by the anterior roots of the spinal nerves; and that the chief centre of vaso-motor nerve action is the medulla oblongata, near the floor of the fourth ventricle. Injury to this part of the nervous centre or division of the cord in the upper cervical region, cutting off the communication between the centre above and the vaso-motor nerves, causes general relaxation of the arterioles and a fall of blood-pressure throughout the body. On the other hand, electrical stimulation of the centre excites general contraction of the arterioles and an increase of blood pressure.

The nerves which, when divided, cause arterial paralysis, and when stimulated excite arterial contraction, have been designated *vaso-constrictor* nerves. There are other nerves having a different, and in some respects, an antagonistic function: these are designated *vaso-dilators*. Of this class of nerves, the *chorda tympani* is a conspicuous type.

The *chorda tympani* is a branch of the facial nerve, which joins the lingual branch of the fifth nerve, and is distributed to the tongue and the submaxillary gland. Bernard discovered that electrical stimulation of the peripheral end of the divided nerve causes great dilation of the blood-vessels of the submaxillary gland, and a rapid and profuse secretion of saliva.

Many experiments of various kinds have proved that the vessels may be made to contract or dilate by an influence conveyed through incident nerves to the centre, and thence reflected through other fibres to the arterioles. Thus when a sensitive nerve, such as the fifth, or a mixed nerve like the sciatic, has its central end stimulated, a reflex contraction of the arterioles occurs throughout the body, and the blood-pressure rises. On

the other hand, Ludwig and Cyon discovered that one branch of the pneumogastric, when its central end is stimulated, has a reflex influence on the vaso-motor nerves, which causes a general relaxation of the arterioles and a consequent fall of the blood-pressure. This nerve, therefore, is called *the depressor nerve*.

There is now a very general agreement amongst physiologists with respect to the influence which the heart, the large elastic arteries, and the muscular arterioles respectively exert upon the circulation. The force which propels the blood through systemic arteries, is derived entirely from the contraction of the muscular walls of the left ventricle of the heart. The elastic walls of the large arteries, distended by the injecting force of the ventricle, contract and force the blood onwards during the diastole of the ventricle. *This forcible resiliency in the walls of the arteries is as obviously derived from the muscular contraction of the heart as the elastic power of an archer's bow has its source in the contracting muscles of the arm which bends the bow. The resiliency of the arterial wall, reacting upon the blood during the diastole of the ventricle, gradually converts the interrupted jet of blood from the heart into a continuous current in the minute arteries and capillaries. The muscular arterioles, under the influence of the vaso-motor system of nerves, regulate the blood-supply to the various organs and tissues. The action of the muscular arterioles is, as I have ventured to suggest (*Medico-Chirurgical Transactions*, vol. 51, p. 60), that of stopcocks. By the contraction of their muscular walls, their canals are narrowed, the blood-stream is in a corresponding degree lessened, and the pressure of blood in the larger arteries is increased. On the contrary, relaxation of the arterioles enlarges their canals, permits a fuller stream of blood to pass, and lowers the blood-pressure in the arterial trunks. The minute muscular arteries, therefore, through their stopcock action, exert a regulating but not a propelling influence upon the blood-current.

The influence of the heart, the larger elastic arteries, and the muscular arterioles respectively upon the circulation, may be demonstrated by the very simple apparatus which I have

here.* A pump is made of a hollow India-rubber ball, with two orifices, to one of which is attached a tube six inches long, and to the other an elastic India-rubber tube about four feet long, at the distal end of which is attached a metallic stopcock. The central orifice of each tube is guarded by a bullet valve. The end of the short tube is dipped in a basin of water, while the elastic ball is alternately relaxed and compressed by the hand. The intermitting jet of water from the hollow ball, representing the heart, is gradually converted into a continuous stream by the tube acting thus like the large elastic arteries, and the size of the continuous jet from the metallic orifice is regulated by turning the stop-cock: If, now, I substitute for the elastic tube one with rigid walls, the stream of water from the orifice of the stopcock is no longer continuous, but an interrupted pulsating jet; so, if the opening in the stopcock be large enough to allow the water to escape as fast as the pump drives it into the tube, the flow will be interrupted. This wide-open state of the stopcock represents a greatly dilated condition of the muscular arterioles, when the pulse may extend through the capillaries, even into the veins. For the conversion of the intermitting jet from the pump into a continuous stream from the stopcock, it is requisite that the orifice in the latter should be so small as to allow the fluid to accumulate in and distend the elastic tube, the resiliency of which continues to drive on the fluid, while the pump, representing the heart, is dilating to receive a fresh supply.

It is evident then that, while the contraction of the large arteries, which are mainly elastic but partly muscular, aids the heart in propelling the blood onwards towards the capillaries, the contraction of the arterioles, whose middle coat is entirely muscular, antagonises the heart and the larger arteries; but their stop-action, under the guidance of the nervous system, regulates the blood-supply to the nervous tissues and organs in accordance with their physiological requirements.

There is no evidence of a *peristaltic* muscular contraction of

* This apparatus was designed by Dr. Rutherford (*Lancet*, Oct. 12th, 1872.)

the arteries, as some writers—amongst others, MM. Legros and Onimus—have supposed. Any one who has carefully watched the circulation in the web of the frog's foot, or in other transparent parts of a living animal, must have observed that, so long as the circulation is active, the blood-stream in the terminal arterioles is as continuous and uniform as it is in the capillaries, and there is no appearance of an alternating contraction and relaxation of the arterioles.

The true capillaries have no muscular fibre in their walls, and there is reason to believe that they have no power of active contraction. They become distended and dilated when the muscular arterioles are relaxed, and they return to their original size when the arterioles contract and lessen the blood-stream; but this contraction of the capillaries is probably the result of simple elastic resiliency after distension, and not of active vital contraction. The capillary obstruction which occurs during the progress of inflammation is of course quite different from a normal physiological impediment. — Lecture by GEORGE JOHNSON, M.D., F.R.S., in *British Medical Journal*.

Acute Exanthemata. — Concerning second attacks of the Acute Exanthemata, especially Scarlatina, Dr. HUTTENBRENNER of Vienna says :

That the assertion that an individual has suffered from two or more attacks of one and the same exanthem is not specially believed in, arises from the fact that, with the exception of small-pox, no objective signs are left behind. Measles and scarlatina leave no lasting trace behind them, and after a proportionally short time has elapsed one has no absolute proof that the patient has suffered from measles or scarlatina. Furthermore, there are other eruptions which may, on superficial observation, be mistaken for the above mentioned diseases; as for example, rubeola (rötheln) and urticaria. Latterly in Austria we have observed many cases of rubeola, which, as is well known, much resembles measles, and during the first days of its onset cannot

often be distinguished from measles. The course of the disease decides in such cases which exanthem we have before us. Thus we see that the assertion of the parents that their children have had measles two or three times, or as people say here the "spots" (Flecke), does not carry much weight. Urticaria can much more easily be distinguished from scarlet fever, although it often enough comes on as an acute illness with vomiting, &c., still it is easily distinguished by single red spots (which run together by spreading), the wheals, and itchiness, and an experienced man in such cases can with difficulty make an error of diagnosis. * * * * *

Urticaria may sometimes occur during convalescence from scarlatina and may be mistaken for a relapse as it is often accompanied by fever and vomiting. I have observed one such case to which I shall refer below. In small-pox one has the characteristic scars and pitting as a proof of a previous attack if a second one should come on. In this connection it would be as well to remark that the varicella of infants very often occurs without regard to vaccination or small-pox, I mention this because Kassowitz in this Year-book has pronounced varicella and small-pox to be one and same disease. If varicella infantum is reckoned as variola then a second attack of small-pox is of very frequent occurrence; nay more, it is the rule and not the exception, in spite of repeated vaccinations * * * * *

Koerner has written in this Year-book about scarlatinal relapses and has added all the known published cases. Three cases of relapse from scarlatina in children are mentioned; in all three cases the second rash came out soon after the first ($4\frac{1}{2}$ weeks, 4 weeks, and the 3rd 11 days); in the two first cases desquamation had already occurred, and in these a second desquamation took place in a characteristic way. In all cases of true relapse, or second attack, there must be desquamation of the skin. There are some cases of erythema which greatly resemble scarlatina, but in which no second desquamation occurs. I have seen many cases of general erythema coming on after operations and burns which might easily be mistaken for scarlatina. I lately observed a very instructive case in private practice; a little

girl $2\frac{1}{2}$ years of age, with a somewhat pale skin, was burned by a furnace. The burn was about the size of a thaler, (three-shilling piece), of the second degree and situated on the right arm. On the second day after the accident (which was not thought much of by the parents) severe fever and general convulsions came on, and the whole body with the exception of the face was covered with a dark red erythema, which completely disappeared on pressure. The convulsions lasted for an hour, disappeared and returned again, after which they ceased altogether. The above symptoms exactly resemble the eruptive stage of scarlatina, still there were no initial symptoms as vomiting, &c., no throat affection, and finally not the slightest desquamation. The erythema disappeared completely in three days, as also the fever. * * * Such attacks of erythema I have observed two or three days after operations, and also in cases of pneumonia of the apex before consolidation has taken place, I have observed general redness of the body; the absence of throat affection, and the character of the respirations would here save us from error. I have mentioned these cases to show how easily one might make a mistake, and how careful we should be before we pronounce a case to be a relapse or second attack of scarlatina. In every case of relapse or second attack, all the important symptoms must exist, especially those connected with the skin, and the characteristic desquamation must never be wanting. All the published cases of second attack should be received with caution if a true second desquamation did not occur. When a fresh eruption comes out during the second or beginning of the third week of the disease and before desquamation has taken place there is special need of caution; in cases complicated with diphtheritic sore throat desquamation is often delayed. In a boy $3\frac{1}{2}$ years of age, with an ordinary attack of scarlatina the first 8 or 10 days passed without any bad symptoms. On the 10th day a diphtheritic membrane appeared in the throat and rapidly extended, the glands of the neck were much swollen, and on the 13th day a red rash appeared as confluent spots on the body and extremities, the spots disappearing in some places and coming out in others. In

some cases the skin remained quite normal, as on the back and posterior part of the thighs. This confluent eruption might easily have been mistaken for a relapse or fresh scarlatinal eruption, the more so that the temperature rose and the child suffered from convulsions ; when one looked closely at these spots (about the size of the palm of the hand) one saw white wheals as in urticaria * * * * *

The following case is interesting because this patient suffered from two true attacks of scarlatina within a short space of time. Two brothers, F. (7 years) and E. ($3\frac{1}{2}$ years), strong healthy boys, suffered during the past winter from measles, and a short time after from varicella, both diseases ran a normal course ; four weeks after recovery from varicella the youngest took scarlatina with the usual prodromal symptoms ; the throat symptoms were mild, the throat uniformly red with spots of yellow-green exudation on the tonsils which were easily removed. The eruption over the body, extremities and back, was uniform and not very severe. The eruption first appeared in the inguinal region, as fine red points ; the forehead remained free from eruption throughout. The fever was not high, and disappeared at the beginning of the second week. Desquamation was well marked towards the end of the second week, and in the third week the skin of the palm of the hand and sole of the foot came off in one piece. Recovery was complete in four weeks. In the mean time the elder brother had been completely separated and so escaped the disease. He went to school where some cases of scarlatina occurred. After the dwelling had been thoroughly disinfected and aired, the elder boy came home and for six weeks remained healthy ; in the beginning of the month of April he was taken with a very severe attack of scarlatina, which, in spite of the unfavourable symptoms at the beginning, ran a favourable course ; throat affection existed in only a slight degree, and the forehead throughout remained also free from eruption. Some head symptoms existed in the beginning of the attack. The eruption itself was a bright red, (and with the exception of the forehead) covered the whole body. After six weeks desquamation began and involved the whole body. As the younger brother had

had scarlatina two months before, complete separation was not enforced, but he was merely restricted to the other end of the house. Twelve days after he became ill; fever, vomiting, difficulty of swallowing, and a diffuse redness of the fauces were the first symptoms. The following morning a scarlatinal eruption of a much more severe form than the first time, appeared. The course of the disease was favourable, and there was no throat or kidney complication, in 14 days desquamation set in. This child had in the short space of two months, two veritable attacks of scarlatina, with all the important symptoms pertaining thereto. In this case the cause of the second attack must have been due to family predisposition, as the mother during the first illness of the younger boy had a severe angina with some diphtheritic membrane, high fever, blood and albumen in the urine, symptoms which soon disappeared. No eruption could be made out, still, in the 3rd week there was a desquamation of small scales on the body and slightly on the extremities. If this was not scarlatina it was certainly a kindred disease. When the younger boy again had scarlatina the mother again took ill in precisely the same way as before, viz: throat affection with diphtheritic membrane, blood and albumen in the urine; in addition to the above symptoms she had acute joint affections. * * *

From this short sketch it follows:

(1.) That scarlatina, as is already known, may occur in one and the same individual twice, and within the short space of two months.

(2.) For the diagnosis of a second attack, one should not rely on a single prominent symptom, as the rash, but all the symptoms must exist, and the characteristic desquamation should not be wanting.

(3.) The idea that because a person has recently had scarlatina, therefore he may expose himself to the disease, is erroneous, and that person should be completely separated so that there may be no danger of a second attack. The second attack may not always be so mild as in the above case, but on the contrary, according to Koerner, often runs a much more severe course

than the first; Koerner mentions 8 cases of death from second attacks.

(4). Family predisposition must not be overlooked.— (*Jahrbuch. f. Kinderheilkunde*, Bd. x, Band 4 Hf. 1. Nov. 1876.

Erythema Exudativum.—By Professor LEWIN, (Berlin Klin. Wochenschr. xiii. 23, 1876.)—Prof. Lewin from observations in 39 cases, comes to the following conclusions:—

(1.) Erythema Exudativum is a vaso-motor neurosis.

(2.) It runs through several changes of development. The first stage may come on with or without fever. Prodromal stage is symmetrical, and various forms of subcutaneous infiltration occur (as eryth., tubercul., nodos., papulat., &c.) on both sides of the body as well as red spots on the skin, exhibiting many forms (as erythema marginat., annulare, iris.) In a number of cases, after a longer or shorter time another phase of the disease sets in with fever rising as high as 41.0°C. (105°4-5 F.) and the following symptoms come on.

(a.) Rheumatic pains are felt and a pustular efflorescence of the erythematous skin appears which may be mistaken for small-pox.

(b.) An inflammatory affection, partly serous and partly pustular, shows itself in the different joints, so that the affection often presents the appearance of acute rheumatism, and ankylosis of the affected joints sometimes takes place.

(c.) Valvular endocarditis occurs, and may cause valvular insufficiency. In this way many cases of heart disease, whose origin is obscure, may be accounted for. Prof. Lewin has observed that the greater number of women suffering from erythema have some affection of the genital organs, as ulceration of the urethra due to the mechanical and chemical irritation of the passage from the rectum of the erythematous exudation.

(3). Finally the disease may sometimes be epidemic.— (Quoted in Schmidt's Jahrbücher, Bd. 172, No. 12. 1876.)

Pompholyx of the Hands.—The Influence of temperature on the occurrence of pompholyx of the hands. By E. WYNDHAM COTTLE, M.A., F.R.C.S.

During the hot weather experienced in the months of July and August of last year my attention was attracted by the unusual number of cases of pompholyx of the hands that came under my observation. During that period of excessive heat, I had eleven patients under treatment for that complaint, some of whom, as the disease runs its usual course in well-marked cases, presented every stage in the development of the disorder, from the first early state, when there exists an inflammatory condition affecting chiefly the sides of the fingers, thumb and hand, and extending principally to its dorsal surface, accompanied by itching and smarting, with swelling and heat of the affected part; a few papules appear, passing into the vesicular stage, and leading on to the formation of distinct larger-sized vesicles and bullæ filled with serous fluid, the blebs not resulting from the coalescence of several smaller vesicles, as so commonly happens in severe eczema in this situation. The bullæ burst, discharge their fluid contents; the cuticle is shed, leaving the hand red and swollen; and the normal condition of parts is restored by the ordinary process of repair, presenting indeed in its progress grades very similar to the stages of exaggerated eczema manuum. In other instances the bullæ were fully formed when they first came under observation, and in others again the early inflammatory condition was not so well marked, the bullæ being at once produced, in one case, that of a lady, on the index finger of both hands one large bleb extended from the tip of the finger to the metacarpo-phalangeal joint, covering the entire palmar aspect, and encroaching on the dorsal surface of the digits on both borders; smaller bullæ also existed on the palmar face of the second and third fingers, from the tip to the 1st phalangeal articulation. With this patient there was a history of previous attacks of eczema of the hands following any cause of depression, but on no former occasion had the complaint assumed this form.

In two of the cases the liquid contained in the bullæ was neutral or alkaline; and in all, irritation and heat with exces-

sive perspiration of the part, which was literally poured out, preceded the eruption. All these patients were free from any other skin affection, the rash being entirely confined to the hands; but nine of the eleven were decidedly anæmic and in depressed health. Eight of the cases occurred in females, the remainder in men.

The late Mr. George Naylor alludes to this affection in his work on Diseases of the Skin as an uncommon and curious form of pompholyx, and describes it with his usual accuracy of observation; and it is quite distinct from the "pemphigus foliaceé" of the French writers, which may perhaps be more properly regarded as a form of eczema, and with which it should not be confounded, though in the latter stages the resemblance is great.

I could trace no particular exciting cause in the above cases, though lately I have seen a nearly similar condition become developed in a lady of delicate health, who, in her anxiety for her children's welfare, had been applying with her hand some remedies I had prescribed for tinea tonsdens, from which they were suffering; but in this instance it was clearly the result of local irritation.

The only common condition I could find was the unusually high temperature, which lasted from the 20th of June till the 25th of August, within which period these examples occurred. This was a time of most unusually uniform heat, the minimum night temperature from the 20th of June to the end of the month varying from 47° to 61° . In July the minimum nocturnal temperature ranged between 52° and 66° , and from Aug. 1st to the 25th between 47° and 67° . In the daytime also, this period was distinguished throughout by its varying excess of heat, rather than by sudden accessions, with corresponding falls of the thermometer.

From June 20th to Aug. 25th, there came under my care, in private, and at the hospital, 564 new cases of cutaneous affections, including those eleven examples of pompholyx manuum, giving a ratio of rather more than 1.95 per cent. In the succeeding like period, Aug. 26th to Oct. 30th, when the weather had become comparatively cold, 473 fresh cases of skin.

diseases passed under my hands, without affording a single example of the complaint in question, which remarkable difference, I think, warrants the inference that the prolonged and unusual heat acted as the exciting cause, setting up morbid processes in unhealthy individuals with defectively nourished tissues, and whose vitality had been depressed by the same cause.

It would be interesting to know whether other observers have remarked a like coincidence in the frequency of the complaint, or whether mine is to be regarded as an accidental experience, and not the usual condition of the occurrence of this relatively rare disease.—*The Lancet*.

Cases of Erythema Nodosum.—By Dr. V. REVILLONT, (*Gaz. des Hôp.* 86. 89, 1874.) Dr. R. describes three cases of eryth. nodosum occurring in women, and presenting the following appearances :

(1.) All had more or less elevation of temperature ; in one case the temperature rose to 40.4°C . (105° 2-5 F.)

(2.) Duration in all those cases, about three weeks.

(3.) In two of the cases an endocarditis developed itself during the course of the disease. The endocarditis manifested itself by a murmur with the first sound at the apex which remained after the erythema disappeared. In the third case there was an old murmur from a previous attack of the disease.

(4.) In all three cases a nodular and papular eruption came out and extended over the whole body, but was more especially seen on the upper and lower extremities. In one case the papular exanthem involved the whole depth of the skin, and there was great pain and inflammatory irritation in the neighbourhood of the joints and swelling of the sheaths of the tendons. In both of the other cases the disease seemed to have its seat in the subcutaneous cellular tissue and the skin over the prominences was red and painful. There was in both cases over both legs an erythematous redness and œdematous swelling of the subcutaneous cellular tissue, which Dr. Revillont considers as symptoms of great importance. Dr. R. calls this affection "fièvre essentielle érythémateuse." — Quoted in *Schmidt's Jahrbücher*, Bd. 172, No. 12, 1876.

CANADA

Medical and Surgical Journal.

MONTREAL, MAY, 1877.

THE QUEBEC MEDICAL ACT.

By the terms of this Act all previous Acts or Ordinances bearing on the practice of Physic, Surgery or Midwifery in the Province of Quebec, and all Acts or Ordinances having reference to the method of obtaining a license to practice Medicine, Surgery or Midwifery in the same, are repealed.

Some excitement has been occasioned by an editorial article that appeared in "L'Union Médical du Canada," in which it is shown that the Board of Governors of the College of Physicians and Surgeons of the Province of Quebec, are incapable under the new Act to examine students on preliminary subjects. This and a few other questions we desire to enquire into, and we will have to take the Act as it is, and not as we intended it to be. The very first clause of the Act does away with

"All other Acts or parts of Acts in any manner relating to the practice of medicine, surgery or midwifery in the Province of Quebec, or in any manner relating to the mode of obtaining licenses to practice medicine, surgery or midwifery therein, shall be and are hereby repealed, except in so far as relates to any offence committed against the same or any of them before the passing of this Act, or any penalty or forfeiture incurred by reason of such offence."

This completely sweeps away all previous Acts, and leaves alone the present Act, under which the profession in this Province is now governed.

In clause II., The College of Physicians and Surgeons of the Province of Quebec is created. The old institution is simply defunct, gone, done away with. It is not a substitution

of the one for the other. It is not even a continuation of the old college. The College of Physicians and Surgeons of Lower Canada, a body that existed for thirty years, is permitted to perish, but from its ashes nothing, Phoenix like, arises. An entirely new body is created by this Act, with a new constitution. For whereas in the old college there existed two separate and distinct classes of licentiates and members, clause III of the new Act provides that

III. From and after the passing of this Act, the persons who compose the College of Physicians and Surgeons shall be styled "Members of the College of Physicians and Surgeons of the Province of Quebec."

Taking these three clauses as they are found on the statute book, it follows that all licensed practitioners residing in the Province of Quebec are by statute members of the College of Physicians and Surgeons of the Province of Quebec, and the date of their membership must be the date of their registration in the books of the College. Mark,—not the registration in the books of the College of Physicians and Surgeons of Lower Canada, for it has no longer an existence, but in the books of the College of Physicians and Surgeons of the Province of Quebec as created by this Act. On this head we have to refer to clauses XV., XVII. and XX. We copy them *in extenso*.

XV. All persons obtaining the license to practice from the College of Physicians and Surgeons of the Province of Quebec, shall be styled members of the said college, but shall not be eligible as governors within a period of four years from the date of their admission as members; and the said election of governors shall be made under such rules and regulations therefor, and in such manner as the Board of Governors shall ordain. The members of the college shall pay the sum of two dollars a year for the use of the college.

XVII. The Provincial Medical Board shall cause to be kept by the Registrar a book or register, to be called the Register, in which shall be entered, from time to time, the names of all persons who have complied with the enactments hereinafter contained, and with the rules and regulations made or to be made by the Provincial Medical Board respecting the qualifications to be required from practitioners of medicine, surgery and midwifery in the Province of Quebec; and those persons only whose names have been or shall hereafter be inscribed in the register above-mentioned shall be deemed to be qualified and licensed to practice medicine, surgery and midwifery in the Province of Quebec; and such register shall at all times be open and subject to inspection by any duly registered practitioner in the Province, or by any other person.

XX. Every member of the medical profession who, at the time of the passing of this Act, may be possessed of a *license* to practice medicine, surgery and midwifery in the Province of Quebec, shall, on the payment of the fee of one dollar, be entitled to be registered on producing to the Registrar the document conferring or evidencing the qualifications in respect whereof he seeks to be so registered, or upon transmitting by post to such Registrar information of his name and address, and evidence of the qualifications in respect whereof he seeks to be registered, and of the time or times at which the same was or were respectively obtained, *provided he register within one year from the passing of this Act.*

Again, in clause XXVIII. we find: That the present Board of Governors, elected under the provisions of the Acts hereinbefore repealed, shall be continued and shall act until after the next triennial election, but subject in all other respects to the provisions of this Act. There is no provision in this Act for holding a triennial election, and if such did exist there would be no members of the college as created under this Act who would be eligible for election as governors. It follows, therefore, that no new election can take place, as would have occurred under the old Act, in July next. The present Board of Governors are continued in office by the terms of the new Act, and until relief is obtained at the next session of Parliament no new election can be held. This we believe to be the position in which the profession is placed. This question with others, however, has been submitted to counsel for an opinion. The existence of powers of the college to examine students on preliminary subjects is another *questio vexata*. This will be discussed; but we do not see that the Act gives the right to the college to examine at all. Examiners have to be appointed to do the work, and the subjects to be examined upon are prescribed by the Act. The college may fix the time and place. This point appears to us clear. The By-laws, rules and regulations made by the College of Physicians and Surgeons of Lower Canada, shall remain in force, but subject in all other respects to the provisions of the new act, so that since by that act the Board of Governors of the College is not authorized to conduct examinations on preliminary subjects, so will it find itself powerless to conduct those examinations except by deputy.

REGISTRATION OF ALL PRACTITIONERS OF MEDICINE.

We would call the attention of all members of the Medical Profession in the Province of Quebec to the terms of the recent Medical Act passed at the last session of the Legislative Assembly of this Province. Section xi, clause 3, provides that "every member of the medical profession now practising or who may hereafter practice in the Province of Quebec, shall enregister his name, age, place of residence, nationality, the date of his license and the place where he obtained it in the books of the college," and in section xx, we read, "Every member of the Medical Profession who at the time of the passing of this act may be possessed of a license from the College of Physicians and Surgeons of Lower Canada, to practice Medicine, Surgery and Midwifery in the Province of Quebec, shall, on the payment of the fee of one dollar be entitled to be registered on producing to the Registrar the document conferring or evidencing the qualification, or each of the qualifications in respect whereof he seeks to be so registered, or upon transmitting by post to such Registrar information of his name and address and evidence of the the qualifications in respect whereof he seeks to be registered, and of the time or times at which they were respectively obtained, provided he register within one year after the passing of this Act."

And in the next section will be found the penalties for neglect to so register within the period prescribed by law. The register is now ready and will be opened at the ensuing meeting of the college, on the 9th inst. We give this notice that all members of the Board of Governors, and all others may govern themselves accordingly. We should suppose that the college will authorise its officers to give public notice of the requirements of the law, so that persons residing at a distance may not fail to comply with the Act. We should suppose that as soon as the probationary period will have elapsed the college will have prepared a printed official list of those registered under this act. This will be a necessary step, as no person shall be entitled to enter a court of law, or to recover charges for professional services rendered unless he can prove that he is registered under this Act.

It gives us great pleasure to announce that Richard L. MacDonnell, M.D., C.M., McGill University, 1876, son of our respected fellow-practitioner and former colleague Robert L. MacDonnell, M.D., of this city, passed his final examination before the court of examiners and received the diploma of Member of the Royal College of Surgeons of England, on the 25th of April last.